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APPENDIX 2.5E

FISHERIES DATA

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FISHERIES DATA

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FISHERIES DATA

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FISH LENGTH-FREQUENCY SUMMARIES
 FOR WATER BODIES IN THE SITE AREA

Water Body/Sampling Location(s)
Deep Hole Lake/L-1, L-2
 County Forest
 Sampling Dates May 2 - October 13, 1977
 Gear 24 Hour Gill Net

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Yellow Perch	Walleye						
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1								
80-99	3.2-3.9								
100-119	3.9-4.7	33							
120-139	4.7-5.5	39							
140-159	5.5-6.3	7							
160-179	6.3-7.0	1							
180-199	7.1-7.8	1							
200-219	7.9-8.6	3							
220-239	8.7-9.4	7							
240-259	9.5-10.2	2							
260-279	10.2-11.0	1							
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1		2						
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5		1						
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
840-859	> 33.1								
TOTALS		94	3						

TABLE E-2

Water Body/Sampling Location(s)

Deep Hole Lake/L, L-1, L-2

County Forest

Sampling Dates May 4 - August 5, 1978

Gear 24 Hour Gill Net, Boom

Electroshocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Yellow Perch*	Walleye	White Sucker	Golden Shiner				
< 40	< 1.6								
40-59	1.6-2.3	8							
60-79	2.4-3.1	4							
80-99	3.2-3.9				1				
100-119	3.9-4.7	6			1				
120-139	4.7-5.5	69							
140-159	5.5-6.3	26							
160-179	6.3-7.0	9							
180-199	7.1-7.8	6							
200-219	7.9-8.6	3							
220-239	8.7-9.4	8							
240-259	9.5-10.2	5							
260-279	10.2-11.0	1							
280-299	11.0-11.8								
300-319	11.8-12.6		1						
320-339	12.6-13.4		3						
340-359	13.4-14.1		4						
360-379	14.2-14.9		2						
380-399	15.0-15.7		2						
400-419	15.8-16.5		1						
420-439	16.5-17.3		1						
440-459	17.3-18.1		1						
460-479	18.1-18.9		1						
480-499	18.9-19.7			1					
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		145	16	1	2				

* No data for one specimen, not included in totals.

TABLE E-3

Water Body/Sampling Location(s)

Duck Lake/K-1, K-2

County Forest

Sampling Dates May 2 - October 13, 1977

Gear 24 Gill Net

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Yellow Perch	Black* Bullhead	Central Mudminnow					
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1								
80-99	3.2-3.9	1							
100-119	3.9-4.7	61		1					
120-139	4.7-5.5	60							
140-159	5.5-6.3	2							
160-179	6.3-7.0		8						
180-199	7.1-7.8		5						
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6	3							
320-339	12.6-13.4	1							
340-359	13.4-14.1	1							
360-379	14.2-14.9	1							
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
840-859	> 33.1								
TOTALS		130	13	1					

* No data for one specimen, not included in totals.

TABLE E-4

Water Body/Sampling Location(s)
 Duck Lake/K, K-1, K-2, K-A, K-B
 County Forest
 Sampling Dates May 4 - August 5, 1978
 Gear 24 Hour Gill Net, Minnow Trapping
 Streamside Electroshocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Yellow Perch	Central Mudminnow						
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1	12	2						
80-99	3.2-3.9		2						
100-119	3.9-4.7	271							
120-139	4.7-5.5	315							
140-159	5.5-6.3	7							
160-179	6.3-7.0	3							
180-199	7.1-7.8	3							
200-219	7.9-8.6								
220-239	8.7-9.4	1							
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8	1							
300-319	11.8-12.6	2							
320-339	12.6-13.4	1							
340-359	13.4-14.1	3							
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		619	4						

TABLE E-5

Water Body/Sampling Location(s)
 Little Sand Lake/H, H-S, I, I-1, I-2
 County Forest
 Sampling Dates May 2 - October 13, 1977
 Gear Minnow Seining, 24 hr Gill Net, 24 hr
 Fyke Net, Beach-Haul Seining, Boom
 Electroshocking

Species and Numbers of Fish in Length Groups

Page 1 of 2

Total Length in mm	Total Length in Inches	Yellow Perch ^a	Pumpkin-Seed ^b	Northern Pike	Large-Mouth Bass	Bluegill	Black Crappie	Yellow Bullhead ^c	White Sucker
< 40	< 1.6					2			
40-59	1.6-2.3								
60-79	2.4-3.1		2		9	4			
80-99	3.2-3.9		14		3	32			
100-119	3.9-4.7	46	27		1	50	1		
120-139	4.7-5.5	172	28		2	17	1	11	
140-159	5.5-6.3	79	13		2	2		15	
160-179	6.3-7.0	9			2	7		12	
180-199	7.1-7.8				2	1	3	12	
200-219	7.9-8.6						23	4	
220-239	8.7-9.4						12		
240-259	9.5-10.2							1	
260-279	10.2-11.0							1	
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								1
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6			1					
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
840-859	> 33.1								
TOTALS		306	84	1	21	115	40	56	1

^a No data for one specimen, not included in totals.

^b No data for one specimen, not included in totals.

^c No data for one specimen, not included in totals.

TABLE E-5 (continued)

Water Body/Sampling Location(s)

Little Sand Lake/H, H-S, I, I-1, I-2

County Forest

Sampling Dates May 2 - October 13, 1977

Gear Minnow Seining, 24 Gill Net, 24 Fyke Net

Beach-Haul Seining Boom Electroshocking

Species and Numbers of Fish in Length Groups

Page 2 of 2

Total Length in mm	Total Length in Inches	Black Bullhead	Walleye						
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1								
80-99	3.2-3.9								
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4	1							
240-259	9.5-10.2	1							
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6		1						
600-619	23.6-24.4		1						
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		2	2						

TABLE E-6

Water Body/Sampling Location(s)

Little Sand Lake/H-S, H, I, I-1, I-2

County Forest

Sampling Dates May 4 - August 5, 1978

Gear 24 Hour Gill Net, 24 Hour Fyke Net, Boom
Electroshocking, Beach-Haul Seining

Species and Numbers of Fish in Length Groups

Page 1 of 2

Total Length in mm	Total Length in Inches	Yellow Perch	Pumpkin-Seed	Bluegill	Yellow Bullhead	Black Crappie	Large-mouth Bass	Black Bullhead	Walleye
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1	21					9		
80-99	3.2-3.9	3	2	9			1		
100-119	3.9-4.7	3	31	3	1				
120-139	4.7-5.5	74	30	20	1				
140-159	5.5-6.3	38	8	9	17				
160-179	6.3-7.0	11		2	42		4	1	
180-199	7.1-7.8				20		1		
200-219	7.9-8.6				10	10	2	1	
220-239	8.7-9.4				5	5		1	
240-259	9.5-10.2				1	1			
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								1
500-519	19.7-20.4								
520-539	20.5-21.2								1
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
840-859	> 33.1								
TOTALS		150	71	43	97	16	17	3	2

TABLE E-6 (continued)

Water Body/Sampling Location(s)

Little Sand Lake/H, H-5, I, I-1, I-2

County Forest

Sampling Dates May 4 - August 5, 1978

Gear 24 Hr Gill Net, 24 Hr Fyke Net, Boom
Electroshocking, Beach-Haul Seining

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	White Sucker							
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1								
80-99	3.2-3.9								
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0	1							
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		1							

TABLE E-7

Water Body/Sampling Location(s)
Oak Lake/G-S, G-1, G
 County Forest
 Sampling Dates May 2 - October 13, 1977
 Gear Minnow Seining, 24 Hour Gill Net,
Beach-Haul Seining, Boom Electro-
shocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Yellow Perch*	Bluegill	Longnose Dace	Pumpkin-Seed	Golden Shiner	Large-Mouth Bass	Black Bullhead	Yellow Bullhead
< 40	< 1.6						1		
40-59	1.6-2.3								
60-79	2.4-3.1	8	2	1			12		
80-99	3.2-3.9	26	1				21		
100-119	3.9-4.7	146	1		2		2		
120-139	4.7-5.5	146			1		6		
140-159	5.5-6.3	57			1	2			
160-179	6.3-7.0	7			2	1			
180-199	7.1-7.8	2				1			
200-219	7.9-8.6	11							
220-239	8.7-9.4	7							
240-259	9.5-10.2								
260-279	10.2-11.0							1	
280-299	11.0-11.8								
300-319	11.8-12.6								1
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
840-859	> 33.1								
TOTALS		410	4	1	6	4	42	1	1

* 27 specimens collected in size range 66-200 mm are not included in totals.

Water Body/Sampling Location(s)
 TABLE E-8 Oak Lake/G-S, G-1, G-2, G, G-A
 County Forest
 Sampling Dates May 4 - August 5, 1978
 Gear Beach-Haul Seining, 24 Hr. Gill Net,
Boom Electroshocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Yellow Perch ^a	Bluegill	Large-Mouth Bass	Pumpkin-Seed	Yellow Bullhead	Golden Shiner ^b		
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1								
80-99	3.2-3.9		2		7				
100-119	3.9-4.7	49	3		6				
120-139	4.7-5.5	127	10	6	3		1		
140-159	5.5-6.3	33	2	7	22		10		
160-179	6.3-7.0	12	2	3	66		4		
180-199	7.1-7.8	6		1	27		1		
200-219	7.9-8.6	8			2				
220-239	8.7-9.4	5							
240-259	9.5-10.2	2							
260-279	10.2-11.0	1							
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4					1			
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5			1					
420-439	16.5-17.3			2					
440-459	17.3-18.1			2					
460-479	18.1-18.9			1					
480-499	18.9-19.7			1					
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		243	19	24	133	1	16		

^a31 specimens collected 101-157 mm for range data and are not included in totals.
 19 specimens collected 110-149 mm for range data and are not included in totals.
 151 specimens collected 100-150 mm for range data and are not included in totals.
 46 specimens collected 108-149 mm for range data and are not included in totals.
^b413 specimens collected 149-190 mm for range data and are not included in totals.

Water Body/Sampling Location(s)
 Rice Lake/F-1, F
 County Forest
 Sampling Dates May 2 - October 13, 1977
 Gear 24 Hr Fyke Net, Streamside electro-
 shocking, Boom Electroshocking

TABLE E-9

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Yellow Perch	Black Bullhead	Yellow Bullhead	Northern Pike	Brook Trout	Bluegill	Pumpkin-Seed	
< 40	< 1.6							5	
40-59	1.6-2.3						2		
60-79	2.4-3.1	3	25					13	
80-99	3.2-3.9		50					25	
100-119	3.9-4.7		7					1	
120-139	4.7-5.5		12	1					
140-159	5.5-6.3		12	1					
160-179	6.3-7.0		15	4				1	
180-199	7.1-7.8	1	29	1					
200-219	7.9-8.6		7	1					
220-239	8.7-9.4	1	1	2					
240-259	9.5-10.2	1							
260-279	10.2-11.0	1							
280-299	11.0-11.8					1			
300-319	11.8-12.6								
320-339	12.6-13.4	1							
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5				2				
420-439	16.5-17.3								
440-459	17.3-18.1				1				
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2				1				
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
840-859	> 33.1								
TOTALS		8	158	10	4	1	2	45	

TABLE E-9 (continued)

Water Body/Sampling Location(s)

Rice Lake/F-1, F

County Forest

Sampling Dates May 2 - October 13, 1977

Gear 24 Hr Fyke Net, Streamside electroshocking, Boom Electroshocking

Species and Numbers of Fish in Length Groups

Page 2 of 2

Total Length in mm	Total Length in Inches	White Sucker	Shorthead Redhorse	Golden Shiner	Central Mudminnow	Common Shiner*	Blacknose Shiner	Blackchin Shiner	
< 40	< 1.6						5		
40-59	1.6-2.3			1			2	3	
60-79	2.4-3.1				1				
80-99	3.2-3.9			4	1				
100-119	3.9-4.7					2			
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0	1							
180-199	7.1-7.8	2							
200-219	7.9-8.6	1							
220-239	8.7-9.4	1							
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8	2							
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7	1	1						
400-419	15.8-16.5	2							
420-439	16.5-17.3	1	1						
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4	1							
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		12	2	5	2	2	7	3	

* No data for one specimen, not included in totals.

TABLE E-10

Water Body/Sampling Location(s)

Rice Lake/F, F-1, F-2

County Forest

Sampling Dates May 4 - August 5, 1978

Gear

Species and Numbers of Fish in Length Groups

Page 1 of 2

Total Length in mm	Total Length in Inches	Black* Bullhead	Yellow Bullhead	Northern Pike	Pumpkin-Seed	Bluegill	Shorthead Redhorse	White Sucker	Rock Bass
< 40	< 1.6								
40-59	1.6-2.3					1			
60-79	2.4-3.1				1				
80-99	3.2-3.9	1			2				
100-119	3.9-4.7	13							
120-139	4.7-5.5	27							1
140-159	5.5-6.3	59			2				
160-179	6.3-7.0	70							
180-199	7.1-7.8	52							
200-219	7.9-8.6	20							
220-239	8.7-9.4	3	2					1	
240-259	9.5-10.2		1					1	
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6							2	
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9							2	
380-399	15.0-15.7							1	
400-419	15.8-16.5						1		
420-439	16.5-17.3			1				1	
440-459	17.3-18.1						1	2	
460-479	18.1-18.9							1	
480-499	18.9-19.7			1				1	
500-519	19.7-20.4								
520-539	20.5-21.2							2	
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5			1					
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9			1					
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		245	3	4	5	1	2	14	1

* 101 specimens collected in size range 101 to 203 mm, not included in totals.
 No data for two specimens, not included in totals.

TABLE E-10 (continued)

Water Body/Sampling Location(s)

Rice Lake/F, F-1, F-2

County Forest

Sampling Dates May 4 - August 5, 1978

Gear 24 hour Gill Net, 24 Hour Fyke Net,

Streamside Electroshocking

Page 2 of 2

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Common Shiner							
< 40	< 1.6								
40-59	1.6-2.3	1							
60-79	2.4-3.1	3							
80-99	3.2-3.9	2							
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		6							

TABLE E-11

Water Body/Sampling Location(s)

Rolling Stone Lake/M-2, M-4

County LangladeSampling Dates October 7-13, 1977Gear 24 hour Gill Net

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Yellow Perch	Black Bullhead	Northern Pike*	White Sucker	Golden Shiner			
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1								
80-99	3.2-3.9	2							
100-119	3.9-4.7	11				11			
120-139	4.7-5.5	3				4			
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8					1			
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0		1						
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7			2					
400-419	15.8-16.5								
420-439	16.5-17.3				1				
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7			1					
500-519	19.7-20.4								
520-539	20.5-21.2			1					
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3			1					
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
840-870	> 33.1			1					
TOTALS		16	1	6	1	16			

* No data for one specimen, not included in totals.

TABLE E-12

Water Body/Sampling Location(s)

Rolling Stone Lake/M-2, M-2A, M-4

County LangladeSampling Dates May 4 - August 5, 1978Gear 8 hr Gill Net, 24 Hr Fyke Net, BoomElectroshocking, Minnow Trapping

Species and Numbers of Fish in Length Groups

Page 1 of 2

Total Length in mm	Total Length in Inches	Yellow Perch	Black Bullhead	Pumpkin-Seed	Bluegill ^a	Northern Pike	White Sucker ^b	Black Crappie	Large Mouth Bass
< 40	< 1.6	1							
40-59	1.6-2.3	20						3	
60-79	2.4-3.1	10		2	1				
80-99	3.2-3.9	34		3	2				
100-119	3.9-4.7	50							
120-139	4.7-5.5	27		7				2	
140-159	5.5-6.3	10		3	4	1			
160-179	6.3-7.0	10		11	18			2	
180-199	7.1-7.8	1		3	3			1	1
200-219	7.9-8.6	1			4			4	
220-239	8.7-9.4	1	4					1	1
240-259	9.5-10.2		16						
260-279	10.2-11.0		5						
280-299	11.0-11.8		6						
300-319	11.8-12.6								
320-339	12.6-13.4								1
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5					1			
420-439	16.5-17.3								
440-459	17.3-18.1					1	2		
460-479	18.1-18.9					1	2		
480-499	18.9-19.7						3		
500-519	19.7-20.4						2		
520-539	20.5-21.2						2		
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6					1			
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		165	31	29	32	5	11	13	3

^a No data for one specimen, not included in totals.^b No data for one specimen, not included in totals.

TABLE E-12 (continued)

Water Body/Sampling Location(s)

Rolling Stone Lake/M-2, M-2A, M-4

County Langlade

Sampling Dates May 4 - August 5, 1978

Gear 8 Hr Gill Net, 24 Hr Fyke Net, Boom
Electroshocking, Minnow Trapping

Species and Numbers of Fish in Length Groups

Page 2 of 2

Total Length in mm	Total Length in Inches	Walleye	Common Shiner	Golden Shiner					
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1								
80-99	3.2-3.9		2	2					
100-119	3.9-4.7		1	5					
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9	1							
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1	1							
460-479	18.1-18.9								
480-499	18.9-19.7	2							
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8	1							
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
840-859	> 33.1								
TOTALS		5	3	7					

TABLE E-13

Water Body/Sampling Location(s)

Creek 11-4/M-3

County LangladeSampling Dates October 7-13, 1977Gear Back Pack Electroshocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Bluegill	Large-Mouth Bass*	Brassy Minnow	Northern Redbelly Dace	Fathead Minnow	Creek Chub	Johnny Darter	Yellow Perch
< 40	< 1.6								
40-59	1.6-2.3	3			3	1			
60-79	2.4-3.1		2	1		1		1	1
80-99	3.2-3.9		1				3		
100-119	3.9-4.7								
120-139	4.7-5.5						1		
140-159	5.5-6.3						4		
160-179	6.3-7.0						2		
180-199	7.1-7.8						1		
200-219	7.9-8.6								1
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		3	3	1	3	2	11	1	2

* No data for one specimen, not included in totals.

TABLE E-14

Water Body/Sampling Location(s)
Creek 11-4/M-3County LangladeSampling Dates May 4 - August 5, 1978Gear Back Pack Electroshocking, Minnow
Trapping

Species and Numbers of Fish in Length Groups

Page 1 of 2

Total Length in mm	Total Length in Inches	Brassy Minnow ^a	Black-Nose Shiner ^b	Northern Redbelly Dace ^c	Finescale Dace ^d	Fathead Minnow ^e	Pearl Dace ^f	Brook Stickle-Back ^g	Central Mud-Minnow ^h
< 40	< 1.6			59		45		1	
40-59	1.6-2.3	1	1	89		15		1	
60-79	2.4-3.1			13		1	1	2	2
80-99	3.2-3.9								2
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		1	1	161		61	1	4	4

a 98 specimens collected in size range 32-57 mm, not included in totals.

b 40 specimens collected in size range 24-49 mm, not included in totals.

c 1138 specimens collected in size range 25-72 mm, not included in totals.

d No data for one specimen, not included in totals.

e 116 specimens collected in size range 24-45 mm, not included in totals.

f data for two specimens, not included in totals.

g 40 specimens collected in size range 29-59 mm, not included in totals.

h 5 specimens collected in size range 57-70 mm, not included in totals.

TABLE E-14 (continued)

Water Body/Sampling Location(s)

Creek 11-4/M-3

County LangladeSampling Dates May 4 - August 5, 1978Gear Back Pack Electroshocking, MinnowTrapping

Species and Numbers of Fish in Length Groups

Page 2 of 2

Total Length in mm	Total Length in Inches	Iowa Darter							
< 40	< 1.6								
40-59	1.6-2.3	2							
60-79	2.4-3.1								
80-99	3.2-3.9								
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		2							

TABLE E-15

Water Body/Sampling Location(s)
Creek 12-9/M-1County LangladeSampling Dates October 7-13, 1977Gear Back Pack Electroshocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Large-Mouth Bass	Mottled Sculpin	Black-Nose Shiner	Yellow Perch				
< 40	< 1.6								
40-59	1.6-2.3			1					
60-79	2.4-3.1	2	1		1				
80-99	3.2-3.9				1				
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		2	1	1	2				

TABLE E-16

Water Body/Sampling Location(s)

Creek 12-9/M-1

County LangladeSampling Dates May 4 - August 5, 1978Gear Back Pack Electroshocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Mottled Sculpin	Yellow Bullhead	Iowa Darter	Yellow Perch	Brook Trout			
< 40	< 1.6	1							
40-59	1.6-2.3	5							
60-79	2.4-3.1	2		1					
80-99	3.2-3.9				5				
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3					1			
160-179	6.3-7.0		1						
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		8	1	1	5	1			

TABLE E-17

Water Body/Sampling Location(s)

Hemlock Creek/A-1, A-2

County Forest

Sampling Dates May 2 - October 13, 1977

Gear Streamside Electroshocking

Species and Numbers of Fish in Length Groups

Page 1 of 3

Total Length in mm	Total Length in Inches	Mottled Sculpin	Horny-head Chub	Common Shiner ^a	Northern Redbelly Dace ^b	Fathead Minnow	Golden Shiner	White Sucker	Brook Trout
< 40	< 1.6				41	8			
40-59	1.6-2.3	8		57	377	13		5	
60-79	2.4-3.1	1		73	66	71	1	5	
80-99	3.2-3.9	5		38	19	13	8	1	
100-119	3.9-4.7	1		24	4			3	
120-139	4.7-5.5		1	28	2			3	1
140-159	5.5-6.3			12				10	1
160-179	6.3-7.0			4				2	3
180-199	7.1-7.8							1	1
200-219	7.9-8.6							1	
220-239	8.7-9.4							1	1
240-259	9.5-10.2							2	
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6							1	
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		15	1	236	509	105	9	35	7

^a No data for two specimens, not included in totals.

^b No data for eight specimens, not included in totals.

TABLE E-17 (continued)

Water Body/Sampling Location(s)

Hemlock Creek/A-1, A-2

County Forest

Sampling Dates May 2 - October 13, 1977

Gear Streamside Electroshocking

Species and Numbers of Fish in Length Groups

Page 2 of 3

Total Length in mm	Total Length in Inches	Yellow Perch	Pumpkin-Seed	Central Mudminnow	Bluegill ^c	Black-Nose Shiner ^d	Blunt-nose Minnow	Rock Bass	Black Bull-head ^e
< 40	< 1.6								
40-59	1.6-2.3	2		9		4	1		
60-79	2.4-3.1	7	1	6		18	4		
80-99	3.2-3.9	1	2	13			1	1	1
100-119	3.9-4.7	1		2	2		1		2
120-139	4.7-5.5		1						11
140-159	5.5-6.3	1							4
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		12	4	30	2	22	7	1	18

^c No data for one specimen, not included in totals.^d No data for one specimen, not included in totals.^e No data for one specimen, not included in totals.

TABLE E-17 (continued)

Water Body/Sampling Location(s)

Hemlock Creek/A-1, A-2

County Forest

Sampling Dates May 2 - October 13, 1977

Gear Streamside Electroshocking

Species and Numbers of Fish in Length Groups

Page 3 of 3

Total Length in mm	Total Length in Inches	Black-nose Dace	Brassy Minnow	Creek Chub	Black-chin Shiner	Brook Stickle-Back ^f	Johnny Darter ^g	Unidentified Species	Pearl Dace ^h
< 40	< 1.6					18		15	
40-59	1.6-2.3	2		4	1	73	18	84	5
60-79	2.4-3.1	23	7	9		6	10	15	12
80-99	3.2-3.9	12	8	12		1	2		22
100-119	3.9-4.7	2		16			6		4
120-139	4.7-5.5			15			1		
140-159	5.5-6.3			10			1		
160-179	6.3-7.0			6					
180-199	7.1-7.8			7					
200-219	7.9-8.6			4					
220-239	8.7-9.4			2					
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
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440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		39	15	85	1	98	38	114	43

^f No data for two specimens, not included in totals.^g No data for two specimens, not included in totals.^h No data for two specimens, not included in totals.

TABLE E-18

Water Body/Sampling Location(s)

Hemlock Creek/A-1

County Forest

Sampling Dates May 4 - August 5, 1978

Gear Back Pack Electroshocking

Species and Numbers of Fish in Length Groups

Page 1 of 3

Total Length in mm	Total Length in Inches	Fathead Minnow	Blacknose Dace	Creek Chub ^a	Brook Stickleback	Johnny Darter ^b	Brook Trout ^c	Pumpkin-Seed	Pearl Dace
< 40	< 1.6								
40-59	1.6-2.3			10	6	11			
60-79	2.4-3.1	5	6	10	2	1			3
80-99	3.2-3.9	1	6	11					7
100-119	3.9-4.7			4			1	1	
120-139	4.7-5.5						1		
140-159	5.5-6.3			3					
160-179	6.3-7.0								
180-199	7.1-7.8			1					
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		6	12	39	8	12	2	1	10

^a No data for two specimens, not included in totals.

^b No data for one specimen, not included in totals.

^c No data for one specimen, not included in totals.

TABLE E-18 (continued)

Water Body/Sampling Location(s)

Hemlock Creek/A-1

County Forest

Sampling Dates May 4 - August 5, 1978

Gear Back Pack/Streamside Electroshocking

Species and Numbers of Fish in Length Groups

Page 2 of 3

Total Length in mm	Total Length in Inches	Mottled Sculpin	Brassy Minnow	Hornyhead Chub	Common Shiner ^d	Black-nose Shiner	Northern Redbelly Dace	Blunt-nose Minnow	White Sucker
< 40	< 1.6			1			1		
40-59	1.6-2.3	1	1		8		32	1	
60-79	2.4-3.1	1	32		28	2	35	1	
80-99	3.2-3.9	2	7		29				1
100-119	3.9-4.7				9				
120-139	4.7-5.5			1	2				3
140-159	5.5-6.3								13
160-179	6.3-7.0								12
180-199	7.1-7.8								
200-219	7.9-8.6								1
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
LS		4	40	2	76	2	68	2	30

^d 31 specimens collected in size range 48-98 mm, not included in totals.
Also, no data for one specimen, not included in totals.

TABLE E-18 (continued)

Water Body/Sampling Location(s)

Hemlock Creek/A-1

County Forest

Sampling Dates May 4 - August 5, 1978

Gear Back Pack Electroshocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Black Bullhead	Yellow Perche ^e						
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1								
80-99	3.2-3.9	1							
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0	1							
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		2							

^e No data for one specimen, not included in totals.

TABLE E-19

Water Body/Sampling Location(s)
Hoffman Creek/E-1

County _____ Forest _____

Sampling Dates June 6 - October 16, 1977

Gear Back Pack Electroshocking

Species and Numbers of Fish in Length Groups

Page 1 of 2

Total Length in mm	Total Length in Inches	Mottled Sculpin	Black-nose Dace	Northern Pike	Brook Trout	White Sucker	Creek Chub	Central Mudminnow	Bluegill
< 40	< 1.6		1		2		1		
40-59	1.6-2.3	16	1		31	1			1
60-79	2.4-3.1	11	5	1	14	1		1	
80-99	3.2-3.9	5	8	1	4				
100-119	3.9-4.7				5	1	1		
120-139	4.7-5.5				1	2			
140-159	5.5-6.3				4	1			
160-179	6.3-7.0				3		1		
180-199	7.1-7.8				2				
200-219	7.9-8.6				1				
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
839	> 33.1								
TOTALS		32	15	2	67	6	3	1	1

TABLE E-19 (continued)

Water Body/Sampling Location(s)

Hoffman Creek/E-1

County _____ Forest _____

Sampling Dates June 6 - October 16, 1977

Gear Back Pack Electroshocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Common Shiner							
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1								
80-99	3.2-3.9								
100-119	3.9-4.7	1							
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		1							

TABLE E-20

Water Body/Sampling Location(s)

Pickereel Creek/M-5

County LangladeSampling Dates October 7-13, 1977Gear Streamside Electroshocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Large-mouth Bass	Brook Trout						
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1								
80-99	3.2-3.9	1							
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8		1						
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		1	1						

TABLE E-21

Water Body/Sampling Location(s)

Pickernel Creek/M-5

County LangladeSampling Dates May 4 - August 5, 1978Gear Streamside Electroshocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Mottled Sculpin	White Sucker	Yellow Perch	Brook Trout				
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1	3		1					
80-99	3.2-3.9	1		10					
100-119	3.9-4.7			15					
120-139	4.7-5.5			2					
140-159	5.5-6.3		3						
160-179	6.3-7.0								
180-199	7.1-7.8		1		1				
200-219	7.9-8.6				2				
220-239	8.7-9.4		1		2				
240-259	9.5-10.2				1				
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		4	5	28	6				

TABLE E-22

Water Body/Sampling Location(s)
Swamp Creek/B, D

County _____ Forest _____

Sampling Dates May 2 - October 13, 1977

Gear Streamside Electroshocking, Back
Pack Electroshocking

Species and Numbers of Fish in Length Groups

Page 1 of 3

Total Length in mm	Total Length in Inches	White Sucker ^a	Mottled Sculpin	Hornyhead Chub	Common Shiner	Golden Shiner	Fathead Minnow	Unidentified specimen	Black-nose Dace
< 40	< 1.6							2	
40-59	1.6-2.3	6	10	3	13		1	2	4
60-79	2.4-3.1	35	14	10	47		1	2	40
80-99	3.2-3.9	19	21	3	128	1	1		44
100-119	3.9-4.7	11	13	4	54				9
120-139	4.7-5.5	24		7	33				
140-159	5.5-6.3	19		6	18				
160-179	6.3-7.0	11		1	4				
180-199	7.1-7.8	9			7				
200-219	7.9-8.6	6		1					
220-239	8.7-9.4	2							
240-259	9.5-10.2	3							
260-279	10.2-11.0	5							
280-299	11.0-11.8	2							
300-319	11.8-12.6	1							
320-339	12.6-13.4	1							
340-359	13.4-14.1	2							
360-379	14.2-14.9	3							
380-399	15.0-15.7	8							
400-419	15.8-16.5	13							
420-439	16.5-17.3	20							
440-459	17.3-18.1	9							
460-479	18.1-18.9	6							
480-499	18.9-19.7	5							
500-519	19.7-20.4	1							
520-539	20.5-21.2	1							
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
840-859	> 33.1								
TOTALS		222	58	35	304	1	3	6	97

^a No data for one specimen, not included in totals.

TABLE E-22 (continued)
 Water Body/Sampling Location(s)
 Swamp Creek/B, D

County _____ Forest _____
 Sampling Dates May 2 - October 13, 1977
 Gear Streamside Electroshocking, Back
Pack Electroshocking

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Creek Chub	Brook Stickleback	Johnny Darter	Yellow Perch	Brook Trout	Northern Redbelly Dace	Yellow Bullhead	Blunt-nose Minnow
< 40	< 1.6	2	2						
40-59	1.6-2.3	1	6	14	1		3		4
60-79	2.4-3.1	2		7	4		1		17
80-99	3.2-3.9	10					1		34
100-119	3.9-4.7	10				11			
120-139	4.7-5.5	10				15			
140-159	5.5-6.3	13				8			
160-179	6.3-7.0	4				10			
180-199	7.1-7.8	5				3		1	
200-219	7.9-8.6	2				2			
220-239	8.7-9.4					1			
240-259	9.5-10.2	1							
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		60	8	21	5	50	5	1	55

TABLE E-22 (continued)

Water Body/Sampling Location(s)

Swamp Creek/B, D

County ForestSampling Dates May 2 - October 13, 1977Gear Streamside Electroshocking, Back
Pack Electroshocking

Species and Numbers of Fish in Length Groups

Page 3 of 3

Total Length in mm	Total Length in Inches	Longnose Dace	Pearl Dace	Pumpkin-Seed	Largemouth Bass	Black Bullhead ^b	Central Mudminnow	Brassy Minnow	
< 40	< 1.6						1		
40-59	1.6-2.3	7			1		1		
60-79	2.4-3.1	32		1			9		
80-99	3.2-3.9	60					9	2	
100-119	3.9-4.7	52		2		12		1	
120-139	4.7-5.5	35	1			12			
140-159	5.5-6.3	4				16			
160-179	6.3-7.0					3			
180-199	7.1-7.8					8			
200-219	7.9-8.6					7			
220-239	8.7-9.4								
240-259	9.5-10.2					1			
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
840-839	> 33.1								
TOTALS		190	1	3	1	59	20	3	

^b No data for one specimen, not included in totals.

TABLE E-23

Water Body/Sampling Location(s)

Swamp Creek/D

County Forest

Sampling Dates May 4 - August 5, 1978

Gear Back Pack/Streamside Electroshocking

Species and Numbers of Fish in Length Groups

Page 1 of 2

Total Length in mm	Total Length in Inches	White Sucker ^a	Hornyhead Chub	Common Shiner ^b	Blacknose Dace ^c	Longnose Dace ^d	Creek Chub ^e	Pearl Dace	Johnny Darter
< 40	< 1.6								
40-59	1.6-2.3				1		3		2
60-79	2.4-3.1	8		3	17	20	17		6
80-99	3.2-3.9	15	2	12	47	42	5	1	
100-119	3.9-4.7	1	3	16	5	27	5		
120-139	4.7-5.5	1	1	13	1	10	3		
140-159	5.5-6.3	1	3	6		2	1		
160-179	6.3-7.0	1		1			1		
180-199	7.1-7.8								
200-219	7.9-8.6	1							
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7	2							
400-419	15.8-16.5								
420-439	16.5-17.3	1							
440-459	17.3-18.1								
460-479	18.1-18.9	1							
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		32	9	51	71	101	35	1	8

^a No data for one specimen, not included in totals.

^b 32 specimens collected in size range 64-140 mm, not included in totals.

^c 25 specimens collected in size range 67-107 mm, not included in totals.

^d 39 specimens collected in size range 58-132 mm, not included in totals.

^e No data for one specimen, not included in totals.

TABLE E-23 (continued)

Water Body/Sampling Location(s)

Swamp Creek/D

County Forest

Sampling Dates May 4 - August 5, 1978

Gear Back Pack/Streamside Electroshocking

Species and Numbers of Fish in Length Groups

Page 2 of 2

Total Length in mm	Total Length in Inches	Brook Trout	Mottled Sculpin	Golden Shiner					
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1	1		1					
80-99	3.2-3.9		5	1					
100-119	3.9-4.7	1	2						
120-139	4.7-5.5	6							
140-159	5.5-6.3	8							
160-179	6.3-7.0	26							
180-199	7.1-7.8	27							
200-219	7.9-8.6	1							
220-239	8.7-9.4	3							
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
839	> 33.1								
ALS		73	7	2					

TABLE E-24

Water Body/Sampling Location(s)

Wolf River/Y, Z

County LangladeSampling Dates May 4 - October 5, 1978Gear Boom Electroshocking

Species and Numbers of Fish in Length Groups

Page 1 of 3

Total Length in mm	Total Length in Inches	White Sucker	Shorthead Redhorse ^a	Smallmouth Bass	Black Crappie	Common Shiner	Black Bullhead	Yellow Bullhead	Yellow Perch
< 40	< 1.6								
40-59	1.6-2.3				7				2
60-79	2.4-3.1				24	8	2		5
80-99	3.2-3.9	1				14			3
100-119	3.9-4.7	1	1			11	1		4
120-139	4.7-5.5	1					6		16
140-159	5.5-6.3	1	1		5	3	6	1	1
160-179	6.3-7.0	2	2		2		13	1	2
180-199	7.1-7.8	1	2			1	15	3	1
200-219	7.9-8.6	1		1			5		
220-239	8.7-9.4	1			1		2	2	
240-259	9.5-10.2	4	1	1			2	1	
260-279	10.2-11.0	4							
280-299	11.0-11.8	1		1					
300-319	11.8-12.6	2	2						
320-339	12.6-13.4	3							
340-359	13.4-14.1	5	1	1					
360-379	14.2-14.9	4	1						
380-399	15.0-15.7	2							
400-419	15.8-16.5	3	1						
420-439	16.5-17.3	5	1						
440-459	17.3-18.1	1							
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		43	13	4	39	37	52	8	34

^a No data for one specimen, not included in totals.

TABLE E-24 (continued)

Water Body/Sampling Location(s)

Wolf River/Y, Z

County LangladeSampling Dates May 4 - October 5, 1978Gear Boom Electroshocking

Species and Numbers of Fish in Length Groups

Page 2 of 3

Total Length in mm	Total Length in Inches	Northern Hogsucker	Rock Bass ^b	Bluegill	Hornyhead Chub	Creek Chub	Tadpole Madtom	Bluntnose Minnow	Pumpkin-Seed
< 40	< 1.6						1		
40-59	1.6-2.3				2			2	
60-79	2.4-3.1		2		2			4	
80-99	3.2-3.9				8		2	8	1
100-119	3.9-4.7		8		4		1		2
120-139	4.7-5.5		5		5				1
140-159	5.5-6.3	1	1	1	2				
160-179	6.3-7.0	1	2						
180-199	7.1-7.8		2						
200-219	7.9-8.6		1			1			
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		2	21	1	23	1	4	14	4

^b No data for one specimen, not included in totals.

TABLE E-24 (continued)

Water Body/Sampling Location(s)
Wolf River/Y, ZCounty LangladeSampling Dates May 4 - October 5, 1978Gear Boom Electroshocking

Species and Numbers of Fish in Length Groups

Page 3 of 3

Total Length in mm	Total Length in Inches	Golden Shiner	Hornyhead Shiner	Northern Pike	Johnny Darter	Brassy Minnow ^c			
< 40	< 1.6								
40-59	1.6-2.3								
60-79	2.4-3.1		1		2				
80-99	3.2-3.9	1							
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4			1					
520-539	20.5-21.2			1					
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		1	1	2	2				

^c No data for one specimen, not included in totals.

TABLE E-25

Water Body/Sampling Location(s)

Pond 6-8//6-8-1

County Forest

Sampling Dates October 7-13, 1977

Gear Minnow Trapping

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Central Mudminnow							
< 40	< 1.6								
40-59	1.6-2.3	1							
60-79	2.4-3.1	1							
80-99	3.2-3.9								
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		2							

TABLE E-26

Water Body/Sampling Location(s)

Pond 34-1/34-1-1

County Forest

Sampling Dates October 7-13, 1977

Gear Minnow Trapping

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Brook Stickleback							
< 40	< 1.6								
40-59	1.6-2.3	1							
60-79	2.4-3.1								
80-99	3.2-3.9								
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		1							

TABLE E-27

Water Body/Sampling Location(s)

Pond 35-7/35-7-1

County _____ Forest _____

Sampling Dates October 7-13, 1977Gear Minnow Trapping

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Finescale Dace ^a	Blunt-nose Minnow ^b	Fathead Minnow ^c	Brook Stickleback				
< 40	< 1.6								
40-59	1.6-2.3		2	9					
60-79	2.4-3.1	59	8	10	1				
80-99	3.2-3.9	3	6	1					
100-119	3.9-4.7	1							
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
400-419	15.8-16.5								
420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		63	16	20	1				

^a 281 specimens collected in size range 60-99 mm, not included in totals.^b 39 specimens collected in size range 40-99 mm, not included in totals.^c 39 specimens collected in size range 40-99 mm, not included in totals.

TABLE E-28

Water Body/Sampling Location(s)

Hoffmans Pond/E-3

County Forest

Sampling Dates October 3-5, 1978

Gear Minnow Trapping

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Northern Redbelly Dace ^a	Finescale Dace ^b						
< 40	< 1.6								
40-59	1.6-2.3	66	1						
60-79	2.4-3.1	16	45						
80-99	3.2-3.9		3						
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
260-279	10.2-11.0								
280-299	11.0-11.8								
300-319	11.8-12.6								
320-339	12.6-13.4								
340-359	13.4-14.1								
360-379	14.2-14.9								
380-399	15.0-15.7								
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420-439	16.5-17.3								
440-459	17.3-18.1								
460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		82	49						

^a 246 specimens collected in size range 51-65 mm, not included in totals.

^b No data two specimens, not included in totals.

TABLE E-29

Water Body/Sampling Location(s)
Hoffmans Spring/E-2

County _____ Forest _____

Sampling Dates October 3-5, 1978Gear Minnnow Trapping

Species and Numbers of Fish in Length Groups

Total Length in mm	Total Length in Inches	Finescale Dace							
< 40	< 1.6								
40-59	1.6-2.3	1							
60-79	2.4-3.1	1							
80-99	3.2-3.9								
100-119	3.9-4.7								
120-139	4.7-5.5								
140-159	5.5-6.3								
160-179	6.3-7.0								
180-199	7.1-7.8								
200-219	7.9-8.6								
220-239	8.7-9.4								
240-259	9.5-10.2								
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280-299	11.0-11.8								
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340-359	13.4-14.1								
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460-479	18.1-18.9								
480-499	18.9-19.7								
500-519	19.7-20.4								
520-539	20.5-21.2								
540-559	21.3-22.0								
560-579	22.1-22.8								
580-599	22.8-23.6								
600-619	23.6-24.4								
620-639	24.4-25.2								
640-659	25.2-26.0								
660-679	26.0-26.8								
680-699	26.8-27.5								
700-719	27.6-28.3								
720-739	28.4-29.1								
740-759	29.2-29.9								
760-779	29.9-30.7								
780-799	30.7-31.5								
800-819	31.5-32.3								
820-839	32.3-33.1								
> 839	> 33.1								
TOTALS		2							

APPENDIX 2.5F
SUPPLEMENTAL AQUATIC ECOLOGY DATA
(Tables F-1 through F-12)

APPENDIX 2.5F
SUPPLEMENTAL AQUATIC ECOLOGY DATA

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TABLE F-1

CHLOROPHYLL *a* CONCENTRATIONS ($\mu\text{g}/\ell$)
 FROM SAMPLES COLLECTED AT LAKES IN THE ENVIRONMENTAL STUDY AREA
 MAY-OCTOBER 1977; MARCH, MAY-OCTOBER 1978

DATE OF SAMPLE	LAKE AND REPLICATES																					
	RICE				ROLLING STONE				OAK ^a				LITTLE SAND				DEEP HOLE		DUCK		SKUNK	
	F1	F2	N1	N2	M2A	M2B	M4A	M4B	G1A	G1B	G2A	G2B	H1	H2	I1	I2	L1	L2	K1	K2	J1	J2
May 1977	<1	<1	<1	<1	- ^b	-	-	-	<1	<1	-	-	<1	<1	2	2	-	-	-	-	-	-
June 1977	5	<1	7	9	-	-	-	-	4	3	-	-	<1	<1	8	8	-	-	-	-	20	<1
July 1977	28	41	49	27	-	-	-	-	38	53	31	52	23	17	26	23	-	-	-	-	59	67
August 1977	16	6	12	24	-	-	-	-	10	16	18	8	43	41	9	13	-	-	-	-	42	61
September 1977	10	10	14	6	-	-	-	-	38	48	33	33	10	3	14	7	-	-	-	-	8	16
October 1977	5	2	2	3	18	17	37	19	6	16	14	15	1	5	5	12	1	2	19	9	5	5
March 1978	10	12	4	13	22	21	11	10	1	11	3	5	5	4	2	2	<1	6	7	6	385	305
May 1978	-	-	1	1	21	15	15	17	2	1	7	8	7	7	3	3	5	7	11	2	-	-
June 1978	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	1	2	3	-	-
July 1978	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	6	3	8	-	-
August 1978	-	-	4	4	19	18	22	45	3	7	12	10	14	15	19	14	1	10	13	20	-	-
September 1978	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	6	8	-	-
October 1978	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	7	10	13	-	-
Mean	<11	<10	<10	<10	20	18	21	23	<11	17	17	19	<12	<10	10	9	<3	5	9	9	86	76
Station Mean	<11		<10		19		22		<14		18		<11		10		<4		9		<81	
Lake Mean	<10				20				<16				10				<4		9		<81	

^aSamples obtained in the epilimnion (G-1) and the hypolimnion (G-2).

^bIndicates sample not obtained.

TABLE F-2

MEAN DENSITY (no./m³) OF LARVAL FISH IN
LITTLE SAND LAKE (STATIONS H AND I) AND OAK LAKE (STATION G)
COLLECTED DURING MAY, JUNE AND JULY 1977

	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>
<u>Little Sand Lake</u>			
Station H - Percidae	0.56	0	0
Station I - Percidae	1.71	0.02	0
<u>Oak Lake</u>			
Percidae	2.49	0.04	0.01
Unidentified species	0	0.02	0

TABLE F-3

CONCENTRATIONS^a OF TRACE METALS IN AQUATIC MACROPHYTES COLLECTED AUGUST 1977
FROM LOCATIONS IN THE ENVIRONMENTAL STUDY AREA

LOCATION/ STATION	TISSUE TYPE	SAMPLE SIZE ^b (g)	PARAMETERS								CHROMIUM, TOTAL
			MANGANESE	ZINC	CADMIUM	COPPER	ARSENIC	LEAD	MERCURY	COBALT	
SWAMP CREEK DRAINAGE BASIN											
Rice Lake	composite macrophyte ^c	2.1137	193 (17.3)	30 (2.7)	<0.1 (<0.01)	9.2 (0.83)	4.68 (0.420)	2.6 (0.23)	0.05 (<0.004)	<0.1 (<0.01)	<0.1 (<0.01)
Rice Lake	<u>Zizania aquatica</u> (wild rice)	3.7696	751 (59.3)	40 (3.2)	1.8 (0.14)	16 (1.3)	8.58 (0.677)	12 (0.95)	<0.05 (<0.004)	<0.1 (<0.01)	4.9 (0.39)
Swamp Creek Station E	composite macrophyte ^d	0.9516	1,120 (160)	155 (22.2)	<0.1 (<0.01)	105 (15.0)	0.84 (0.12)	11 (1.6)	<0.05 (<0.007)	<0.1 (<0.01)	11 (1.6)
Oak Lake	composite macrophyte ^e	4.5562	21.1 (1.56)	50 (3.7)	0.4 (0.03)	13 (1.0)	2.28 (0.168)	1.5 (0.11)	<0.05 (<0.004)	<0.1 (<0.01)	0.1 (0.01)
PICKEREL CREEK DRAINAGE BASIN											
Little Sand Lake	composite macrophyte ^f	5.3108	228 (26.4)	45 (5.2)	1.1 (0.13)	9.8 (1.1)	0.12 (0.014)	7.3 (0.85)	<0.05 (<0.006)	<0.1 (<0.01)	1.3 (0.15)

^aReported as mg/kg (parts per million, ppm) on a dry weight basis. Concentrations on a wet weight basis are in parentheses.

^bWet weight (g) of sample used for tissue analysis.

^cComposite of Nuphar variegatum (yellow water lily), Typha lalifolia (cattail) and Sparaganium americanum (bur reed).

^dComposite of Typha latifolia (cattail) and Sparaganium americanum (bur reed).

^eComposite of Eleocharis smallii (spike rush), Eriocaulon septangulare (pipewort), and Lobelia dortmanna (water lobelia).

^fComposite of Eleocharis smallii (spike rush), and Eriocaulon septangulare (pipewort).

TABLE F-4

CONCENTRATIONS^a OF TRACE METALS IN BENTHIC MACROINVERTEBRATE TISSUES
COLLECTED AUGUST 1977 FROM LOCATIONS IN THE ENVIRONMENTAL STUDY AREA

LOCATION/ STATION	TISSUE TYPE	SAMPLE SIZE ^b (g)	PARAMETERS								CHROMIUM, TOTAL
			MANGANESE	ZINC	CADMIUM	COPPER	ARSENIC	LEAD	MERCURY	COBALT	
SWAMP CREEK DRAINAGE BASIN											
Rice Lake	composite benthos ^c	0.9439	400 (47.3)	132 (15.6)	0.4 (0.05)	36 (4.3)	0.62 (0.073)	18 (2.1)	<0.05 (0.006)	<0.1 (<0.01)	3.1 (0.37)
Rice Lake	crayfish ^d	0.9538	3,700 (611)	439 (72.5)	3.5 (0.58)	86 (14.2)	<0.01 (<0.02)	25 (4.1)	<0.05 (<0.008)	<0.1 (<0.02)	9.5 (1.6)
Swamp Creek Station D	composite benthos ^e	0.2198	3,240 (371)	208 (23.8)	9.9 (1.1)	150 (17.2)	0.64 (0.073)	20 (2.3)	<0.05 (<0.006)	<0.1 (<0.01)	14 (1.6)
Station E	composite benthos ^f	1.8187	120 (46.0)	39 (15)	0.2 (0.08)	6.1 (2.3)	0.17 (0.065)	1.4 (0.54)	<0.05 (<0.02)	<0.1 (<0.04)	0.9 (0.3)
Oak Lake	composite benthos ^g	0.1044	319 (22.1)	360 (24.9)	35 (2.4)	138 (9.55)	<0.1 (0.01)	69 (4.8)	<0.05 (0.003)	<0.1 (<0.01)	21 (1.5)
PICKEREL CREEK DRAINAGE BASIN											
Little Sand Lake	composite benthos ^h	0.5113	121 (17.3)	261 (37.3)	2.9 (0.41)	55 (7.9)	<0.1 (<0.01)	<0.1 (<0.01)	<0.05 (<0.007)	<0.1 (<0.01)	6.9 (1.0)

^aReported as mg/kg (parts per million, ppm) on a dry weight basis. Concentrations on a wet weight basis are in parentheses.

^bWet weight (g) of sample used for tissue analysis.

^cComposite of Odonata (dragonfly) nymphs, Lymnaea sp. (snails), and Hirudinea (leeches).

^dComposite of tail muscle of 26 crayfish, Orconectes sp.

^eComposite of Plecoptera (stonefly) nymphs and larvae of Trichoptera (caddis fly) and Odonata (dragonfly).

^fComposite of nymphs of Ephemeroptera (mayfly), Megaloptera (dobson fly) and tissue of Lymnaea sp. (snail) and Unionidae (clam).

^gComposite of Hirudinea (leeches), and Trichoptera (caddisfly) larvae.

^hComposite of Hirudinea (leeches), Odonata (dragonfly) nymphs, and Trichoptera (caddisfly) larvae.

TABLE F-5

CONCENTRATIONS^a OF TRACE METALS IN FISH MUSCLE TISSUE SAMPLES
FROM LOCATIONS IN THE SWAMP CREEK DRAINAGE BASIN

LOCATION STATION	SAMPLE IDENTIFICATION			PARAMETERS								CHROMIUM TOTAL
	NUMBER ^b AND SPECIES	DATE OF COLLECTION	SAMPLE SIZE (g) ^c	MANGANESE	ZINC	CADMIUM	COPPER	ARSENIC	LEAD	MERCURY	COBALT	
Hemlock Creek Station A-1	24 - White Sucker	August 1978	16.7857	1.0 (0.18)	16 (2.9)	0.2 (0.04)	0.9 (0.17)	<0.1 (<0.01)	1.0 (0.18)	<0.01 (<0.001)	0.7 (0.13)	0.1 (0.02)
Hemlock Creek Station A-2	5 - Common Shiner	August 1977	2.4124	22 (4.0)	53 (9.6)	0.9 (0.2)	10 (1.8)	<0.1 (<0.02)	9.7 (1.7)	0.05 (0.009)	2.9 (0.52)	1.6 (0.29)
Swamp Creek Station B	3 - Black Bullhead	August 1977	4.8966	5.3 (1.0)	58 (11)	0.6 (0.1)	9.1 (1.8)	<0.1 (<0.02)	2.5 (0.49)	<0.05 (<0.01)	0.52 (0.10)	0.49 (0.097)
Swamp Creek Station B	1 - White Sucker	August 1977	2.9961	1.9 (0.35)	81 (15)	3.5 (0.64)	8.0 (1.5)	<0.1 (<0.02)	5.4 (0.99)	<0.05 (<0.009)	0.91 (0.17)	0.32 (0.058)
Swamp Creek Station D	2 - White Sucker	August 1977	3.4255	12 (2.1)	191 (33.9)	2.1 (0.37)	8.9 (1.6)	<0.1 (<0.02)	8.2 (1.5)	<0.05 (<0.009)	3.3 (0.59)	1.11 (0.197)
Rice Lake	1 - White Sucker	August 1977	2.7927	13 (2.8)	31 (6.6)	1.0 (0.2)	14 (3.0)	<0.1 (<0.02)	3.3 (0.70)	<0.05 (<0.01)	0.84 (0.18)	11 (2.3)
Rice Lake	25 - Black Bullhead	August 1978	8.7040	1.1 (0.21)	19 (3.6)	0.3 (0.05)	0.4 (0.07)	<0.1 (<0.01)	1.9 (0.37)	<0.01 (<0.001)	0.7 (0.1)	0.4 (0.05)

^aReported as mg/kg (parts per million, ppm) on a dry weight basis. Concentrations on a wet weight basis are in parentheses.

^bNumber of fish that comprised the sample.

^cWet weight (g) of sample used for tissue analysis.

TABLE F-6

CONCENTRATIONS^a OF TRACE METALS IN YELLOW PERCH MUSCLE AND
LIVER TISSUE SAMPLES FROM OAK LAKE (STATION G)

NUMBER ^b	SAMPLE IDENTIFICATION		PARAMETERS								
	DATE OF COLLECTION	SAMPLE SIZE (g) ^c	MANGANESE	ZINC	CADMIUM	COPPER	ARSENIC	LEAD	MERCURY	COBALT	CHROMIUM, TOTAL
MUSCLE											
4	August 1977	9.5791	0.9 (0.2)	759 (137)	1.1 (0.20)	11 (0.20)	<0.1 (<0.02)	0.8 (0.1)	<0.05 (<0.009)	0.29 (0.052)	0.12 (0.022)
25	August 1978	6.9789	1.9 (0.33)	29 (5.1)	0.4 (0.07)	0.8 (0.1)	<0.1 (<0.02)	1.8 (0.32)	<0.01 (<0.002)	0.8 (0.1)	0.1 (0.02)
LIVER											
4	August 1977	0.8747	43 (4.2)	456 (44.6)	11.7 (1.1)	116 (11.3)	<0.1 (<0.01)	29 (2.8)	<0.05 (<0.005)	5.8 (0.57)	4.39 (0.429)
4	August 1977	0.5068	32 (5.2)	127 (20.8)	7.2 (1.2)	51 (8.3)	<0.1 (<0.02)	27 (4.4)	<0.05 (<0.008)	3.0 (0.49)	3.62 (0.592)

^aReported as mg/kg (parts per million, ppm) on a dry weight basis. Concentrations on a wet weight basis are in parentheses.

^bNumber of fish that comprised the sample.

^cWet weight (g) of sample used for tissue analysis.

TABLE F-7

CONCENTRATIONS^a OF TRACE METALS IN FISH SAMPLES
 FROM LOCATIONS IN THE PICKEREL CREEK DRAINAGE BASIN

LOCATION/STATION	SAMPLE IDENTIFICATION			PARAMETERS								CHROMIUM, TOTAL
	NUMBER ^b AND SPECIES	DATE OF COLLECTION	SAMPLE SIZE (g) ^c	MANGANESE	ZINC	CADMIUM	COPPER	ARSENIC	LEAD	MERCURY	COBALT	
MUSCLE												
Rolling Stone Lake	20 Yellow Perch	May 1978	9.5060	2.9 (0.44)	23 (3.5)	0.4 (0.06)	0.8 (0.12)	<0.1 (<0.01)	1.9 (0.29)	<0.01 (<0.001)	1.1 (0.16)	0.2 (0.03)
Rolling Stone Lake	26 Yellow Perch	August 1978	10.2634	1.6 (0.32)	26 (5.1)	0.4 (0.08)	1.3 (0.25)	<0.1 (<0.01)	1.7 (0.34)	0.07 (0.013)	1.0 (0.20)	0.2 (0.03)
Pickereel Creek M-5	25 Yellow Perch	August 1978	9.9506	1.5 (0.27)	24 (4.4)	0.2 (0.04)	1.3 (0.23)	<0.1 (<0.01)	2.2 (0.40)	0.12 (0.022)	1.0 (0.18)	0.1 (0.02)
Creek 12-9 M-1	5 Yellow Perch	August 1978	6.4519	1.8 (0.32)	22 (4.0)	0.5 (0.10)	1.7 (0.25)	<0.1 (<0.01)	1.5 (0.27)	0.03 (0.006)	0.7 (0.12)	0.2 (0.03)
WHOLE FISH												
Creek 11-4 M-3	25 Redbelly Dace	August 1978	8.1260	25 (5.2)	215 (44)	0.6 (0.12)	5.3 (1.08)	<0.1 (<0.01)	5.7 (1.17)	<0.01 (<0.001)	1.8 (0.37)	0.9 (0.18)

^aReported as mg/kg (parts per million, ppm) on a dry weight basis. Concentrations on a wet weight basis are in parentheses.

^bNumber of fish that comprised the sample.

^cWet weight (g) of sample used for tissue analysis.

TABLE F-8

CONCENTRATIONS^a OF TRACE METALS IN FISH MUSCLE TISSUE SAMPLES
FROM LAKES IN THE PICKEREL CREEK DRAINAGE BASIN

LOCATION	SAMPLE IDENTIFICATION		SAMPLE SIZE (g) ^c	PARAMETERS								CHROMIUM, TOTAL
	NUMBER ^b AND SPECIES	DATE OF COLLECTION		MANGANESE	ZINC	CADMIUM	COPPER	ARSENIC	LEAD	MERCURY	COBALT	
Deep Hole Lake	2 Walleye	August 1977	4.8129	12 (2.4)	24 (4.7)	1.2 (0.24)	1.6 (0.32)	<0.1 (<0.02)	1.0 (0.20)	<0.05 (<0.01)	0.26 (0.051)	0.31 (0.061)
Deep Hole lake	25 Yellow Perch	August 1978	9.2498	1.5 (0.24)	25 (4.1)	0.3 (0.05)	0.9 (0.15)	<0.1 (<0.01)	1.8 (0.30)	<0.01 (<0.001)	0.8 (0.14)	0.2 (0.03)
Duck Lake	20 Yellow Perch	May 1978	8.9749	1.8 (0.30)	35 (5.9)	0.4 (0.06)	1.2 (0.20)	<0.1 (<0.01)	2.7 (0.45)	<0.01 (<0.001)	1.2 (0.20)	0.1 (0.02)
Duck Lake	25 Yellow Perch	August 1978	7.0632	1.1 (0.22)	21 (4.2)	0.3 (0.06)	0.9 (0.18)	<0.1 (<0.01)	1.3 (0.25)	0.26 (0.051)	0.7 (0.14)	0.1 (0.01)
Little Sand Lake	1 Northern Pike	August 1977	4.8431	0.3 (0.06)	2.1 (0.43)	<0.1 (0.02)	0.6 (0.1)	<0.1 (0.02)	0.9 (0.2)	<0.05 (<0.01)	<0.01 (<0.002)	0.02 (0.004)
Little Sand Lake	2 Yellow Bullhead	August 1977	1.1532	15 (2.6)	212 (36.9)	3.1 (0.54)	9.5 (1.7)	<0.1 (<0.02)	18 (3.1)	0.17 (0.030)	1.2 (0.21)	1.37 (0.238)
Little Sand Lake	20 Yellow Perch	August 1978	17.2904	1.6 (0.33)	22 (4.4)	0.2 (0.04)	0.5 (0.11)	<0.1 (<0.01)	1.1 (0.22)	0.16 (0.032)	0.8 (0.16)	0.1 (0.02)
Little Sand Lake	23 Yellow Perch ^d	August 1978		<1.4 (<0.29)	26.2 (5.4)	0.6 (0.12)	6.6 (1.35)	<0.1 (<0.01)	3.0 (0.63)	0.07 (0.015)	1.5 (0.32)	0.5 (0.10)

^aReported as mg/kg (parts per million, ppm) on a dry weight basis. Concentrations on a wet weight basis are in parentheses.

^bNumber of fish that comprised the sample.

^cWet weight (g) of sample used for tissue analysis.

^dMean (\bar{x}) of individual fish analysis (Table F-9); N = 23 except for mercury and arsenic, where N = 5.

TABLE F-9

CONCENTRATIONS^a OF TRACE METALS
IN MUSCLE TISSUE SAMPLES FROM YELLOW PERCH
IN LITTLE SAND LAKE, AUGUST 1978

FISH MEASUREMENTS			PARAMETERS								
LENGTH (mm)	WEIGHT (g)	SAMPLE SIZE ^b (g)	MANGANESE	ZINC	CADMIUM	COPPER	ARSENIC	LEAD	MERCURY	COBALT	CHROMIUM, TOTAL
63	2.6	0.5524	<0.1 (<0.01)	18 (3.7)	0.7 (0.14)	35 (7.12)	-	4.6 (0.94)	-	4.5 (0.91)	1.6 (0.32)
68	2.4	0.4886	<0.1 (<0.01)	25 (4.9)	0.5 (0.10)	7.0 (1.38)	-	5.2 (1.02)	-	0.3 (0.05)	0.5 (0.10)
69	3.3	0.5034	<0.1 (<0.01)	24 (4.9)	3.6 (0.74)	3.4 (0.69)	-	10.0 (2.09)	-	2.4 (0.50)	1.0 (0.20)
74	4.0	0.7408	<0.1 (<0.01)	22 (4.3)	0.5 (0.10)	26 (4.96)	-	7.5 (1.45)	-	3.5 (0.68)	0.2 (0.03)
78	4.1	0.5952	<0.1 (<0.01)	26 (5.9)	1.1 (0.25)	4.9 (1.13)	-	5.6 (1.30)	-	1.8 (0.42)	0.2 (0.04)
83	5.7	0.9400	<0.1 (<0.01)	29 (5.7)	0.7 (0.13)	15 (3.00)	-	1.9 (0.37)	-	1.3 (0.26)	1.1 (0.21)
96	5.8	1.3630	5.3 (1.03)	28 (5.4)	0.7 (0.13)	2.9 (0.57)	-	3.3 (0.65)	-	1.6 (0.32)	2.5 (0.48)
107	11.5	2.4404	3.7 (0.73)	20 (4.0)	0.4 (0.08)	1.5 (0.29)	-	2.1 (0.41)	-	1.6 (0.31)	0.8 (0.15)
111	14.4	3.3733	0.7 (0.16)	23 (5.1)	0.6 (0.13)	8.4 (1.82)	-	2.7 (0.59)	-	1.4 (0.03)	0.3 (0.07)
122	16.0	4.2940	2.7 (0.54)	25 (5.0)	1.1 (0.21)	0.7 (0.14)	-	2.6 (0.52)	-	2.1 (0.41)	0.4 (0.08)
123	18.2	4.4331	0.6 (0.13)	23 (4.9)	0.5 (0.11)	1.2 (0.25)	-	1.8 (0.39)	-	0.8 (0.17)	0.1 (0.03)
125	19.3	5.0858	1.5 (0.29)	30 (6.0)	0.2 (0.04)	0.7 (0.14)	-	1.3 (0.25)	-	1.5 (0.30)	0.4 (0.07)
132	23.1	5.0374	1.8 (0.38)	31 (6.6)	0.3 (0.07)	8.1 (1.72)	-	2.1 (0.45)	-	0.9 (0.20)	0.3 (0.07)
149	30.8	3.7448	2.5 (0.54)	32 (6.7)	0.4 (0.08)	3.7 (0.79)	<0.1 (<0.01)	3.4 (0.73)	0.08 (0.016)	1.6 (0.33)	0.6 (0.12)
149	33.0	6.6045	1.7 (0.35)	23 (4.7)	0.1 (0.03)	0.3 (0.07)	-	1.1 (0.23)	-	0.7 (0.15)	0.1 (0.01)
152	35.5	7.8212	0.9 (0.19)	24 (4.9)	0.3 (0.06)	6.8 (1.38)	-	0.9 (0.19)	-	0.9 (0.16)	0.2 (0.04)
152	36.0	4.5455	1.7 (0.33)	29 (5.7)	0.3 (0.06)	4.6 (0.90)	<0.1 (<0.01)	3.1 (0.61)	0.05 (0.01)	1.1 (0.22)	0.2 (0.04)
159	34.6	9.3240	0.9 (0.18)	17 (3.6)	0.2 (0.04)	0.7 (0.15)	-	0.9 (0.19)	-	0.8 (0.16)	0.1 (0.02)
160	38.6	8.8611	0.9 (0.18)	20 (4.1)	0.2 (0.04)	0.5 (0.10)	-	0.7 (0.14)	-	0.7 (0.14)	0.1 (0.02)
167	42.1	11.1495	2.7 (0.59)	60 (13.0)	0.2 (0.05)	11 (2.37)	-	4.0 (0.87)	-	2.3 (0.50)	0.4 (0.09)
176	46.0	6.3395	1.1 (0.23)	23 (4.7)	0.2 (0.05)	0.7 (0.14)	<0.1 (<0.01)	1.4 (0.28)	0.09 (0.018)	1.2 (0.24)	0.1 (0.02)
179	49.0	6.2090	2.5 (0.53)	24 (5.2)	0.2 (0.05)	4.3 (0.91)	<0.1 (<0.01)	1.5 (0.32)	0.05 (0.011)	1.1 (0.24)	0.1 (0.01)
179	50.0	6.5549	1.1 (0.23)	27 (5.7)	0.2 (0.03)	4.4 (0.93)	<0.1 (<0.01)	2.0 (0.42)	0.10 (0.021)	1.5 (0.31)	0.6 (0.13)

^aReported as mg/kg (parts per million, ppm) on a dry weight basis. Concentrations on a wet weight basis are in parentheses.

^bWet weight (g) of sample used for tissue analysis.

TABLE F-10

CONCENTRATIONS^a OF TRACE METALS IN FISH LIVER TISSUE SAMPLES
FROM LOCATIONS IN THE PICKEREL CREEK DRAINAGE BASIN

LOCATION	SAMPLE IDENTIFICATION		SAMPLE SIZE (g) ^c	PARAMETERS								CHROMIUM, TOTAL
	NUMBER ^b AND SPECIES	DATE OF COLLECTION		MANGANESE	ZINC	CADMIUM	COPPER	ARSENIC	LEAD	MERCURY	COBALT	
Deep Hole Lake	2 Walleye	August 1977	1.2903	3.0 (0.53)	33 (5.8)	0.2 (0.04)	24 (4.2)	<0.1 (<0.02)	6.5 (1.1)	<0.05 (<0.009)	1.1 (0.19)	0.55 (0.097)
Little Sand Lake	1 Northern Pike	August 1977	2.4956	0.7 (0.3)	3.0 (1.4)	<0.1 (0.05)	2.5 (1.1)	<0.1 (0.05)	0.2 (0.09)	<0.05 (<0.02)	0.22 (0.10)	0.02 (0.009)
Little Sand Lake	2 Yellow Bullhead	August 1977	0.6882	28 (3.2)	317 (35.8)	16 (1.8)	71 (8.0)	<0.1 (<0.01)	9.6 (1.1)	<0.05 (<0.006)	6.4 (0.72)	1.61 (0.182)

^aReported as mg/kg (parts per million, ppm) on a dry weight basis. Concentrations on a wet weight basis are in parentheses.

^bNumber of fish that comprised the sample.

^cWet weight (g) of sample used for tissue analysis.

SCIENTIFIC NAMES FOR FISH*

CLASS	ORDER	FAMILY	SPECIES	COMMON NAME
Osteichthys				
Salmoniformes				
Salmonidae - trouts				
			<u>Salvelinus fontinalis</u>	brook trout
Umbridae - mudminnows				
			<u>Umbra limi</u>	central mudminnow
Esocidae - pikes				
			<u>Esox lucius</u>	northern pike
Cypriniformes				
Cyprinidae - minnows				
			<u>Hybognathus hankinsoni</u>	brassy minnow
			<u>Nocomis biguttatus</u>	hornyhead chub
			<u>Notemigonus crysoleucas</u>	golden shiner
			<u>Notropis cornutus</u>	common shiner
			<u>N. heterodon</u>	blackchin shiner
			<u>N. heterolepis</u>	blacknose shiner
			<u>Phoxinus eos</u>	northern redbelly dace
			<u>P. neogaeus</u>	finescale dace
			<u>Pimephales notatus</u>	bluntnose minnow
			<u>P. promelas</u>	fathead minnow
			<u>Rhinichthys atratulus</u>	blacknose dace
			<u>R. cataractae</u>	longnose dace
			<u>Semotilus atromaculatus</u>	creek chub
			<u>S. margarita</u>	pearl dace
Catostomidae - suckers				
			<u>Catostoms commersoni</u>	white sucker
			<u>Hypentelium nigricans</u>	northern hog sucker
			<u>Moxostoma macrolepidotum</u>	shorthead redhorse

*Presented in phylogenetic order according to Bailey, R.M., Fitch, J.E., Herald, E.S., Lachner, E.A., Lindsey, C.C., Robins, C.R., and Scott, W.B., 1970, A list of common and scientific names of fishes from the United States and Canada, third edition: American Fisheries Society, Special Publication no. 6., Washington, D.C., 150 p.

CLASS	ORDER	FAMILY	SPECIES	COMMON NAME
			Siluriformes	
			Ictaluridae - freshwater catfishes	
			<u>Ictalurus melas</u>	black bullhead
			<u>Ictalurus natalis</u>	yellow bullhead
			<u>Noturus gyrinus</u>	tadpole madtom
			Gasterosteiformes	
			Gasterosteidae - sticklebacks	
			<u>Culaea inconstans</u>	brook stickleback
			Perciformes	
			Centrarchidae - sunfishes	
			<u>Ambloplites rupestris</u>	rock bass
			<u>Lepomis gibbosus</u>	pumpkinseed
			<u>L. macrochirus</u>	bluegill
			<u>Micropterus dolomieu</u>	smallmouth bass
			<u>M. salmoides</u>	largemouth bass
			<u>Pomoxis nigromaculatus</u>	black crappie
			Percidae - perch	
			<u>Etheostoma exile</u>	Iowa darter
			<u>Etheostoma nigrum</u>	Johnny darter
			<u>Perca flavescens</u>	yellow perch
			<u>Stizostedion vitreum vitreum</u>	walleye
			Cottidae - sculpins	
			<u>Cottus bairdi</u>	mottled sculpin

TABLE F-12

PHEOPHYTIN a CONCENTRATIONS ($\mu\text{g}/\text{l}$)
 FROM SAMPLES COLLECTED AT LAKES IN THE ENVIRONMENTAL STUDY AREA
 MAY-OCTOBER 1978

DATE OF SAMPLE	LAKE AND REPLICATES																	
	RICE		ROLLING STONE				OAK*				LITTLE SAND				DEEP HOLE		DUCK	
	N1	N2	M2A	M2B	M4A	M4B	G1A	G1B	G2A	G2B	H1	H2	I1	I2	L1	L2	K1	K2
May	0.006	0.008	<0.001	0.019	0.005	0.004	0.008	0.009	<0.001	<0.001	0.001	<0.001	0.003	0.001	0.014	0.006	0.002	0.021
June	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.012	0.026	0.045	0.053
July	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.044	0.029	0.041	0.065
August	0.010	0.007	0.001	0.002	0.001	0.002	0.009	0.004	0.009	0.006	0.002	0.003	0.001	0.004	0.014	<0.001	0.005	0.003
September	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.001	<0.001	0.012	0.014
October	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.005	0.004	0.005	0.009

Note: -- indicates sample not obtained.

*Samples obtained in the epilimnion (G-1) and hypolimnion (G-2).

APPENDIX 2.6A

PLANTS OF THE ENVIRONMENTAL STUDY AREA

PLANTS OF THE ENVIRONMENTAL STUDY AREA

FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b	FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b
Lycopodiaceae - Clubmosses			Polypodiaceae - Polypodies		
<u>Lycopodium clavatum</u>	Running Pine	Infrequent	<u>Adiantum pedatum</u>	Maidenhair Fern	Common
<u>Lycopodium complanatum</u>	Trailing Christmas-Green	Infrequent	<u>Athyrium filix-femina</u>	Lady-Fern	Common
<u>Lycopodium lucidulum</u>	Clubmoss	Infrequent	<u>Dryopteris cristata</u>	Crested Shield Fern	Common
<u>Lycopodium obscurum</u>	Ground Pine	Common	<u>Dryopteris spinulosa</u>	Spinulose Shield Fern	Common
Isoetaceae - Quillworts			<u>Dryopteris sp.</u>	Shield Fern	--
<u>Isoetes echinospora</u>	Spiny Spored Quillwort ^c	Common	<u>Gymnocarpium dryopteris</u>	Oak Fern	Infrequent
<u>Isoetes sp.</u>	Quillwort ^c	Common	<u>Matteuccia struthiopteris</u>	Ostrich-Fern	Infrequent
Equisetaceae - Horsetails			<u>Onoclea sensibilis</u>	Sensitive Fern	Common
<u>Equisetum arvense</u>	Field Horsetail ^c	Common	<u>Pteridium aquilinum</u>	Bracken Fern	Common
<u>Equisetum fluviatile</u>	Water Horsetail ^d	Infrequent	<u>Thelypteris palustris</u>	Marsh Fern ^c	Common
<u>Equisetum hyemale</u>	Scouring Rush	Common	<u>Thelypteris phegopteris</u>	Long Beech Fern	Common
<u>Equisetum sylvaticum</u>	Common Horsetail	Infrequent	Taxaceae - Yews		
<u>Equisetum sp.</u>	Horsetail ^d	--	<u>Taxus canadensis</u>	Ground Hemlock	Infrequent
Ophioglossaceae - Adder's-Tongues			Pinaceae - Pines		
<u>Botrychium lanceolatum</u>	Triangle Grape Fern ^{c, f}	Infrequent	<u>Abies balsamea</u>	Balsam Fir	Common
<u>Botrychium matricariifolium</u>	Daisy-Leaved Grape Fern ^{c, f}	Infrequent	<u>Larix laricina</u>	Tamarack	Common
<u>Botrychium oneidense</u>	Blunt-Lobed Grape Fern ^{c, f}	Infrequent	<u>Picea glauca</u>	White Spruce	Infrequent
<u>Botrychium simplex</u>	Least Moonwort ^{c, f}	Infrequent	<u>Picea mariana</u>	Black Spruce	Common
<u>Botrychium virginianum</u>	Rattlesnake Fern	Common	<u>Pinus banksiana</u>	Jack Pine	Infrequent
Osmundaceae - Royal Ferns			<u>Pinus resinosa</u>	Red Pine	Common
<u>Osmunda cinnamomea</u>	Cinnamon Fern	Common	<u>Pinus strobus</u>	White Pine	Common
<u>Osmunda claytoniana</u>	Interrupted Fern	Infrequent	<u>Pinus sylvestris</u>	Scotch Pine	Infrequent
			<u>Tsuga canadensis</u>	Eastern Hemlock	Infrequent

^aNomenclature follows Gleason and Cronquist, 1963.

^bFrequencies of occurrence are defined as follows: Abundant - Plant species that are frequently found in a wide variety of plant communities throughout the environmental study area. Common - Plant species that are readily found in their preferred habitat throughout the environmental study area. Infrequent - Plant species that are difficult to find and are restricted to one or two uncommon plant communities in the environmental study area. Other frequencies are endangered, threatened, or watch as defined and listed by the Wisconsin DNR.

^cObserved in environmental study area by R. Read of the DNR (Ramharter, 1982a,b).

^dObserved in environmental study area by Normandeau Associates Inc. and Interdisciplinary Environmental Planning, Inc., 1982.

^eAquatic plant, discussed in section 2.5, Aquatic Ecology.

^fListed as rare and recommended for either endangered or threatened status in Read (1976).

^gRestricted to Duck Lake.

^hRestricted to Rice Lake.

ⁱObtain location from R. Read, Wisconsin DNR.

FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b	FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b
Cupressaceae - Cyresses			Graminae - Grasses (cont'd)		
<u>Thuja occidentalis</u>	White Cedar	Common	<u>Echinochloa crusgalli</u>	Spurred Barnyard Grass ^c	Infrequent
Typhaceae - Cattails			<u>Echinochloa sp.</u>	Barnyard Grass ^d	--
<u>Typha latifolia</u>	Common Cattail	Infrequent	<u>Hystrix patula</u>	Bottle-Brush Grass	Common
Sparganiaceae - Bur-Reeds			<u>Glyceria borealis</u>	Northern Manna-Grass	Infrequent
<u>Sparganium americanum</u>	American Bur-Reed ^d	Common	<u>Glyceria canadensis</u>	Rattlesnake Grass ^{c,d}	Common
<u>Sparganium androcladum</u>	No common name ^e	Infrequent	<u>Glyceria grandis</u>	Reed Meadow Grass ^d	Infrequent
<u>Sparganium angustifolium</u>	Narrow-Leaved Bur-Reed ^e	Common	<u>Glyceria striata</u>	Fowl Meadow Grass ^c	Common
<u>Sparganium eurycarpum</u>	Broad-Fruited Bur-Reed ^e	Abundant	<u>Leersia oryzoides</u>	Cut Grass	Common
<u>Sparganium fluctuans</u>	Fluctuating Bur-Reed ^e	Infrequent	<u>Milim effusum</u>	Wood Millet ^c	Common
<u>Sparganium minimum</u>	Small Bur-Reed	Common	<u>Muhlenbergia glomerata</u>	No common name	Common
<u>Sparganium sp.</u>	Bur-Reed ^c	Common	<u>Oryzopsis asperifolia</u>	Ricegrass	Abundant
Najadaceae - Pondweeds			<u>Panicum xanthophysum</u>	Slender Panic-Grass	Infrequent
<u>Potamogeton confervoides</u>	No common name ^e	Threatened ^g	<u>Phalaris arundinacea</u>	Reed Canary Grass	Common
<u>Potamogeton epihydrus</u>	No common name ^e	Common	<u>Phleum pratense</u>	Timothy ^c	Common
<u>Potamogeton friesii</u>	Fries' Pondweed ^e	Common	<u>Poa annua</u>	Annual Bluegrass ^c	Common
<u>Potamogeton pectinatus</u>	Sago Pondweed ^c	Common	<u>Poa palustris</u>	Fowl Meadow Grass	Common
<u>Potamogeton praelongus</u>	White-Stem Pondweed ^e	Abundant	<u>Poa pratensis</u>	Kentucky Bluegrass	Abundant
<u>Potamogeton zosteriformis</u>	Flat-Stem Pondweed ^e	Abundant	<u>Poa saltuensis</u>	Pasture Bluegrass	Common
Juncaginaceae - Arrow Grasses			<u>Schizachne purpurascens</u>	No common name	Common
<u>Scheuchzeria palustris</u>	Arrow Grass ^c	Infrequent	<u>Zizania aquatica</u>	Wild Rice ^e	Infrequent ^h
Alismatceae - Water-Plantains			Cyperaceae - Sedges		
<u>Alisma subcordatum</u>	Water Plantain ^d	Common	<u>Carex arctata</u>	Contracted Sedge	Common
<u>Sagittaria graminea</u>	Grassy Arrowhead ^e	Common	<u>Carex atherodes</u>	Wheat Sedge	Infrequent
<u>Sagittaria latifolia</u>	Broad-Leaved Arrowhead ^e	Abundant	<u>Carex brunnescens</u>	Brownish Sedge	Common
<u>Sagittaria sp.</u>	Arrowhead ^c	Common	<u>Carex canescens</u>	Silvery Sedge	Common
Hydrocharitaceae - Frog's-Bits			<u>Carex comosa</u>	Bearded Sedge	Common
<u>Anacharis canadensis</u>	Water-Weed ^e	Abundant	<u>Carex crawfordii</u>	Crawford's Sedge	Common
<u>Vallisneria spiralis</u>	Tape-Grass ^d	Infrequent	<u>Carex crinita</u>	Fringed Sedge	Common
Graminae - Grasses			<u>Carex deweyana</u>	Dewey's Sedge	Abundant
<u>Agropyron repens</u>	Quackgrass	Common	<u>Carex disperma</u>	Two-Seeded Sedge ^c	Abundant
<u>Agrostis alba</u>	Redtop ^c	Abundant	<u>Carex gracillima</u>	Graceful Sedge ^c	Common
<u>Agrostis gigantea</u>	Black Bent ^c	Abundant	<u>Carex intumescens</u>	Bladder Sedge	Abundant
<u>Agrostis scabra</u>	Ticklegrass	Infrequent	<u>Carex lacustris</u>	Lake-Bank Sedge	Abundant
<u>Alopecurus aequalis</u>	Foxtail	Common	<u>Carex lasiocarpa</u>	Hairy-Fruited Sedge ^c	Common
<u>Andropogon gerardi</u>	Big Bluestem	Infrequent	<u>Carex leptalea</u>	Delicate Sedge ^c	Common
<u>Bromus inermis</u>	Smooth Brome	Common	<u>Carex leptonevria</u>	Finely-Nerved Sedge ^c	Common
<u>Calamagrostis canadensis</u>	Bluejoint	Common	<u>Carex limosa</u>	Mud Sedge	Infrequent
<u>Cinna arundinacea</u>	Wood Reed	Infrequent	<u>Carex normalis</u>	Larger Straw Sedge	Common
			<u>Carex oligosperma</u>	Few-Seeded Sedge	Common
			<u>Carex paupercula</u>	Bog Sedge	Infrequent
			<u>Carex pennsylvanica</u>	Pennsylvania Sedge	Abundant
			<u>Carex projecta</u>	Necklace Sedge	Common
			<u>Carex rostrata</u>	Beaked Sedge	Common
			<u>Carex scoparia</u>	Broom Sedge	Abundant

FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b	FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b
Cyperaceae - Sedges (cont'd)			Liliaceae - Lilies (cont'd)		
<u>Carex stipata</u>	Crowded Sedge ^c	Common	<u>Maianthemum canadense</u>	Wild Lily-of-the-Valley	Abundant
<u>Carex stricta</u>	Erect Sedge ^d	Abundant	<u>Polygonatum pubescens</u>	Hairy Solomon's-Seal	Infrequent
<u>Carex trisperma</u>	Three-Seeded Sedge ^c	Common	<u>Smilacina racemosa</u>	False Spikenard	Common
<u>Carex tuckermanii</u>	Tuckerman's Sedge	Common	<u>Smilacina trifolia</u>	False Solomon's-Seal	Common
<u>Carex vesicaria</u>	Inflated Sedge	Infrequent	<u>Smilax ecirrhata</u>	Upright Carrion Flower	Infrequent
<u>Carex sp.</u>	Sedge ^d	--	<u>Smilax hispida</u>	Bristly Greenbriar	Infrequent
<u>Dulichium arundinaceum</u>	Three-Way Sedge	Abundant	<u>Streptopus roseus</u>	Rose Twisted Stalk	Abundant
<u>Eleocharis erythropoda</u>	Spike-Rush	Common	<u>Trillium cernuum</u>	Nodding Trillium	Infrequent
<u>Eleocharis obtusa</u>	Blunt Spike Rush	Common	<u>Trillium grandiflorum</u>	Large-Flowered Trillium	Abundant
<u>Eleocharis palustris</u>	Marsh Spike Rush ^d	Common	<u>Trillium undulatum</u>	Painted Trillium	Infrequent
<u>Eleocharis smallii</u>	Small's Spike Rush	Abundant	<u>Uvularia grandiflora</u>	Large-Flowered Bellwort	Common
<u>Eriophorum spissum</u>	Cotton Grass	Common			
<u>Scirpus cyperinus</u>	Wood Bulrush	Abundant	Iridaceae - Irises		
<u>Scirpus fluviatilis</u>	River Bulrush	Infrequent	<u>Iris versicolor</u>	Larger Blue Flag	Common
<u>Scirpus torreyi</u>	Torrey's Bulrush	Infrequent	<u>Iris sp.</u>	Iris ^d	--
<u>Scirpus validus</u>	Soft-Stem Bulrush	Common	<u>Sisyrinchium atlanticum</u>	Blue-Eyed Grass	Common
<u>Scirpus sp.</u>	Bulrush ^d	--			
Araceae - Arums			Orchidaceae - Orchids		
<u>Arisaema triphyllum</u>	Jack-in-the-Pulpit	Common	<u>Calopogon pulchellus</u>	Grass-Pink	Infrequent
<u>Calla palustris</u>	Wild Calla ^e	Common	<u>Calypto bulbosa</u>	Calypto Orchid	Infrequent
			<u>Corallorhiza maculata</u>	Spotted Coralroot	Common
			<u>Corallorhiza trifida</u>	Pale Coralroot	Common
Lemnaceae - Duckweeds			<u>Cypripedium acaule</u>	Pink Lady's-Slipper	Common
<u>Lemna minor</u>	Small Duckweed ^e	Common	<u>Cypripedium calceolus</u>	Yellow Lady's-Slipper	Common
<u>Lemna thiusulca</u>	Star Duckweed ^e	Common	<u>Goodyera repens</u>	Creeping Rattlesnake Orchid ^c	Infrequent
<u>Spirodella polyrhiza</u>	Duckweed ^e	Infrequent	<u>Habenaria hyperborea</u>	Northern Green Orchid	Common
			<u>Habenaria obtusata</u>	One-Leaf Rein-Orchid	Common
Eriocaulaceae - Pipeworts			<u>Habenaria psycodes</u>	Purple Fringed Orchid ^d	Common
<u>Eriocaulon septanquale</u>	Pipewort ^e	Common	<u>Listera cordata</u>	Heartleaf Twayblade ^c	Infrequent
			<u>Spiranthes cernua</u>	Nodding Lady's-Tresses	Infrequent
Pontederiaceae - Pickerelweeds			Salicaceae - Willows		
<u>Pontederia cordata</u>	Heart-Shaped Pickerelweed ^e	Common	<u>Populus balsamifera</u>	Balsam Poplar	Infrequent
			<u>Populus grandidentata</u>	Large-Toothed Aspen	Common
Juncaceae - Rushes			<u>Populus tremuloides</u>	Quaking Aspen	Abundant
<u>Juncus effusus</u>	Common Rush	Abundant	<u>Salix bebbiana</u>	Beaked Willow	Common
<u>Juncus pelocarpus</u>	Mud Rush	Common	<u>Salix nigra</u>	Black Willow ^d	Infrequent
<u>Juncus tenuis</u>	Slender Rush	Abundant	<u>Salix petiolaris</u>	Slender Willow	Common
<u>Juncus sp.</u>	Rush ^d	--	<u>Salix pyrifolia</u>	Balsam Willow	Infrequent
<u>Luzula acuminata</u>	Wood Rush	Common	<u>Salix sericea</u>	Silky Willow ^{d,f}	Abundant
<u>Luzula campestris</u>	No common name ^d	Infrequent	<u>Salix sp.</u>	Willow	--
Liliaceae - Lilies			Myricaceae - Bayberries		
<u>Allium tricoccum</u>	Wild Leek ^d	Common	<u>Myrica asplenifolia</u>	Sweetfern	Infrequent
<u>Clintonia borealis</u>	Clintonia	Common	<u>Myrica gale</u>	Sweetgale ^{c,d}	Infrequent
<u>Erythronium americanum</u>	Trout Lily	Common			

FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b	FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b
Betulaceae - Birches			Portulacaceae - Purslanes		
<u>Alnus rugosa</u>	Speckled Alder	Common	<u>Claytonia caroliniana</u>	Carolina Spring-Beauty	Common
<u>Betula glandulosa</u>	Shrub Birch	Infrequent	<u>Claytonia virginica</u>	Virginia Spring-Beauty ^d	Common
<u>Betula lutea</u>	Yellow Birch	Common	Caryophyllaceae - Pinks		
<u>Betula papyrifera</u>	White Birch	Abundant	<u>Cerastium vulgatum</u>	Mouse-Ear Chickweed	Common
<u>Betula pumila</u>	Swamp Birch ^d	Infrequent	<u>Gypsophila muralis</u>	Low Gypsophyll	Infrequent
<u>Corylus cornuta</u>	Beaked Hazel	Common	<u>Lychnis alba</u>	Evening Lychnis	Common
<u>Ostrya virginiana</u>	Ironwood	Infrequent	<u>Saponaria officinalis</u>	Bouncing Bet	Common
Fagaceae - Beeches			<u>Silene cucubalus</u>	Bladder Champion	Infrequent
<u>Quercus alba</u>	White Oak	Common	<u>Spergula arvensis</u>	Corn Spurrey	Common
<u>Quercus borealis</u>	Northern Red Oak	Common	<u>Stellaria calycantha</u>	Chickweed	Infrequent
<u>Quercus macrocarpa</u>	Bur Oak	Infrequent	<u>Stellaria graminea</u>	Lesser Stitchwort	Common
Ulmaceae - Elms			Ceratophyllaceae - Hornworts		
<u>Ulmus americana</u>	American Elm	Infrequent	<u>Ceratophyllum demersum</u>	Hornwort ^e	Common
Moraceae - Mulberries			Nymphaeaceae - Water-Lilies		
<u>Humulus lupulus</u>	Hop	Infrequent	<u>Brasenia schreberi</u>	Water Shield ^e	Common
Urticaceae - Nettles			<u>Nuphar rubrodiscus</u>	Yellow Water Lily ^e	Infrequent
<u>Laportea canadensis</u>	Wood Nettle	Common	<u>Nuphar variegatum</u>	Bullhead-Lily	Common
<u>Pilea pumila</u>	Clearweed ^c	Infrequent	<u>Nymphaea odorata</u>	White Water Lily ^d	Infrequent
<u>Urtica dioica</u>	Stinging Nettle	Infrequent	<u>Nymphaea tuberosa</u>	White Water Lily ^e	Infrequent
Polygonaceae - Buckwheats			Ranunculaceae - Crowfoots		
<u>Polygonum cilinode</u>	Fringed Bindweed	Common	<u>Actaea alba</u>	White Baneberry	Common
<u>Polygonum convolvulus</u>	Black Bindweed	Common	<u>Actaea rubra</u>	Red Baneberry	Infrequent
<u>Polygonum hydropiper</u>	Common Smartweed	Common	<u>Anemone canadensis</u>	Canada Anemone	Common
<u>Polygonum pennsylvanicum</u>	Pennsylvania Smartweed	Common	<u>Anemone quinquefolia</u>	Wood Anemone	Common
<u>Polygonum punctatum</u>	Water Smartweed	Infrequent	<u>Anemone virginiana</u>	Thimbleweed	Common
<u>Polygonum sagittatum</u>	Arrow-Leaved Tearthumb	Infrequent	<u>Aquilegia canadensis</u>	Columbine	Common
<u>Polygonum sp.</u>	Smartweed	--	<u>Caltha palustris</u>	Marsh-Marigold	Abundant
<u>Rumex acetosella</u>	Sheep Sorrel	Common	<u>Coptis trifolia</u>	Goldthread	Infrequent
<u>Rumex crispus</u>	Curled Dock	Common	<u>Hepatica americana</u>	Round-Lobed Hepatica	Abundant
<u>Rumex obtusifolius</u>	Bitter Dock	Infrequent	<u>Ranunculus abortivus</u>	Kidney-Leaf Buttercup	Abundant
<u>Rumex orbiculatus</u>	Great Water-Dock ^d	Common	<u>Ranunculus acris</u>	Common Buttercup	Common
Chenopodiaceae - Goosefoots			<u>Ranunculus pennsylvanicus</u>	Bristly Buttercup	Common
<u>Chenopodium album</u>	Lamb's-Quarters	Common	<u>Ranunculus recurvatus</u>	Hooked Buttercup	Infrequent
<u>Chenopodium hybridum</u>	Maple-Leaved Goosefoot	Infrequent	<u>Thalictrum dasycarpum</u>	Purple Meadow-Rue	Common
<u>Cycloloma atriplicifolia</u>	Winged Pigweed	Infrequent	<u>Thalictrum dioicum</u>	Early Meadow-Rue	Common
Nyctaginaceae - Four-O'Clocks			Berberidaceae - Berberries		
<u>Oxybaphus nyctagineus</u>	Umbrella-Wort	Common	<u>Caulophyllum thalictroides</u>	Blue Cohosh	Infrequent
			Papaveraceae - Poppies		
			<u>Sanguinaria canadensis</u>	Bloodroot	Common

FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b	FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b
Fumariaceae - Fumatories			Rosaceae - Roses (cont'd)		
<u>Corydalis sempervirens</u>	Pale Corydalis	Infrequent	<u>Potentilla palustris</u>	Marsh Cinquefoil	Infrequent
<u>Dicentra canadensis</u>	Squirrel Corn	Common	<u>Prunus pensylvanica</u>	Pin Cherry	Infrequent
<u>Dicentra cucullaria</u>	Dutchman's-Breeches	Infrequent	<u>Prunus serotina</u>	Black Cherry	Common
Cruciferae - Mustards			<u>Prunus virginiana</u>	Chokecherry	Common
<u>Arabis glabra</u>	Tower Mustard	Common	<u>Rosa arkansana</u>	Arkansas Rose	Infrequent
<u>Barbarea vulgaris</u>	Yellow Rocket ^c	Common	<u>Rubus allegheniensis</u>	Common Blackberry ^c	Common
<u>Berteroa incana</u>	Hoary Alyssum	Common	<u>Rubus hispidus</u>	Dewberry ^d	Common
<u>Capsella bursa-pastoris</u>	Shepherd's Purse	Abundant	<u>Rubus idaeus</u>	Red Raspberry	Common
<u>Cardamine pensylvanica</u>	Pennsylvania Bittercress	Common	<u>Rubus occidentalis</u>	Black Raspberry ^c	Common
<u>Dentaria diphylla</u>	Toothwort	Infrequent	<u>Rubus pubescens</u>	Dwarf Blackberry	Infrequent
<u>Erysimum cheiranthoides</u>	Wormseed	Common	<u>Rubus sp.</u>	Raspberry	--
<u>Lepidium densiflorum</u>	Pepper-Grass	Common	<u>Sorbus americana</u>	American Mountain-Ash	Infrequent
<u>Nasturtium officinale</u>	Watercress	Infrequent	<u>Spiraea alba</u>	Narrowleaf Meadowsweet	Common
<u>Rorippa islandica</u>	Yellow Cress	Common	<u>Spiraea tomentosa</u>	Steeplebush	Infrequent
Sarraceniaceae - Pitcher-Plants			Fabaceae - Beans		
<u>Sarracenia purpurea</u>	Pitcher-Plant	Infrequent	<u>Lathyrus palustris</u>	Marsh Vetchling ^c	Infrequent
Droseraceae - Sundews			<u>Medicago lupulina</u>	Black Medick	Common
<u>Drosera rotundiflora</u>	Round-Leaved Sundew	Infrequent	<u>Medicago sativa</u>	Alfalfa	Common
Saxifragaceae - Saxifrages			<u>Melilotus officinalis</u>	Yellow Sweet Clover	Infrequent
<u>Chrysoplenium americanum</u>	Golden Saxifrage ^c	Infrequent	<u>Trifolium agrarium</u>	Hop Clover	Infrequent
<u>Mitella diphylla</u>	Miterwort	Common	<u>Trifolium arvense</u>	Rabbit's-Foot Clover	Infrequent
<u>Mitella nuda</u>	Small Bishop's Cap ^c	Common	<u>Trifolium hybridum</u>	Alsike Clover	Common
<u>Ribes cynosbati</u>	Pasture Gooseberry	Common	<u>Trifolium pratense</u>	Red Clover	Common
<u>Ribes glandulosum</u>	Skunk Currant	Infrequent	<u>Trifolium repens</u>	White Clover	Abundant
<u>Ribes lacustre</u>	Bristly Black Currant	Common	<u>Vicia angustifolia</u>	Narrow-Leaved Vetch	Infrequent
<u>Ribes sp.</u>	Currant ^d	--	Oxalidaceae - Wood-Sorrels		
Hamamelidaceae - Witch-Hazels			<u>Oxalis montana</u>	Common Wood Sorrel	Common
<u>Hamamelis virginiana</u>	Witch Hazel	Common	<u>Oxalis stricta</u>	Yellow Wood Sorrel	Common
Rosaceae - Roses			Geraniaceae - Geraniums		
<u>Agrimonia striata</u>	Woodland Agronomy	Common	<u>Geranium bicknellii</u>	Bicknell's Cranesbill	Common
<u>Amelanchier arborea</u>	Downy Serviceberry	Common	<u>Geranium maculatum</u>	Wild Geranium ^c	Infrequent
<u>Amelanchier laevis</u>	Juneberry	Common	Polygalaceae - Milkworts		
<u>Amelanchier sanguinea</u>	Round-Leaved Serviceberry	Infrequent	<u>Polygala paucifolia</u>	Fringed Polygala	Common
<u>Amelanchier sp.</u>	Serviceberry	--	Euphorbiaceae - Spurges		
<u>Aronia melanocarpa</u>	Black Chokeberry	Common	<u>Euphorbia cyparissias</u>	Cypress Spurge	Infrequent
<u>Crataegus sp.</u>	Hawthorn	--	Anacardiaceae - Cashews		
<u>Geum aleppicum</u>	Yellow Avens	Common	<u>Rhus radicans</u>	Poison Ivy	Infrequent
<u>Fragaria virginiana</u>	Common Strawberry	Abundant	<u>Rhus typhina</u>	Staghorn Sumac	Abundant
<u>Potentilla norvegica</u>	Rough Cinquefoil	Common			

FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b	FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b
Aquifoliaceae - Hollies			Lythraceae - Loosestrifes		
<u>Ilex verticillata</u>	Winterberry	Common	<u>Lythrum salicaria</u>	Purple Loosestrife	Infrequent
<u>Nemopanthus mucronata</u>	Mountain Holly	Common			
Aceraceae - Maples			Onagraceae - Evening-Primroses		
<u>Acer rubrum</u>	Red Maple	Common	<u>Circaea alpina</u>	Alpine Enchanter's Nightshade	Common
<u>Acer saccharinum</u>	Silver Maple ^d	Infrequent	<u>Circaea canadensis</u>	Canadian Enchanter's Nightshade ^d	Infrequent
<u>Acer saccharum</u>	Sugar Maple	Abundant	<u>Circaea quadrisulcata</u>	Four-Furrowed Enchanter's Nightshade	Common
<u>Acer spicatum</u>	Mountain Maple	Common	<u>Epilobium angustifolium</u>	Fireweed	Common
Balsaminaceae - Touch-Me-Nots			<u>Epilobium coloratum</u>	Purple-Leaved Willow-Herb	Common
<u>Impatiens biflora</u>	Spotted Touch-Me-Not	Common	<u>Epilobium glandulosum</u>	Northern Willow-Herb	Common
Rhamnaceae - Buckthorns			<u>Epilobium leptophyllum</u>	Narrow-Leaved Willow-Herb	Common
<u>Rhamnus alnifolia</u>	Alder-Leaved Buckthorn	Infrequent	<u>Ludwigia palustris</u>	Marsh Purslane ^c	Common
Vitaceae - Grapes			<u>Oenothera biennis</u>	Common Evening Primrose ^c	Common
<u>Parthenocissus vitacea</u>	Virginia Creeper	Infrequent	<u>Oenothera parviflora</u>	Small-Flowered Evening Primrose	Common
Tiliaceae - Lindens			Haloragaceae - Water-Milfoils		
<u>Iilia americana</u>	Basswood	Common	<u>Myriophyllum heterophyllum</u>	Many-Leaved Water-Milfoil ^d	Infrequent
Malvaceae - Mallows			<u>Myriophyllum spicatum</u>	Pale Water-Milfoil ^e	Common
<u>Malva moschata</u>	Musk Mallow	Infrequent	<u>Myriophyllum tenellum</u>	Dwarf Water-Milfoil ^c	Common
Hypericaceae - St. Johnsworts			Araliaceae - Ginsengs		
<u>Hypericum majus</u>	Larger St. Johnswort	Infrequent	<u>Aralia nudicaulis</u>	Wild Sarsaparilla	Abundant
<u>Hypericum perforatum</u>	Common St. Johnswort	Abundant	<u>Aralia racemosa</u>	Spikenard	Common
<u>Triadenum fraseri</u>	Marsh St. Johnswort	Common	<u>Panax quinquefolius</u>	Ginseng ^{c, f}	Infrequent ⁱ
			<u>Panax trifolius</u>	Dwarf Ginseng ^c	Infrequent
Elatinaceae - Waterworts			Umbelliferae - Parsleys		
<u>Elatine minima</u>	Small Waterwort ^c	Common	<u>Cicuta bulbifera</u>	Bulb-Bearing Water Hemlock	Common
<u>Elatine triandra</u>	Waterwort ^{e, f}	Infrequent	<u>Cicuta maculata</u>	Beaver Poison ^d	Infrequent
Violaceae - Violets			<u>Cryptotaenia canadensis</u>	Honewort	Common
<u>Viola adunca</u>	Sand Violet	Infrequent	<u>Heracleum lanatum</u>	Cow-Parsnip	Infrequent
<u>Viola canadensis</u>	Canada Violet	Abundant	<u>Hydrocotyle americana</u>	Marsh Pennywort ^c	Infrequent
<u>Viola cucullata</u>	Marsh Blue Violet	Infrequent	<u>Hydrocotyle umbellata</u>	Water Pennywort ^d	Common
<u>Viola eriocarpa</u>	Smooth Yellow Violet	Infrequent	<u>Osmorhiza claytoni</u>	Sweet Cicely	Common
<u>Viola pallens</u>	Northern White Violet	Abundant	<u>Sanicula marilandica</u>	Black Snakeroot	Abundant
<u>Viola papilionacea</u>	Common Blue Violet	Common	<u>Sium suave</u>	Water Parsnip	Common
<u>Viola pubescens</u>	Downy Yellow Violet	Common	Cornaceae - Dogwoods		
<u>Viola sp.</u>	Violet ^d	--	<u>Cornus alternifolia</u>	Alternate-Leaved Dogwood	Common
			<u>Cornus canadensis</u>	Bunchberry	Common
Thymelaeaceae - Mezereums			<u>Cornus rugosa</u>	Round-Leaved Dogwood	Infrequent
<u>Dirca palustris</u>	Leatherwood	Common	<u>Cornus stolonifera</u>	Red-Osier Dogwood	Common

FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b	FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b
Ericaceae - Heaths			Boraginaceae - Borages		
<u>Andromeda glaucophylla</u>	Bog Rosemary	Infrequent	<u>Cynoglossum boreale</u>	Northern Wild Comfrey	Common
<u>Chamaedaphne calyculata</u>	Leatherleaf	Common	Verbenaceae - Vervains		
<u>Gaultheria hispidula</u>	Creeping Snowberry	Infrequent	<u>Verbena hastata</u>	Blue Vervain	Common
<u>Gaultheria procumbens</u>	Wintergreen ^c	Abundant	<u>Verbena urticifolia</u>	White Vervain	Common
<u>Kalmia polifolia</u>	Pale Laurel	Infrequent	Labiatae - Mints		
<u>Ledum groenlandicum</u>	Labrador-Tea	Common	<u>Galeopsis tetrahit</u>	Hemp Nettle	Common
<u>Moneses uniflora</u>	One-Flowered Wintergreen	Infrequent	<u>Lycopus americanus</u>	Cut-Leaved Water-Horehound	Common
<u>Monotropa uniflora</u>	Indian Pipe	Infrequent	<u>Lycopus uniflorus</u>	Northern Bugleweed	Infrequent
<u>Pyrola elliptica</u>	Large-Leaved Pyrola ^c	Common	<u>Lycopus virginicus</u>	Virginia Water-Horehound ^d	Common
<u>Pyrola secunda</u>	One-Sided Pyrola	Infrequent	<u>Mentha arvensis</u>	Wild Mint	Common
<u>Pyrola sp.</u>	Pyrola ^d	--	<u>Mentha sp.</u>	Mint ^d	--
<u>Vaccinium angustifolium</u>	Low Sweet Blueberry ^d	Common	<u>Monarda fistulosa</u>	Wild Bergamont	Common
<u>Vaccinium corymbosum</u>	High Bush Blueberry ^c	Infrequent	<u>Prunella vulgaris</u>	Heal-All	Infrequent
<u>Vaccinium macrocarpon</u>	Large Cranberry	Common	<u>Satureja vulgaris</u>	Basil	Infrequent
<u>Vaccinium myrtilloides</u>	Velvetleaf Blueberry	Abundant	<u>Scutellaria galericulata</u>	Common Skullcap	Common
<u>Vaccinium oxycoccos</u>	Small Cranberry	Common	<u>Scutellaria laterifolia</u>	Mad-Dog Skullcap	Infrequent
Primulaceae - Primroses			Scrophulariaceae - Figworts		
<u>Lysimachia terrestris</u>	Swamp Loosestrife	Infrequent	<u>Chelone glabra</u>	Turtlehead	Common
<u>Lysimachia thrysiflora</u>	Tufted Loosestrife	Infrequent	<u>Linaria vulgaris</u>	Butter and Eggs	Common
<u>Trientalis borealis</u>	Starflower	Common	<u>Lindernia dubia</u>	False Pimpernel ^c	Infrequent
Oleaceae - Olives			<u>Mimulus ringens</u>	Monkey Flower ^c	Infrequent
<u>Fraxinus americana</u>	White Ash	Infrequent	<u>Pedicularis canadensis</u>	Wood-Betony	Common
<u>Fraxinus pennsylvanica</u>	Green Ash	Common	<u>Verbascum thapsus</u>	Common Mullein	Common
<u>Fraxinus nigra</u>	Black Ash	Common	<u>Veronica scutellata</u>	Marsh Speedwell	Infrequent
Gentianaceae - Gentians			Lentibulariaceae - Bladderworts		
<u>Gentiana rubricaulis</u>	Narrow-Leaved Gentian	Infrequent	<u>Utricularia vulgaris</u>	Common Bladderwort ^e	Infrequent
<u>Menyanthes trifoliata</u>	Buck Bean	Infrequent	Plantaginaceae - Plantains		
Apocynaceae - Dogbanes			<u>Plantago lanceolata</u>	English Plantain ^c	Common
<u>Apocynum androsaemifolium</u>	Spreading Dogbane	Abundant	<u>Plantago major</u>	Common Plantain	Common
Asclepiadaceae - Milkweeds			Rubiaceae - Madders		
<u>Asclepias syriaca</u>	Common Milkweed	Common	<u>Galium asprellum</u>	Rough Bedstraw	Common
Convolvulaceae - Morning-Glories			<u>Galium lanceolatum</u>	Yellow Wild Licorice	Infrequent
<u>Convolvulus sepium</u>	Hedge Bindweed	Common	<u>Galium palustre</u>	Bedstraw ^c	Infrequent
<u>Convolvulus spithameus</u>	Upright Bindweed	Infrequent	<u>Galium tinctorium</u>	Clayton's Bedstraw	Common
Hydrophyllaceae - Waterleafs			<u>Galium trifidum</u>	Small Bedstraw	Infrequent
<u>Hydrophyllum virginianum</u>	Virginia Waterleaf ^c	Infrequent	<u>Galium triflorum</u>	Fragrant Bedstraw	Common
			<u>Galium sp.</u>	Bedstraw ^d	--
			<u>Mitchella repens</u>	Partridgeberry	Infrequent

FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b	FAMILY AND SPECIES ^a	COMMON NAME	FREQUENCY OF OCCURRENCE ^b
Caprifoliaceae - Honeysuckles			Compositae - Composites (cont'd)		
<u>Diervilla lonicera</u>	Northern Bush-Honeysuckle	Common	<u>Cirsium vulgare</u>	Bull Thistle	Common
<u>Linnaea borealis</u>	Twinflower	Infrequent	<u>Cirsium sp.</u>	Thistle	--
<u>Lonicera canadensis</u>	Canada Honeysuckle	Common	<u>Erechtites hieracifolia</u>	Pilewort	Common
<u>Lonicera hirsuta</u>	Hairy Honeysuckle ^c	Infrequent	<u>Erigeron annuus</u>	Annual Fleabane ^c	Abundant
<u>Sambucus canadensis</u>	Common Elder	Common	<u>Erigeron canadensis</u>	Horseweed ^c	Common
<u>Sambucus pubens</u>	Red-Berried Elder	Common	<u>Erigeron strigosus</u>	Daisy Fleabane	Common
<u>Viburnum acerifolium</u>	Maple-Leaved Viburnum	Common	<u>Eupatorium maculatum</u>	Spotted Joe-Pye-Weed	Common
<u>Viburnum cassinoides</u>	Withe-Rod ^{d, f}	Infrequent	<u>Eupatorium perfoliatum</u>	Boneset	Common
<u>Viburnum lentago</u>	Nannyberry	Common	<u>Gnaphalium obtusifolium</u>	Old Field Balsam	Common
<u>Viburnum rafinesquianum</u>	Short-Stalked Arrowwood	Abundant	<u>Hieracium aurantiacum</u>	Orange Hawkweed	Abundant
Cucurbitaceae - Gourds			<u>Hieracium cespitosum</u>	No common name	Infrequent
<u>Echinocystis lobata</u>	Wild Cucumber	Infrequent	<u>Hieracium canadense</u>	Canada Hawkweed	Abundant
Campanulaceae - Bluebells			<u>Hieracium florentinum</u>	Pale Hawkweed	Common
<u>Campanula aparinoides</u>	Marsh Bellflower	Infrequent	<u>Hieracium scabrum</u>	Rough Hawkweed	Common
<u>Campanula rapunculoides</u>	Creeping Bellflower	Common	<u>Helianthus giganteus</u>	Tall Sunflower	Infrequent
Lobeliaceae - Lobelias			<u>Helianthus strumosus</u>	Pale-Leaved Sunflower	Infrequent
<u>Lobelia dortmanna</u>	Water Lobelia ^e	Infrequent	<u>Heliopsis helianthoides</u>	Ox-Eye	Infrequent
<u>Lobelia inflata</u>	Indian Tobacco	Infrequent	<u>Lactuca biennis</u>	Tall Blue Lettuce	Common
Compositae - Composites			<u>Lactuca serriola</u>	Prickly Lettuce	Infrequent
<u>Achillea millefolium</u>	Yarrow	Common	<u>Matricaria matricarioides</u>	Pineapple-Weed	Infrequent
<u>Achillea ptarmica</u>	Sneezeweed	Infrequent	<u>Petasites friquus</u>	Sweet Coltsfoot ^c	Infrequent
<u>Anaphalis margaritacea</u>	Pearly Everlasting	Infrequent	<u>Petasites palmatus</u>	Palmate Sweet Coltsfoot ^c	Infrequent
<u>Antennaria neglecta</u>	Field Pussy's-Toes	Common	<u>Prenanthes alba</u>	White Lettuce	Common
<u>Arctium minus</u>	Common Burdock	Common	<u>Rudbeckia hirta</u>	Black-Eyed Susan	Common
<u>Artemisia absinthium</u>	Common Wormwood	Infrequent	<u>Senecio aureus</u>	Golden Ragwort	Common
<u>Aster ciliolatus</u>	Hairy Aster	Infrequent	<u>Solidago canadensis</u>	Canada Goldenrod	Common
<u>Aster lateriflorus</u>	Calico Aster	Common	<u>Solidago flexicaulis</u>	Zigzag Goldenrod	Infrequent
<u>Aster macrophyllus</u>	Large-Leaved Aster	Abundant	<u>Solidago gigantea</u>	Late Goldenrod	Common
<u>Aster puniceus</u>	Purple-Stemmed Aster	Infrequent	<u>Solidago graminifolia</u>	Lance-Leaved Goldenrod	Infrequent
<u>Aster simplex</u>	Panicled Aster	Common	<u>Solidago juncea</u>	Early Goldenrod	Infrequent
<u>Aster umbellatus</u>	Flat-Topped White Aster	Infrequent	<u>Solidago nemoralis</u>	Gray Goldenrod	Infrequent
<u>Bidens beckii</u>	Water Marigold	Infrequent	<u>Solidago uliginosa</u>	Bog Goldenrod	Infrequent
<u>Bidens cernua</u>	Nodding Bur Marigold	Common	<u>Solidago ulmifolia</u>	Elm-Leaved Goldenrod	Infrequent
<u>Bidens tripartita</u>	Leafy-Bracted Beggar-Ticks	Common	<u>Solidago sp.</u>	Goldenrod	--
<u>Carduus acanthoides</u>	Thistle	Common	<u>Taraxacum officinale</u>	Dandelion	Abundant
<u>Centaurea maculosa</u>	Spotted Knapweed	Common	<u>Tanacetum vulgare</u>	Tansy	Infrequent
<u>Chrysanthemum leucanthemum</u>	Ox-Eye Daisy	Common			
<u>Cirsium arvense</u>	Canada Thistle	Common			
<u>Cirsium discolor</u>	Prairie Thistle	Infrequent			
<u>Cirsium palustre</u>	Marsh Thistle	Abundant			

APPENDIX 2.6B

MAMMALS OF THE ENVIRONMENTAL STUDY AREA

MAMMALS OF THE ENVIRONMENTAL STUDY AREA^a

GENERAL GROUP COMMON NAME/SCIENTIFIC NAME ^b	STATUS ^{a,c} ; PREFERRED HABITAT ^a	OBSERVED IN		
		FC ^d	ESA ^e	SA ^e
BIG GAME				
Black Bear <u>Ursus americanus</u>	Fairly common (1 per 4 sq. mi.); heavily wooded areas and dense brushland, prefers mixed forest type.	X	X	X
White-Tailed Deer <u>Odocoileus virginianus</u>	Common (5-15 per sq. mi.); variable, young woodland borders and agricultural areas, winter yards in tamarack and spruce swamps.	X	X	X
SMALL GAME				
Eastern Cottontail <u>Sylvilagus floridanus</u>	Uncommon; heavy brush, sparse woodland near open areas, swamp edges, weed patches, hayfields, cutover lands, orchards and gardens.	X	X	-
Snowshoe Hare <u>Lepus americanus</u>	Common (1-2 per acre); brushy woodlands and heavy forests, bogs and swamps, old barns and cut-over land, rarely in pure hardwoods.	X	X	X
Gray Squirrel <u>Sciurus carolinensis</u>	Common (1 per acre); hardwood forests with nut trees and brushy undergrowth, wood lots, wooded parks and residential areas.	X	X	X
Fox Squirrel <u>Sciurus niger</u>	Rare; open hardwood forests with clearings and near farmland, wooded streams and rivers.	X	-	-
FURBEARERS				
Virginia Opossum <u>Didelphis virginiana</u>	Rare; deciduous swamps, woodlands and hedgerows.	X	-	-
Beaver <u>Castor canadensis</u>	Common; lakes and streams in wooded areas.	X	X	X
Muskrat <u>Ondatra zibethicus</u>	Fairly common; marshes, lakes, ponds, and streams.	X	X	X
Coyote <u>Canis latrans</u>	Common (1 per sq. mi.); woodland borders and brushy areas, particularly second-growth hardwood, rarely in meadows or cultivated fields.	X	X	X
Red Fox <u>Vulpes vulpes</u>	Common (1 per sq. mi.); hilly farmland, woodlots, brushland, lakes or stream bottoms.	X	-	-

Key: FC = Forest County
 ESA = Environmental Study Area
 SA = Site Area.
 - = Indicates none observed.

^aJackson, 1961.

^bNomenclature follows Jones, et al., 1973.

^cRamharther, 1981.

^dBased on a list compiled by Long, 1974.

^eDames & Moore.

^fPils, 1982.

^gNormandeau Associates Inc. and Interdisciplinary Environmental Planning, Inc., 1982.

GENERAL GROUP COMMON NAME/SCIENTIFIC NAME ^b	STATUS ^{a,c} ; PREFERRED HABITAT ^a	OBSERVED IN		
		FC ^d	ESA ^e	SA ^e
Gray Fox <u>Urocyon cinereoargenteus</u>	Scarce; on State Watch List; hardwood or mixed hardwood-coniferous forests, particularly in rough, hilly terrain, favors vicinity of streams and lakes. Present range is now restricted to southern half of Wisconsin.	X	-	-
Raccoon <u>Procyon lotor</u>	Common (10-20 per sq. mi.); forests and old wooded areas with hollow trees and nearby water.	X	X	X
Fisher <u>Martes pennanti</u>	Fairly common; on State Watch List; heavy lowland forests of mixed hardwoods and conifers.	X ^f	X ^f	-
Ermine <u>Mustela erminea</u>	Common (10-20 per sq. mi.); brushlands or wooded areas, occasionally in open country near stone walls and old buildings.	X	-	-
Weasel <u>Mustela nivalis</u>	Rare; meadows and grassy fields and high marsh with high or surface ground water level.	-	-	-
Long-Tailed Weasel <u>Mustela frenata</u>	Common (1 per sq. mi.); woodlands, brushland, brushy field borders and prairies near creeks and other water.	-	-	-
Mink <u>Mustela vison</u>	Common (1 per sq. mi.); banks of lakes, rivers and other waterways, particularly if forested.	X	X	X
Striped Skunk <u>Mephitis mephitis</u>	Common (40-60 per sq. mi.); brushlands, sparse woods and grasslands, woodpiles, rockpiles and buildings, brushy borders of lakes and streams.	X	X	X
River Otter <u>Lontra canadensis</u>	Common; along rivers, large creeks, sloughs and lakes.	X	X	X
Bobcat <u>Lynx rufus</u>	Uncommon (1 per 5 sq. mi.); on State Watch List; remote brushy and woodlands country, particularly in swamps and rocky areas.	X	X	X
NONGAME				
Masked Shrew <u>Sorex cinereus</u>	Common; moist habitats including coniferous and deciduous forests, occasionally bogs, marshes, spruce-alder swamps, and alder thickets; rarely dry woods or fields.	-	X	X
Water Shrew <u>Sorex palustris</u>	Rare; wooded wetlands, including marshes, bogs, and wet areas near the borders of streams, lakes, or waterholes.	-	-	-
Arctic Shrew <u>Sorex arcticus</u>	Uncommon; chiefly wet spruce or tamarack swamps or alder and willow marshes; rarely bogs.	-	-	-
Pygmy Shrew <u>Microsorex hoyi</u>	Rare; moist woods, spruce and tamarack bogs, sweet fern environments on dry slopes, high grassy openings.	-	X ^g	X ^g

GENERAL GROUP COMMON NAME/SCIENTIFIC NAME ^b	STATUS ^{a,c} ; PREFERRED HABITAT ^a	OBSERVED IN		
		FC ^d	ESA ^e	SA ^e
Short-Tailed Shrew <u>Blarina brevicauda</u>	Abundant (4 per acre); generally unrestricted, including forests, marshes, grasslands and brushy areas.	X	X	X
Star-Nosed Mole <u>Condylura cristata</u>	Uncommon; moist ground near water, swamps or marshes; wooded and brushland areas or open areas; soils or muck, humus or light sandy loam.	X	-	-
Little Brown Myotis <u>Myotis lucifugus</u>	Abundant; caves, caverns, and rocky clefts, in the vicinity of buildings otherwise.	X	-	-
Keen's Myotis <u>Myotis keenii</u>	Rare; caves, caverns, and rocky clefts, in the vicinity of buildings otherwise.	-	-	-
Silver-Haired Bat <u>Lasionycteris noctivagans</u>	Uncommon; wooded areas, parks and orchards, especially near lakes and streams.	-	-	-
Eastern Pipistrelle <u>Pipistrellus subflavus</u>	Uncommon; caves, mine shafts, rock crevices; occasionally buildings and wooded areas near streams.	-	-	-
Big Brown Bat <u>Eptesicus fuscus</u>	Uncommon; in the vicinity of buildings, in hollow trees under bark of trees, and clefts of rocks.	-	-	-
Red Bat <u>Lasiurus borealis</u>	Common; deciduous forest, open woodlands and orchards; wooded farmyards, city parks and streets; preference for these habitats in vicinity of water.	-	-	-
Hoary Bat <u>Lasiurus cinereus</u>	Rare; wooded regions, preferably coniferous forests; also woodlands, farmyards, city parks, and yards where conifers grow.	-	-	-
Eastern Chipmunk <u>Tamias striatus</u>	Common (2-8 per acre); deciduous forests, brushy areas, near rocky outcrops.	X	X	X
Least Chipmunk <u>Eutamias minimus</u>	Uncommon; mixed coniferous and hardwood forests; burns and slash; lakeshores and roadsides; rarely in low wet areas.	X	X	X
Woodchuck <u>Marmota monax</u>	Common (4-5 per sq. mi.); brushy woodland edges; clearings; and rock outcrops.	X	X	X
Thirteen-Lined Ground Squirrel <u>Spermophilus tridecemlineatus</u>	Uncommon; grassy fields, dry meadows and abandoned fields, fencerows, pastures; parks; woodland openings; rarely in dense forest.	X	X	X
Red Squirrel <u>Tamiasciurus hudsonicus</u>	Common (2-4 per acre); coniferous and mixed hardwood forests; deciduous stands in wet terrain.	X	X	X
Southern Flying Squirrel <u>Glaucomys volans</u>	Rare; forests, groves of deciduous trees, old orchards, woods of mixed hardwoods and conifers; particularly where hardwoods predominate.	-	X	X

GENERAL GROUP COMMON NAME/SCIENTIFIC NAME ^b	STATUS ^{a,c} ; PREFERRED HABITAT ^a	OBSERVED IN		
		FCD ^d	ESA ^e	SA ^f
Northern Flying Squirrel <u>Glaucomys sabrinus</u>	Common (3-4 per acre); heavily wooded mixed conifer and hardwood forests, preferably moist forests; occasionally hardwood forests.	X	X	X
Deer Mouse <u>Peromyscus maniculatus</u>	Abundant (5-10 per acre); coniferous, deciduous, or mixed woodlands; occasionally spruce-cedar swamps and abandoned buildings.	X	X	X
White-Footed Mouse <u>Peromyscus leucopus</u>	Uncommon; forests, brushy fence lines, woodland edges; prefers deciduous woods.	X	X	X
Gapper's Red-Backed Mouse <u>Clethrionomys gapperi</u>	Common (1-3 per acre); coniferous, deciduous and mixed woodlands or forests, preferably moist; occasionally white birch woods.	X	X	X
Meadow Vole <u>Microtus pennsylvanicus</u>	Abundant (50 per acre); low, moist areas or grasslands, near water; open grassy orchards and woodlands; agricultural fields; occasionally in bogs.	X	X	X
Southern Bog Lemming <u>Synoptomys cooperi</u>	Common (10-20 per acre); damp meadows or low bogs, occasionally in hemlock or wet deciduous woods; prefers a moderately grassy environment.	-	-	-
Norway Rat <u>Rattus norvegicus</u>	Common; around buildings and in adjacent fields; occasionally along beaches and recreation areas.	X	-	-
House Mouse <u>Mus musculus</u>	Abundant; around buildings and in adjacent fields and meadows; rarely in wet marshes.	X	-	-
Meadow Jumping Mouse <u>Zapus hudsonius</u>	Common (1-10 per acre); low meadows, brushland near water, woods edge.	X	X	X
Woodland Jumping Mouse <u>Napaeozapus insignis</u>	Uncommon (1 per acre); along creeks, small damp openings, usually in brushland or second growth; never far from woodlands.	-	X	X
Porcupine <u>Erethizon dorsatum</u>	Common; forests of almost any kind, preferably with some conifers.	X	X	X
Gray Wolf <u>Canis lupus</u>	Rare; on State Endangered Species List; large areas of dense forest.	-	-	-
Marten <u>Martes americana</u>	Rare; on State Endangered Species List; old dense conifer forests of cedar, balsam, spruce and hemlock; occasionally brushland and meadows.	-	-	-
Badger <u>Taxidea taxus</u>	Uncommon; grasslands, sandy fields and pastures, also sparse brushland and open woodlots; open farmland.	X	-	-
Lynx <u>Lynx lynx</u>	Rare; on State Endangered Species List; heavy dense forests and woodlands.	-	-	-
Total Species (55)		37	31	29

APPENDIX 2.6C

BIRDS OF THE ENVIRONMENTAL STUDY AREA

BIRDS OF THE ENVIRONMENTAL STUDY AREA

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED IN ^f		
			FC	ESA	SA
RAPTORS					
Goshawk <u>Accipiter gentilis</u>	PR	Uncommon; brushy areas, deciduous and coniferous woods.	X	X	X
Screech Owl <u>Otus asio</u>	PR	Rare; deciduous woods and residential areas.	-	-	-
Great Horned Owl <u>Bubo virginianus</u>	PR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Barred Owl <u>Strix varia</u>	PR	Uncommon; swamps, bogs, deciduous and coniferous woods.	X	X	X
Great Gray Owl <u>Strix nebulosa</u>	PR	Rare; deciduous and coniferous woods.	X ^g	-	-
Long-Eared Owl <u>Asio otus</u>	PR	Unknown - potentially uncommon; deciduous and coniferous woods.	-	-	-
Saw-Whet Owl <u>Aegolius acadicus</u>	PR	Fairly common; swamps, bogs, deciduous and coniferous woods.	X	X	X
Turkey Vulture <u>Cathartes aura</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	-	-
Sharp-Shinned Hawk <u>Accipiter striatus</u>	SR	Fairly common; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Cooper's Hawk <u>Accipiter cooperii</u>	SR	Uncommon; on State Threatened Species List; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X ⁱ
Red-Tailed Hawk <u>Buteo jamaicensis</u>	SR	Uncommon; cultivated cropland, brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Red-Shouldered Hawk <u>Buteo lineatus</u>	SR	Uncommon; on State Threatened Species List; swamps, bogs and deciduous woods.	X	X	-

Note: - indicates none observed.

^aBirds are separated into five groups: raptors, upland game birds, marsh and shore birds, waterfowl, and other birds. Within each group, birds are listed in order of residency: permanent resident, summer resident, winter resident, and migrant.

^bNomenclature follows American Ornithologists Union, 1957, 1973, 1976.

^cResidency status follows Vanderschaegen, 1981 and Barger et al., 1975. PR = permanent resident, SR = summer resident, WR = winter resident, and M = migrant.

^dVanderschaegen, 1981; Barger et al., 1975. Abundance is with respect to breeding season for permanent and summer residents, winter for winter residents, and spring and fall for migrants.

^eBarger et al., 1975.

^fObservations in Forest County (FC) by Robbins, 1977 and Vanderschaegen, 1981. Observations in environmental study area (ESA) and site area (SA) by Dames & Moore.

^gFollen, 1980.

^hHallisy, 1978; Hauge, 1978; McIlquam, 1978 (personal communications).

ⁱNormandeau Associates Inc. and Interdisciplinary Environmental Planning, Inc., 1982.

^jThiel, 1978.

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED IN ^f		
			FC	ESA	SA
Broad-Winged Hawk <u>Buteo platypterus</u>	SR	Common; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Bald Eagle <u>Haliaeetus leucocephalus</u>	SR	Fairly common; on Federal Threatened and State Endangered Species lists; shores, banks, and mudflats of inland lakes and rivers, meadows, pastures and deciduous woods.	X	X	X
Marsh Hawk <u>Circus cyaneus</u>	SR	Uncommon; on State Watch List; marshes, meadows, pastures and cultivated cropland.	X	X	-
Osprey <u>Pandion haliaetus</u>	SR	Uncommon; on State Endangered Species List; shores, banks and mudflats of inland lakes and rivers.	X	X	X
American Kestrel <u>Falco sparverius</u>	SR	Fairly common; meadows, pastures, cultivated cropland and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
Short-Eared Owl <u>Asio flammeus</u>	SR	Rare; marshes, meadows, pastures and cultivated cropland.	X	-	-
Golden Eagle <u>Aquila chrysaetos</u>	WR	Rare; meadows, pastures and deciduous woods.	-	-	-
Snowy Owl <u>Nyctea scandiaca</u>	WR	Irregular; shores, banks, and mudflats of inland lakes and rivers, meadows, pastures and marshes.	X	-	-
Rough-Legged Hawk <u>Buteo lagopus</u>	M	Fairly common; marshes, meadows, pastures and cultivated cropland.	X	X	X
Peregrine Falcon <u>Falco peregrinus</u>	M	Rare; on Federal and State Endangered Species lists; meadows, pastures, shores and cultivated cropland.	-	-	-
Merlin <u>Falco columbaris</u>	M	Rare; on State Watch List; shores, banks, and mudflats of inland lakes and rivers meadows, pastures and coniferous woods.	X	X	-
Northern Shrike <u>Lanius excubitor</u>	M	Uncommon; meadows, pastures, cultivated cropland and brushy areas (hedgerows, woodland edges, abandoned fields).	X	-	-
UPLAND GAME BIRDS					
Spruce Grouse <u>Canachites canadensis</u>	PR	Rare; on State Watch List; deciduous and coniferous woods.	X	x ^h	-
Ruffed Grouse <u>Bonasa umbellus</u>	PR	Common; deciduous and coniferous woods.	X	X	X
WATERFOWL					
Canada Goose <u>Branta canadensis</u>	SR	Rare; common migrant; open water on inland lakes and rivers, marshes and cultivated cropland.	X	X	X
Mallard <u>Anas platyrhynchos</u>	SR	Fairly common; open water on inland lakes, rivers and marshes.	X	X	X
Black Duck <u>Anas rubripes</u>	SR	Uncommon; on State Watch List; open water on inland lakes, rivers and marshes.	X	X	X
Blue-Winged Teal <u>Anas discors</u>	SR	Uncommon; open water on inland lakes, rivers and marshes.	X	X	X

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED INF ^f		
			FC	ESA	SA
Wood Duck <u>Aix sponsa</u>	SR	Fairly common; open water on inland lakes, rivers, marshes, swamps and bogs.	X	X	X
Ring-Necked Duck <u>Aythya collaris</u>	SR	Uncommon; open water on inland lakes and rivers.	X	X	X
Hooded Merganser <u>Lophodytes cucullatus</u>	SR	Uncommon; open water on inland lakes and rivers.	X	X	X
Common Merganser <u>Mergus merganser</u>	SR	Rare; open water on inland lakes and rivers.	X	X	X
Red-Breasted Merganser <u>Mergus serrator</u>	SR	Rare; on State Watch List; open water on inland lakes and rivers.	-	-	-
Whistling Swan <u>Olor columbianus</u>	M	Uncommon; open water on inland lakes, rivers and marshes.	X	X	X
Snow Goose <u>Chen caerulescens</u>	M	Uncommon; open water on inland lakes, rivers and marshes.	X	-	-
Gadwall <u>Anas strepera</u>	M	Uncommon; open water on inland lakes, rivers and marshes.	-	-	-
Pintail <u>Anas actua</u>	M	Uncommon; open water on inland lakes, rivers and marshes.	X	X	X
Green-Winged Teal <u>Anas crecca</u>	M	Uncommon; open water on inland lakes, rivers and marshes.	X	-	-
American Wigeon <u>Anas americana</u>	M	Uncommon; open water on inland lakes, rivers and marshes.	X	X	X
Northern Shoveler <u>Anas clypeata</u>	M	Uncommon; open water on inland lakes, rivers and marshes.	-	-	-
Redhead <u>Aythya americana</u>	M	Uncommon; open water on inland lakes and rivers.	X	X	X
Canvasback <u>Aythya valisineria</u>	M	Uncommon; open water on inland lakes and rivers.	X	X	X
Greater Scaup <u>Aythya marila</u>	M	Fairly common; open water on inland lakes and rivers.	X	X	X
Lesser Scaup <u>Aythya affinis</u>	M	Fairly common; open water on inland lakes and rivers.	X	X	X
Common Goldeneye <u>Bucephala clangula</u>	M	Uncommon; open water on inland lakes and rivers.	-	-	-
Bufflehead <u>Bucephala albeola</u>	M	Uncommon; open water on inland lakes and rivers.	X	X	X
White-Winged Scoter <u>Melanitta deglandi</u>	M	Uncommon; open water on inland lakes and rivers.	X	-	-
Ruddy Duck <u>Oxyura jamaicensis</u>	M	Uncommon; open water on inland lakes and rivers.	-	-	-
MARSH BIRDS AND SHOREBIRDS					
Common Loon <u>Gavia immer</u>	SR	Fairly common; on State Watch List; open water on inland lakes and rivers.	X	X	X

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED IN ^f		
			FC	ESA	SA
Pied-Billed Grebe <u>Podilymbus podiceps</u>	SR	Fairly common; open water on inland lakes, rivers and marshes.	X	X	X
Great Blue Heron <u>Ardea herodias</u>	SR	Fairly common; on State Watch List; shores, banks, and mudflats of inland lakes and rivers, marshes, swamps and bogs.	X	X	X
Green Heron <u>Butorides striatus</u>	SR	Uncommon; shores, banks, and mudflats of inland lakes, rivers, swamps and bogs.	X	X	X
Black-Crowned Night Heron <u>Nycticorax nycticorax</u>	SR	Rare; on State Watch List; shores, banks, and mudflats of inland lakes, rivers, marshes, swamps and bogs.	-	-	-
Least Bittern <u>Ixobrychus exilis</u>	SR	Rare; marshes.	-	-	-
American Bittern <u>Botaurus lentiginosus</u>	SR	Fairly uncommon; marshes, swamps and bogs.	X	X	X
Sandhill Crane <u>Grus canadensis</u>	SR	Rare; marshes, bogs and cultivated cropland.	-	-	-
Virginia Rail <u>Rallus limicola</u>	SR	Rare; marshes.	-	-	-
Sora Rail <u>Porzana carolina</u>	SR	Uncommon; marshes.	X	X	X
Yellow Rail <u>Coturnicops noveboracensis</u>	SR	Rare; on State Watch List; marshes.	-	-	-
Common Gallinule <u>Gallinula chloropus</u>	SR	Rare; marshes.	-	-	-
American Coot <u>Fulica americana</u>	SR	Uncommon; open water on inland lakes, rivers and marshes.	X	X	X
Killdeer <u>Charadrius vociferus</u>	SR	Common; shores, banks, and mudflats of inland lakes and rivers, meadows, pastures and cultivated cropland.	X	X	X
American Woodcock <u>Philohela minor</u>	SR	Fairly common; swamps, bogs and deciduous woods.	X	X	X
Common Snipe <u>Capella gallinago</u>	SR	Fairly common; shores, banks, and mudflats of inland lakes and rivers, marshes, swamps and bogs.	X	X	X
Upland Sandpiper <u>Bartramia longicauda</u>	SR	Uncommon; on State Watch List; meadows and pastures.	X	-	-
Spotted Sandpiper <u>Actitis macularia</u>	SR	Fairly common; shores, banks, and mudflats of inland lakes and rivers.	X	X	-
Black Tern <u>Chlidonias niger</u>	SR	Uncommon; on State Watch List; open water on inland lakes, rivers and marshes.	X	X	X
Belted Kingfisher <u>Megaceryle alcyon</u>	SR	Fairly common; shores, banks, and mudflats of inland lakes and rivers, marshes, swamps and bogs.	X	X	X

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED IN ^f		
			FC	ESA	SA
Long-Billed Marsh Wren <u>Cistothorus palustris</u>	SR	Uncommon; marshes.	-	-	-
Short-Billed Marsh Wren <u>Cistothorus platensis</u>	SR	Uncommon; sedge meadows.	X	X	-
Yellow-Headed Blackbird <u>Xanthocephalus xanthocephalus</u>	SR	Uncommon; marshes and cultivated cropland.	X	X	X
Red-Winged Blackbird <u>Agelaius phoeniceus</u>	SR	Abundant; marshes, swamps, bogs, meadows, pastures and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
Red-Throated Loon <u>Gavia stellata</u>	M	Very rare; open water on inland lakes and rivers.	-	-	-
Red-Necked Grebe <u>Podiceps grisegena</u>	M	Very rare; on State Watch List; open water on inland lakes and rivers and marshes.	-	-	-
Horned Grebe <u>Podiceps auritus</u>	M	Uncommon; open water on inland lakes and rivers.	X	-	-
Western Grebe <u>Aechmophorus occidentalis</u>	M	Very rare; open water on inland lakes and rivers.	-	-	-
Double-Crested Cormorant <u>Phalacrocorax auritus</u>	M	Very rare; on State Endangered Species List; open water on inland lakes and rivers.	-	-	-
Cattle Egret <u>Bubulcus ibis</u>	M	Very rare; marshes, cultivated cropland and pastures.	X	X	-
Great Egret <u>Casmerodius albus</u>	M	Very rare; lakeshores and marshes.	-	-	-
Semipalmated Plover <u>Charadrius semipalmatus</u>	M	Uncommon; shores, banks, and mudflats of inland lakes and rivers.	-	-	-
Piping Plover <u>Charadrius melodus</u>	M	Very rare; on State Endangered Species List; shores, banks and mudflats of inland lakes and rivers.	-	-	-
American Golden Plover <u>Pluvialis dominica</u>	M	Uncommon; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Black-Bellied Plover <u>Pluvialis squatarola</u>	M	Uncommon; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Solitary Sandpiper <u>Tringa solitaria</u>	M	Uncommon; shores, banks and mudflats of inland lakes and rivers.	X	X	X ¹
Greater Yellowlegs <u>Tringa melanoleuca</u>	M	Fairly common; shores, banks and mudflats of inland lakes and rivers.	X	-	-
Lesser Yellowlegs <u>Tringa flavipes</u>	M	Fairly common; shores, banks and mudflats of inland lakes and rivers.	X	-	-
Willet <u>Catoptrophorus semipalmatus</u>	M	Very rare; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Pectoral Sandpiper <u>Calidris melanotos</u>	M	Uncommon; shores, banks and mudflats of inland lakes and rivers.	-	-	-

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED IN ^f		
			FC	ESA	SA
White-Rumped Sandpiper <u>Calidris fuscicollis</u>	M	Rare; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Baird's Sandpiper <u>Calidris bairdii</u>	M	Uncommon; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Least Sandpiper <u>Calidris minutilla</u>	M	Uncommon; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Dunlin <u>Calidris alpina</u>	M	Rare; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Semipalmated Sandpiper <u>Calidris pusilla</u>	M	Uncommon; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Western Sandpiper <u>Calidris mauri</u>	M	Rare; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Sanderling <u>Calidris alba</u>	M	Very rare; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Short-Billed Dowitcher <u>Limnodromus griseus</u>	M	Uncommon; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Long-Billed Dowitcher <u>Limnodromus scolopaceus</u>	M	Uncommon; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Stilt Sandpiper <u>Micropalama himantopus</u>	M	Very rare; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Buff-Breasted Sandpiper <u>Tryngites subrufi</u>	M	Very rare; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Hudsonian Godwit <u>Numenius borealis</u>	M	Very rare; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Wilson's Phalarope <u>Steganopus tricolor</u>	M	Rare; shores, banks, mudflats of inland lakes and rivers and marshes.	-	-	-
Northern Phalarope <u>Lobipes lobatus</u>	M	Very rare; shores, banks and mudflats of inland lakes and rivers.	-	-	-
Herring Gull <u>Larus argentatus</u>	M	Uncommon; open water on inland lakes and rivers.	X	X	-
Ring-Billed Gull <u>Larus delawarensis</u>	M	Uncommon; open water on inland lakes and rivers and cultivated cropland.	X	X	X
Bonaparte's Gull <u>Larus philadelphia</u>	M	Rare; open water on inland lakes and rivers.	-	-	-
Forster's Tern <u>Sterna forsteri</u>	M	Rare; on State Endangered Species List; open water on inland lakes and rivers and marshes.	-	-	-
Common Tern <u>Sterna hirundo</u>	M	Uncommon; on State Endangered Species List; open water on inland lakes and rivers and marshes.	-	-	-
Water Pipit <u>Anthus spinoletta</u>	M	Uncommon; shores, banks, mudflats of inland lakes and rivers and cultivated cropland.	-	-	-

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED IN ^f		
			FC	ESA	SA
OTHER BIRDS					
Rock Dove <u>Columba livia</u>	PR	Uncommon; cultivated cropland and residential.	X	X	X
Pileated Woodpecker <u>Dryocopus pileatus</u>	PR	Fairly common; swamps, bogs, deciduous and coniferous woods.	X	X	X
Red-Headed Woodpecker <u>Melanerpes erythrocephalus</u>	PR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous woods and residential.	X	X	X
Hairy Woodpecker <u>Picoides villosus</u>	PR	Fairly common; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods and residential.	X	X	X
Downy Woodpecker <u>Picoides pubescens</u>	PR	Fairly common; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods and residential.	X	X	X
Black-Backed Three-Toed Woodpecker <u>Picoides arcticus</u>	PR	Rare; coniferous woods.	X	-	-
Northern Three-Toed Woodpecker <u>Picoides tridactylus</u>	PR	Very rare; coniferous woods.	X ^j	-	-
Gray Jay <u>Perisoreus canadensis</u>	PR	Uncommon; coniferous woods.	X	X	X
Blue Jay <u>Cyanocitta cristata</u>	PR	Common; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods and residential.	X	X	X
Common Raven <u>Corvus corax</u>	PR	Common; meadows, pastures, cultivated cropland, brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Common Crow <u>Corvus brachyrhynchos</u>	PR	Common; meadows, pastures, cultivated cropland, brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Black-Capped Chickadee <u>Parus atricapillus</u>	PR	Common; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods and residential.	X	X	X
Boreal Chickadee <u>Parus hudsonicus</u>	PR	Uncommon; coniferous woods.	X	X	X
White-Breasted Nuthatch <u>Sitta carolinensis</u>	PR	Uncommon; deciduous woods and residential.	X	X	X
Red-Breasted Nuthatch <u>Sitta canadensis</u>	PR	Uncommon; coniferous woods and residential.	X	X	X
Brown Creeper <u>Certhia familiaris</u>	PR	Uncommon; deciduous and coniferous woods and residential.	X	X	X
Golden-Crowned Kinglet <u>Regulus satrapa</u>	PR	Rare; deciduous and coniferous woods.	X	X	X
Starling <u>Sturnus vulgaris</u>	PR	Common; swamps, bogs, meadows, pastures, cultivated cropland and residential.	X	X	X

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			FC	ESA	SA
House Sparrow <u>Passer domesticus</u>	PR	Fairly common; cultivated cropland, brushy areas (hedgerows, woodland edges, abandoned fields) and residential.	X	X	X
Evening Grosbeak <u>Hesperiphona vespertina</u>	PR	Fairly common; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods and residential.	X	X	X
Purple Finch <u>Carpodacus purpureus</u>	PR	Fairly common; deciduous and coniferous woods and residential.	X	X	X
Pine Siskin <u>Carduelis pinus</u>	PR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
American Goldfinch <u>Carduelis tristis</u>	PR	Fairly common; meadows, pastures, cultivated cropland, brushy areas (hedgerows, woodland edges, abandoned fields) and residential.	X	X	X
Red Crossbill <u>Loxia curvirostra</u>	PR	Rare; coniferous woods.	X	X	X
Mourning Dove <u>Zenaida macroura</u>	SR	Uncommon; meadows, pastures, cultivated cropland and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
Yellow-Billed Cuckoo <u>Coccyzus americanus</u>	SR	Rare; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X ¹
Black-Billed Cuckoo <u>Coccyzus erythrophthalmus</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Whip-Poor-Will <u>Caprimulgus vociferus</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Common Nighthawk <u>Chordeiles minor</u>	SR	Fairly common; meadows, pastures, cultivated cropland and residential.	X	X	X
Chimney Swift <u>Chaetura pelagica</u>	SR	Uncommon; swamps, bogs, meadows, pastures and cultivated cropland.	X	X	X ¹
Ruby-Throated Hummingbird <u>Archilochus colubris</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous woods and residential.	X	X	X
Common Flicker <u>Colaptes auratus</u>	SR	Common; on State Watch List; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields) and residential.	X	X	X
Red-Bellied Woodpecker <u>Melanerpes carolinus</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous woods and residential.	-	-	-
Yellow-Bellied Sapsucker <u>Sphyrapicus varius</u>	SR	Fairly common; deciduous and coniferous woods and residential.	X	X	X
Eastern Kingbird <u>Tyrannus tyrannus</u>	SR	Fairly common; shores, banks, and mudflats of inland lakes and rivers, swamps, bogs and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X

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			FC	ESA	SA
Great Crested Flycatcher <u>Myiarchus crinitus</u>	SR	Fairly common; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Eastern Phoebe <u>Sayonoris phoebe</u>	SR	Fairly common; shores, banks, and mudflats of inland lakes and rivers, brushy areas (hedgerows, woodland edges, abandoned fields) and residential.	X	X	X
Yellow-Bellied Flycatcher <u>Empidonax flaviventris</u>	SR	Uncommon; deciduous and coniferous woods.	X	X	X
Alder Flycatcher <u>Empidonax alnorum</u>	SR	Fairly common; swamps, bogs and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
Least Flycatcher <u>Empidonax mionimus</u>	SR	Common; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Eastern Wood Peewee <u>Contopus virens</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, edges, abandoned fields), deciduous woods and residential.	X	X	X
Olive-Sided Flycatcher <u>Nuttallornis borealis</u>	SR	Uncommon; swamps, bogs, deciduous and coniferous woods.	X	X	X
Horned Lark <u>Eremophila alpestris</u>	SR	Uncommon; cultivated cropland.	X	X	X
Tree Swallow <u>Iridoprocne bicolor</u>	SR	Common; shores, banks, and mudflats of inland lakes and rivers, marshes, swamps, bogs, meadows and pastures.	X	X	X
Bank Swallow <u>Riparia riparia</u>	SR	Uncommon; shores, banks, and mudflats of inland lakes and rivers, meadows and pastures.	X	X	X
Rough-Winged Swallow <u>Stelgidopteryx ruficollis</u>	SR	Uncommon; shores, banks, and mudflats of inland lakes and rivers, meadows and pastures.	X	X	X
Barn Swallow <u>Hirundo rustica</u>	SR	Fairly common; shores, banks, and mudflats of inland lakes and rivers, meadows, pastures, cultivated cropland and residential.	X	X	X
Cliff Swallow <u>Petrochelidon pyrrhonota</u>	SR	Fairly common; shores, banks, and mudflats of inland lakes and rivers, meadows, pastures, cultivated cropland and residential.	X	X	-
Purple Martin <u>Progne subis</u>	SR	Fairly common; shores, banks, and mudflats of inland lakes and rivers and residential.	X	X	-
House Wren <u>Troglodytes aedon</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous woods and residential.	X	X	X
Winter Wren <u>Troglodytes troglodytes</u>	SR	Uncommon; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields) and coniferous woods.	X	X	X
Gray Catbird <u>Dumetella carolinensis</u>	SR	Uncommon; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields) and residential.	X	X	X
Brown Thrasher <u>Toxostoma rufum</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields) and residential.	X	X	X

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED IN ^f		
			FC	ESA	SA
American Robin <u>Turdus migratorius</u>	SR	Abundant; meadows, pastures, cultivated cropland, brushy areas (hedgerows, woodland edges, abandoned fields), deciduous woods and residential.	X	X	X
Wood Thrush <u>Hylocichla mustelina</u>	SR	Uncommon; deciduous woods and residential.	X	X	X
Hermit Thrush <u>Catharus guttatus</u>	SR	Fairly common; deciduous and coniferous woods.	X	X	X
Swainsons Thrush <u>Catharus ustulatus</u>	SR	Rare; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Veery <u>Catharus fuscescens</u>	SR	Common; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Eastern Bluebird <u>Sialia sialis</u>	SR	Uncommon; on State Watch List; meadows, pastures, cultivated cropland and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	-
Blue-Gray Gnatcatcher <u>Polioptila caerulea</u>	SR	Rare; deciduous woods and brushy areas (hedgerows, woodland edges, abandoned fields).	-	-	-
Ruby-Crowned Kinglet <u>Regulus calendula</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Cedar Waxwing <u>Bombycilla cedrorum</u>	SR	Fairly common; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous woods and residential.	X	X	X
Yellow-Throated Vireo <u>Vireo flavifrons</u>	SR	Uncommon; deciduous woods.	X	X	X
Solitary Vireo <u>Vireo solitarius</u>	SR	Uncommon; deciduous and coniferous woods.	X	X	X
Red-Eyed Vireo <u>Vireo olivaceus</u>	SR	Abundant; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Warbling Vireo <u>Vireo gilvus</u>	SR	Uncommon; shores, banks, and mudflats of inland lakes and rivers, deciduous woods and residential.	X	X	X
Black-and-White Warbler <u>Mniotilta varia</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Golden-Winged Warbler <u>Vermivora chrysoptera</u>	SR	Uncommon; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Blue-Winged Warbler <u>Vermivora pinus</u>	SR	Rare; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Nashville Warbler <u>Vermivora ruficapilla</u>	SR	Common; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Northern Parula <u>Parula americana</u>	SR	Uncommon; deciduous and coniferous woods.	X	X	X
Yellow Warbler <u>Dendroica petechia</u>	SR	Uncommon; shores, banks, and mudflats of inland lakes and rivers, brushy areas (hedgerows, woodland edges, abandoned fields), deciduous woods and residential.	X	X	X

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED INF ^f		
			FC	ESA	SA
Magnolia Warbler <u>Dendroica magnolia</u>	SR	Uncommon; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Cape May Warbler <u>Dendroica tigrina</u>	SR	Rare; deciduous and coniferous woods.	X	X	X
Black-Throated Blue Warbler <u>Dendroica caerulescens</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Yellow-Rumped Warbler <u>Dendroica coronata</u>	SR	Fairly common; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Black-Throated Green Warbler <u>Dendroica virens</u>	SR	Fairly common; deciduous and coniferous woods.	X	X	X
Blackburnian Warbler <u>Dendroica fusca</u>	SR	Uncommon; deciduous and coniferous woods.	X	X	X
Chestnut-Sided Warbler <u>Dendroica pennsylvanica</u>	SR	Common; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Pine Warbler <u>Dendroica pinus</u>	SR	Fairly common; coniferous woods.	X	X	X
Palm Warbler <u>Dendroica palmarum</u>	SR	Rare; swamps, bogs, meadows, pastures, brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	-	-
Ovenbird <u>Seiurus aurocapillus</u>	SR	Abundant; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Northern Waterthrush <u>Seiurus noveboracensis</u>	SR	Uncommon; shores, banks, and mudflats of inland lakes and rivers, swamps, bogs, deciduous and coniferous woods.	X	X	X
Connecticut Warbler <u>Oporornis agilis</u>	SR	Uncommon; swamps, bogs, deciduous and coniferous woods.	X	X	X
Mourning Warbler <u>Oporornis philadelphia</u>	SR	Fairly common; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Common Yellowthroat <u>Geothlypis trichas</u>	SR	Common; shores, banks, and mudflats of inland lakes and rivers, marshes, swamps, bogs and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
Canada Warbler <u>Wilsonia canadensis</u>	SR	Uncommon; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
American Redstart <u>Setophaga ruticilla</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Bobolink <u>Dolichonyx oryzivorus</u>	SR	Uncommon; marshes, meadows, pastures, cultivated cropland and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED INF ^f		
			FC	ESA	SA
Eastern Meadowlark <u>Sturnella magna</u>	SR	Uncommon; meadows, pastures, cultivated cropland and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
Western Meadowlark <u>Sturnella neglecta</u>	SR	Rare; meadows, pastures, cultivated cropland and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
Northern Oriole <u>Icterus galbula</u>	SR	Fairly common; brushy areas (hedgerows, woodland edges, abandoned fields) and residential.	X	X	X
Brewer's Blackbird <u>Euphagus cyanocephalus</u>	SR	Uncommon; marshes, meadows, pastures and cultivated cropland.	X	X	X
Common Grackle <u>Quiscalus quiscula</u>	SR	Fairly common; marshes, meadows, pastures, cultivated cropland and residential.	X	X	X
Brown-Headed Cowbird <u>Molothrus ater</u>	SR	Common; meadows, pastures, cultivated cropland, brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Scarlet Tanager <u>Piranga olivacea</u>	SR	Fairly common; deciduous woods.	X	X	X
Cardinal <u>Cardinalis cardinalis</u>	SR	Rare; residential.	X	X	-
Rose-Breasted Grosbeak <u>Pheucticus ludovicianus</u>	SR	Fairly common; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous woods and residential.	X	X	X
Indigo Bunting <u>Passerina cyanea</u>	SR	Fairly common; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Dickcissel <u>Spiza americana</u>	SR	Rare; meadows, pastures and cultivated cropland.	-	-	-
Rufous-Sided Towhee <u>Pipilo erythrophthalmus</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
Savannah Sparrow <u>Passerculus sandwichensis</u>	SR	Uncommon; marshes, meadows, pastures, cultivated cropland and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
Grasshopper Sparrow <u>Ammodramus savannarum</u>	SR	Rare; on State Watch List; meadows, pastures and cultivated cropland.	X	X	X
LeConte's Sparrow <u>Ammodramus leconteii</u>	SR	Rare; marshes, meadows and pastures.	X	X	-
Vesper Sparrow <u>Poocetes gramineus</u>	SR	Uncommon; on State Watch List; meadows, pastures, cultivated cropland and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
Dark-Eyed Junco <u>Junco hyemalis</u>	SR	Uncommon; meadows, pastures, cultivated cropland, brushy areas (hedgerows, woodland edges, abandoned fields), coniferous woods and residential.	X	X	X

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED IN ^f		
			FC	ESA	SA
Chipping Sparrow <u>Spizella passerina</u>	SR	Common; meadows, pastures, brushy areas (hedgerows, woodland edges, abandoned fields) and residential.	X	X	X
Clay-Colored Sparrow <u>Spizella pallida</u>	SR	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	-
Field Sparrow <u>Spizella pusilla</u>	SR	Rare; on State Watch List; meadows, pastures and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
White-Throated Sparrow <u>Zonotrichia albicollis</u>	SR	Common; swamps, bogs, brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods and residential.	X	X	X
Lincoln's Sparrow <u>Melospiza lincolni</u>	SR	Uncommon; marshes, swamps, bogs and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	-
Swamp Sparrow <u>Melospiza georgiana</u>	SR	Uncommon; marshes, swamps, bogs and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
Song Sparrow <u>Melospiza melodia</u>	SR	Common; shores, banks, and mudflats of inland lakes and rivers, marshes, swamps, bogs and brushy areas (hedgerows, woodland edges, abandoned fields).	X	X	X
Bohemian Waxwing <u>Bombycilla garrulus</u>	WR	Rare; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous woods and residential.	-	-	-
Pine Grosbeak <u>Pinicola enucleator</u>	WR	Uncommon; brushy areas (hedgerows, woodland edges, edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Common Redpoll <u>Carduelis flammea</u>	WR	Uncommon; meadows, pastures, cultivated cropland, brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	X	X
White-Winged Crossbill <u>Loxia leucoptera</u>	WR	Uncommon; coniferous woods.	X	-	-
Snow Bunting <u>Plectrophenax nivalis</u>	WR	Fairly common; meadows, pastures and cultivated cropland.	X	X	X
Gray-Cheeked Thrush <u>Catharus minimus</u>	M	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	-	-
Philadelphia Vireo <u>Vireo philadelphicus</u>	M	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	-	-	-
Tennessee Warbler <u>Vermivora peregrina</u>	M	Common; brushy areas (hedgerows, woodland edges, abandoned fields), deciduous and coniferous woods.	X	X	X
Orange-Crowned Warbler <u>Vermivora celata</u>	M	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	-	-	-
Bay-Breasted Warbler <u>Dendroica castanea</u>	M	Uncommon; deciduous and coniferous woods.	X	X	X
Blackpoll Warbler <u>Dendroica striata</u>	M	Uncommon; deciduous woods.	-	-	-

GENERAL GROUP ^a COMMON NAME/SCIENTIFIC NAME ^b	RESIDENCY ^c	STATUS ^d ; PREFERRED HABITAT ^e	OBSERVED IN ^f		
			FC	ESA	SA
Wilson's Warbler <u>Wilsonia pusilla</u>	M	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	-	-	-
Rusty Blackbird <u>Euphagus carolinus</u>	M	Common; marshes, swamps, bogs, meadows, pastures and brushy areas (hedgerows, woodland edges, abandoned fields).	X	-	-
Tree Sparrow <u>Spizella arborea</u>	M	Common; marshes, meadows, pastures, cultivated cropland and brushy areas (hedgerows, woodland edges, abandoned fields).	X	-	-
Harris' Sparrow <u>Zonotrichia querula</u>	M	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields).	-	-	-
White-Crowned Sparrow <u>Zonotrichia leucophrys</u>	M	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields).	-	-	-
Fox Sparrow <u>Passerella iliaca</u>	M	Uncommon; brushy areas (hedgerows, woodland edges, abandoned fields) and deciduous woods.	X	-	-
Lapland Longspur <u>Calcarius lapponicus</u>	M	Uncommon; shores, banks, and mudflats of inland lakes and rivers, meadows, pastures and cultivated cropland.	-	-	-
Total Species (241)			185	165	150

APPENDIX 2.6D

AMPHIBIANS AND REPTILES OF THE ENVIRONMENTAL STUDY AREA

AMPHIBIANS AND REPTILES OF THE ENVIRONMENTAL STUDY AREA

GENERAL GROUP COMMON NAME/SCIENTIFIC NAME ^a	STATUS; PREFERRED HABITAT	OBSERVED IN		
		FC ^b	ESAC ^c	SAC ^c
MUDPUPPIES, SALAMANDERS AND NEWTS				
Mudpuppy <u>Necturus maculosus</u>	Lakes, ponds, rivers and streams.	X	-	-
Tremblay's Salamander <u>Ambystoma tremblayi</u>	On State Threatened Species List; shallow ponds and ditches.	-	-	-
Blue-Spotted Salamander <u>Ambystoma laterale</u>	Shallow ponds and ditches.	X	X	X
Spotted Salamander <u>Ambystoma maculatum</u>	On State Threatened Species List; wood- land ponds and under litter.	X	X	X
Newt <u>Notophthalmus viridescens</u>	Swamplands, wooded ponds, ditches and swales.	X	-	-
Red-Backed Salamander <u>Plethodon cinereus</u>	Wooded areas and under litter.	X	X	X
Four-Toed Salamander <u>Hemidactylium scutatum</u>	Sphagnum and wooded bogs.	X	-	-
TOADS AND FROGS				
American Toad <u>Bufo americanus</u>	Nearly all habitats.	X	X	X

Key: FC = Forest County
 ESA = Environmental Study Area
 SA = Site Area.

^aNomenclature follows Conant, 1975.

^bVogt, 1981.

^cDames & Moore.

^dObserved by Normandeau Associates Inc. and Interdisciplinary
 Environmental Planning, Inc., 1982.

^ePendecost and Vogt, 1976.

GENERAL GROUP COMMON NAME/SCIENTIFIC NAME ^a	STATUS; PREFERRED HABITAT	OBSERVED IN		
		FC ^b	ESAC ^c	SAC ^c
Spring Peeper <u>Hyla crucifer</u>	Woodlands, cutover areas and temporary ponds.	X	X	X
Gray Treefrog <u>Hyla versicolor</u>	In small trees and shrubs near water.	-	X	X
Chorus Frog <u>Pseudacris triseriata</u>	Nearly all habitats.	-	X	X
Bullfrog <u>Rana catesbeiana</u>	On State Watch List; lakes, ponds and bogs.	-	-	-
Green Frog <u>Rana clamitans</u>	Any shallow fresh water.	X	X	X
Mink Frog <u>Rana septentrionalis</u>	Borders of ponds and lakes.	X	X	X
Wood Frog <u>Rana sylvatica</u>	Moist wooded areas.	X	X	X
Leopard Frog <u>Rana pipiens</u>	On State Watch List; meadows and ponds.	X	X	x ^d
TURTLES				
Snapping Turtle <u>Chelydra serpentina</u>	Any body of fresh water; lakes, rivers, creeks and ponds.	X	X	-
Wood Turtle <u>Clemmys insculpta</u>	On State Endangered Species List; fields, woods, meadows and farmlands.	X	-	-
Painted Turtle <u>Chrysemys picta</u>	Lakes, rivers, creeks, ponds and ditches.	X	X	X
Spiny Softshell <u>Trionyx spiniferus</u>	Lakes, rivers, sand-bars and mudflats.	-	-	-
Five-Lined Skink <u>Eumeces fasciatus</u>	Cutover woodlots, rotting logs, stumps and debris.	-	-	-

GENERAL GROUP COMMON NAME/SCIENTIFIC NAME ^a	STATUS; PREFERRED HABITAT	OBSERVED IN		
		FC ^b	ESAC ^c	SAC ^c
SNAKES				
Water Snake <u>Natrix sipedon</u>	Streams, swamps, marshes, bogs, ponds and lakes.	X	-	-
Brown Snake <u>Storeria dekayi</u>	Bogs, swamps, marshes, marshes, moist woods and hillsides.	-	-	-
Red-Bellied Snake <u>Storeria occipitomaculata</u>	On State Watch List; open woods and sphagnum bogs.	X	-	-
Garter Snake <u>Thamnophis sirtalis</u>	On State Watch List; meadows, marshes, woodlands, hillsides and stream margins.	X	X	X
Ringneck Snake <u>Diadophis punctatus</u>	On State Watch List; woodlands, cutover areas and rocky hill- sides.	X	-	-
Smooth Green Snake <u>Ophedrys vernalis</u>	On State Watch List; grassy fields and woodlots.	X	-	-
Fox Snake <u>Elaphe vulpina</u>	On State Watch List; farmlands, valleys, woods and marshes.	X	X	X
Bull Snake <u>Pituophis melanoleucus</u>	On State Watch List; open grassy areas and dry rocky hillsides.	X ^e	-	-
Total Species (29)		22	15	14

APPENDIX 2.6E

ENDANGERED AND THREATENED PLANTS OF WISCONSIN

APPENDIX 2.6E

ENDANGERED AND THREATENED PLANTS OF WISCONSIN

ENDANGERED		THREATENED	
SCIENTIFIC NAME	COMMON NAME	SCIENTIFIC NAME	COMMON NAME
<u>Anemone caroliniana</u>	Carolina Anemone	<u>Aconitum noveboracense</u>	Northern Monkshood*
<u>Anemone multifida</u>	Hudson Bay Anemone	<u>Adoxa moschatellina</u>	Muskroot
<u>Arenaria macrophylla</u>	Large-Leaved Sandwort	<u>Agropyron dasystachyum</u>	Thickspike Wheatgrass
<u>Armoracia aquatica</u>	Lake Cress	<u>Asclepias sullivantii</u>	Prairie Milkweed
<u>Asplenium viride</u>	Green Spleenwort	<u>Carex concinna</u>	Beautiful Sedge
<u>Astragalus alpinus</u>	Alpine Milk Vetch	<u>Carex lenticularis</u>	Lenticular Sedge
<u>Astragalus crassicaarpus</u>	Prairie Plum	<u>Carex michauxiana</u>	Michaux's Sedge
<u>Botrychium lunaria</u>	Moonwort	<u>Cirsium pitchei</u>	Dune Thistle
<u>Caltha natans</u>	Floating Marsh Marigold	<u>Cypripedium arietinum</u>	Ram's-Head Lady's-Slipper
<u>Carex crus-corvi</u>	Crow-Spur Sedge	<u>Cypripedium candidum</u>	White Lady's-Slipper
<u>Carex lupuliformis</u>	Hop-Like Sedge	<u>Drosera anglica</u>	English Sundew
<u>Carex media</u>	Intermediate Sedge	<u>Drosera linearis</u>	Linear-Leaved Sundew
<u>Catabrosa aquatica</u>	Brook Grass	<u>Echinacea pallida</u>	Purple Coneflower
<u>Collinsonia canadensis</u>	Stoneroot	<u>Festuca occidentalis</u>	Western Fescue
<u>Conioselinum chinense</u>	Hemlock-Parsley	<u>Fraxinus quadrangulata</u>	Blue Ash
<u>Diarrhena americana</u>	Beak Grass	<u>Habenaria flava</u>	Tuberclad Orchid
<u>Draba lanceolata</u>	Lanceolate Whitlow-Cress	<u>Habenaria leucophaea</u>	Prairie White-Fringed Orchid
<u>Eleocharis quadrangulata</u>	Angle-Stemmed Spikerush	<u>Iris lacustris</u>	Dwarf Lake Iris
<u>Erigenia bulbosa</u>	Harbinger-of-Spring	<u>Lespedeza leptostachya</u>	Prairie Bush-Clover
<u>Fimbristylis puberula</u>	Chestnut Sedge	<u>Listera convallarioides</u>	Broad-Leaved Twayblade
<u>Fuirena pumila</u>	Umbrella Sedge	<u>Opuntia fragilis</u>	Brittle Prickly Pear
<u>Geocaulon lividum</u>	Northern Comandra	<u>Orchis rotundifolia</u>	Small Round-Leaved Orchis
<u>Liatris punctata</u>	Dotted Blazing Star	<u>Orobanche fasciculata</u>	Clustered Broomrape
<u>Listera auriculata</u>	Auricled Twayblade	<u>Oxytropis campestris</u>	Fassett's Locoweed
<u>Melica smithii</u>	Smith Melic Grass	<u>Parnassia palustris</u>	Marsh Grass-of-Parnassus
<u>Parnassia parviflora</u>	Small-Flowered Grass-of-Parnassus	<u>Parthenium integrifolium</u>	Wild Quinine
<u>Phlox glaberrima</u>	Smooth Phlox	<u>Petasites sagittatus</u>	Sweet Coltsfoot
<u>Pinguicula vulgaris</u>	Butterwort	<u>Polystichum braunii</u>	Braun's Holly Fern
<u>Plantago cordata</u>	Heart-Leaved Plantain	<u>Potamogeton confervoides</u>	Algal-Leaved Pondweed
<u>Polygala incarnata</u>	Pink Milkwort	<u>Polytaenia nuttallii</u>	Prairie-Parsley
<u>Prenanthes aspera</u>	Rough White Lettuce	<u>Psilocarya scirpoides</u>	Bald Rush
<u>Prenanthes crepidinea</u>	Great White Lettuce	<u>Ribes oxycanthoides</u>	Hawthorn-Leaved Gooseberry
<u>Pterospora andromedea</u>	Pine-Drops	<u>Solidago spathulata</u>	Dune Goldenrod
<u>Pyrola minor</u>	Small Shinleaf	<u>Tofieldia glutinosa</u>	False Asphodel
<u>Ranunculus cymbalaria</u>	Seaside Crowfoot	<u>Trillium nivale</u>	Snow Trillium
<u>Ranunculus gmelinii</u>	Small Yellow Water Crowfoot	<u>Trisetum spicatum</u>	Spike Trisetum
<u>Rhododendron lapponicum</u>	Lapland Rosebay	<u>Valeriana sitchensis</u>	Marsh Valerian
<u>Ruellia humilis</u>	Wild Petunia	<u>Viola novae-angliae</u>	New England Violet
<u>Salix cordata</u>	Sand Dune Willow		
<u>Scirpus cespitosus</u>	Tussock Bullrush		
<u>Selaginella selaginoides</u>	Selago-Like Spikemoss		
<u>Solidago caesia</u>	Blue-Stemmed Goldenrod		
<u>Tanacetum huronense</u>	Lake Huron Tansy		
<u>Thaspium barbinode</u>	Hairy Meadow Parsnip		
<u>Tiarella cordifolia</u>	Foamflower		
<u>Vaccinium cespitosum</u>	Dwarf Bilberry		
<u>Vaccinium vitis-idaea</u>	Mountain Cranberry		
<u>Viburnum edule</u>	Squashberry		
<u>Viola fimbriatula</u>	Sand Violet		

*Also designated as threatened by the U.S. Department of Interior, 1982.

Source: Wisconsin Department of Natural Resources, 1982.

APPENDIX 2.6

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APPENDIX 2.6

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APPENDIX 2.8A

AMBIENT SOUND LEVEL DATA
TABLES A-1 THROUGH A-37

TABLE A-1

AMBIENT SOUND LEVEL DATA

FILE EXX001.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	53.1	55.0	57.7	60.0	59.0	59.5
63	54.3	56.0	57.7	49.0	45.0	44.4
125	50.1	50.0	49.0	44.4	43.0	43.6
250	46.6	45.0	43.0	43.0	43.0	43.0
500	45.0	45.0	43.7	43.0	43.0	43.0
1000	45.0	45.0	43.0	43.0	43.0	43.0
2000	44.5	45.0	43.0	43.0	43.0	43.0
4000	44.3	43.0	43.0	43.4	43.4	43.4
8000	44.3	44.4	43.4	43.4	43.4	43.4
A-MT.	44.1	44.4	43.7	43.0	43.0	43.0

FILE EXX001.DA
A-MT. SOUND LEVELS

Sound Level (A Weighting) in dB @ 20 uPa	%	CUMULATIVE DISTRIBUTION (%) EXCEEDED	SOUND PRESSURE LEVEL-DB
36	** 1 %		
37	***** 5 %		
38	***** 11.7 %		
39	***** 20.7 %		
40	***** 15 %		
41	***** 20 %		
42	***** 11 %		
43	***** 0 %		
44	**** 2.7 %		
45	* 0.7 %		
46	* 0.7 %		
47	* 0.3 %		
48	* 0.3 %		
49	** 1 %		
50	* 0.3 %		
51	* 0.3 %		
52	* 0.3 %		
53	* 0.3 %		
54			
55			
56			
57	* 0.3 %		
58			
59			
60	* 0.7 %		
61			
62			
63			
64			
65			
66			
67			
68			
69			
70			
71			
72			
73			
74			
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92			
93			
94			
95			
96			
97			
98			
99			
100			

EQUIVALENT SOUND LEVEL = 44.1 DB

Background Ambient Sound Level Data

Location: 1
Date: March 5, 1977
Time: 1155

TABLE A-2

AMBIENT SOUND LEVEL DATA

FILE EXX002.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	65.7	73	70	57	43	40
63	56.4	61	59	53	50	50
125	45.4	51	49	41	38	38
250	39.1	45	43	37	34	34
500	40.0	43	42	36	34	34
1000	34.2	35	34	34	34	34
2000	34.1	34	34	34	34	34
4000	34	34	34	34	34	34
8000	34	34	34	34	34	34
R-MT.	37.9	43	41	35	33	33

FILE EXX002.DA
R-MT. SOUND LEVELS

32	* 0.4 %		
33	*****	11 %	
34	*****		27.3 %
35	*****		18.2 %
36	*****	10 %	
37	*****	7.1 %	
38	*****	5.9 %	
39	*****	5.1 %	
40	*****	3.2 %	
41	*****	3.1 %	
42	*****	2.1 %	
43	*****	2.5 %	
44	* 0.6 %		
45	* 0.3 %		
46	* 0.4 %		
47	* 0.2 %		
48	** 0.9 %		
49	* 0.4 %		
50	* 0.2 %		

Sound Level (A Weighting) in dB 20 μPa	CUMULATIVE DISTRIBUTION	
	(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95		00
90		00
85		00
80		00
75		00
70		00
65		00
60		00
55		00
50		00
45		00
40		00
35		00
30		00
25		00
20		00
15		00
10		00
5		00

EQUIVALENT SOUND LEVEL = 37.9 DB

Background Ambient Sound Level Data

Location: 2
Date: March 5, 1977
Time: 1230

TABLE A-3

AMBIENT SOUND LEVEL DATA

FILE EXX003.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	50.9	55	53	53	49	50
63	54.1	57	56	56	51	52
125	42.3	47	45	45	42	43
250	47.7	41	39	39	37	38
500	49.3	44	42	42	40	41
1000	34.3	35	34	34	34	34
2000	34.4	34	34	34	34	34
4000	34.4	34	34	34	34	34
8000	34.4	34	34	34	34	34
A-WT.	47.8	41	40	40	44	44

FILE EXX003.DA
A-WT. SOUND LEVELS

Sound Level (A Weighting) in dB (@ 20µPa)	Percentage
33	**** 1.9 %
34	***** 24 %
35	***** 19.9 %
36	***** 15.4 %
37	***** 12 %
38	***** 7.9 %
39	***** 6.4 %
40	***** 5.6 %
41	***** 3.4 %
42	** 1 %
43	**** 1.6 %
44	* 0.2 %
45	* 0.4 %
46	* 0.6 %
47	
48	* 0.2 %
49	* 0.4 %
50	* 0.2 %

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
99	34
95	34
90	34
80	34
70	34
60	34
50	34
40	34
30	34
25	37
20	38
15	39
10	40
5	41

EQUIVALENT SOUND LEVEL = 37.8 DB

Background Ambient Sound Level Data

Location: 3
Date: March 5, 1977
Time: 1312

TABLE A-4

AMBIENT SOUND LEVEL DATA

FILE EXX004.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	56.4	62	60	51	46	38
63	53.4	59	55	46	42	42
125	49.9	57	53	43	38	31
250	43.7	50	45	36	32	31
500	41.6	48	45	36	32	32
1000	37.3	44	41	32	29	29
2000	35.3	43	40	31	28	28
4000	33.5	38	33	24	24	24
8000	30.9	29	25	24	24	24
A-WT.	44.6	52	48	38	35	34

FILE EXX004.DA
A-WT. SOUND LEVELS

Sound Level (A Weighting) in dB @ 20 uPa	(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
53	***** 0 %	
54	***** 7.2 %	
55	***** 9.3 %	
56	***** 12.2 %	
57	***** 11.2 %	
58	***** 9.2 %	
59	***** 9.1 %	
40	***** 7 %	
41	***** 4.7 %	
42	***** 4.3 %	
43	***** 3 %	
44	***** 3.2 %	
45	***** 2.6 %	
46	***** 1.9 %	
47	***** 2 %	
48	***** 1.7 %	
49	***** 2.3 %	
50	*** 0.9 %	
51	** 0.7 %	
52	***** 1.2 %	
53	***** 1.3 %	
54	*** 0.9 %	
55	*** 0.8 %	
56	** 0.7 %	
57	** 0.6 %	
58	* 0.1 %	

CUMULATIVE DISTRIBUTION

EQUIVALENT SOUND LEVEL = 44.6 DB

Background Ambient Sound Level Data

Location: 4
Date: March 5, 1977
Time: 1455

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
99	34
95	35
90	35
85	35
80	35
75	35
70	35
65	37
60	37
55	38
50	38
45	39
40	39
35	40
30	41
25	42
20	44
15	45
10	48
5	52

TABLE A-5

AMBIENT SOUND LEVEL DATA

FILE EXX005.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	50.0	55	51	41	35	34
63	51.0	51	47	40	42	42
125	49.0	54	51	46	31	30
250	44.0	49	45	34	28	26
500	44.0	45	40	31	25	25
1000	41.0	38	34	26	24	24
2000	41.0	37	33	27	24	24
4000	40.0	35	34	29	24	24
8000	39.0	35	33	27	24	24
A-WT.	43.0	40	43	37	31	30

FILE EXX005.DA
A-WT. SOUND LEVELS

Background Ambient Sound Level Data

Location: 5
Date: March 5, 1977
Time: 1555

27	** 0.4 %
30	***** 2.0 %
33	***** 3 %
36	***** 2.1 %
40	***** 2.7 %
43	***** 2.6 %
46	***** 4.5 %
49	***** 5.2 %
52	***** 7.7 %
55	***** 10.2 %
58	***** 9.3 %
61	***** 8.7 %
64	***** 8.9 %
67	***** 5.1 %
70	***** 5.6 %
73	***** 4.1 %
76	***** 3.3 %
79	***** 2.7 %
82	***** 2.1 %
85	***** 1.7 %
88	***** 1.1 %
91	** 0.4 %
94	** 0.4 %
97	** 0.7 %
100	** 0.3 %
103	** 0.7 %
106	** 0.4 %
109	***** 0.9 %
112	** 0.3 %
115	** 0.3 %
118	* 0.2 %
121	** 0.4 %
124	
127	
130	
133	
136	
139	
142	
145	
148	
151	
154	
157	
160	
163	
166	
169	
172	
175	
178	
181	
184	
187	
190	
193	
196	
199	
202	
205	
208	
211	
214	
217	
220	
223	
226	
229	
232	
235	
238	
241	
244	
247	
250	
253	
256	
259	
262	
265	
268	
271	
274	
277	
280	
283	
286	
289	
292	
295	
298	
301	
304	
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310	
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322	
325	
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331	
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337	
340	
343	
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382	
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412	
415	
418	
421	
424	
427	
430	
433	
436	
439	
442	
445	
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451	
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457	
460	
463	
466	
469	
472	
475	
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481	
484	
487	
490	
493	
496	
499	
502	
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514	
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523	
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529	
532	
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583	
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610	
613	
616	
619	
622	
625	
628	
631	
634	
637	
640	
643	
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649	
652	
655	
658	
661	
664	
667	
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673	
676	
679	
682	
685	
688	
691	
694	
697	
700	
703	
706	
709	
712	
715	
718	
721	
724	
727	
730	
733	
736	
739	
742	
745	
748	
751	
754	
757	
760	
763	
766	
769	
772	
775	
778	
781	
784	
787	
790	
793	
796	
799	
802	
805	
808	
811	
814	
817	
820	
823	
826	
829	
832	
835	
838	
841	
844	
847	
850	
853	
856	
859	
862	
865	
868	
871	
874	
877	
880	
883	
886	
889	
892	
895	
898	
901	
904	
907	
910	
913	
916	
919	
922	
925	
928	
931	
934	
937	
940	
943	
946	
949	
952	
955	
958	
961	
964	
967	
970	
973	
976	
979	
982	
985	
988	
991	
994	
997	
1000	

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	29
90	31
85	33
80	34
75	35
70	36
65	36
60	37
55	38
50	39
45	39
40	40
35	40
30	41
25	42
20	43
15	45
10	46
5	48

EQUIVALENT SOUND LEVEL = 43.8 DB

TABLE A-6

AMBIENT SOUND LEVEL DATA

FILE EXX006.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	41.7	43	45	33	33	33
53	49.9	45	43	42	39	39
125	49.9	39	33	27	27	25
250	53.5	41	32	25	24	24
500	53.4	44	30	24	24	24
1000	44.6	37	31	24	24	24
2000	41.5	37	29	24	24	24
4000	37.2	29	24	24	24	24
8000	39.5	24	24	24	24	24
R-WT.	53	45	37	25	23	23

FILE EXX006.DA
R-WT. SOUND LEVELS

22	* 9.6 %		
23	***** 14.8 %		
24	***** 32.8 %		
25	***** 14.2 %		
26	***** 10.1 %		
27	***** 5.9 %		
28	**** 2.6 %		
29	***** 2.9 %		
30	** 1 %		
31	**** 1.4 %		
32	** 1.2 %		
33	** 1.1 %		
34	* 9.6 %		
35	* 9.7 %		
36	* 9.1 %		
37	* 9.3 %		
38	** 1.1 %		
39	* 9.6 %		
40	** 1 %		
41	* 9.7 %		
42	* 9.6 %		
43	* 9.7 %		
44	* 9.3 %		
45	* 9.6 %		
46	* 9.1 %		
47	* 9.2 %		
48	* 9.2 %		
49	* 9.4 %		
50	* 9.3 %		
51	* 9.1 %		
52	* 9.2 %		
53	* 9.1 %		
54	* 9.1 %		
55	* 9.1 %		
56	* 9.2 %		
57	* 9.1 %		
58	* 9.2 %		
59	* 9.1 %		
60	* 9.3 %		
61	* 9.1 %		
62	* 9.1 %		
63	* 9.3 %		
64	* 9.1 %		
65	* 9.1 %		
66	* 9.1 %		
67	* 9.1 %		
68	* 9.4 %		
69	* 9.1 %		
70	* 9.1 %		
71			
72			
73			
74			
75	* 9.1 %		
76	* 9.1 %		
77	* 9.1 %		

Background Ambient Sound Level Data

Location: 6
Date: March 5, 1977
Time: 1617

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	23
90	23
85	23
80	24
75	24
70	24
65	24
60	24
55	24
50	24
45	25
40	25
35	25
30	25
25	27
20	28
15	31
10	37
5	45

TABLE A-7

AMBIENT SOUND LEVEL DATA

FILE EXX010.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	51	56	55	47	42	41
63	42	46	44	40	38	38
125	36.7	41	40	35	30	29
250	29.6	35	33	26	22	22
500	27.5	29	29	26	24	24
1000	25.4	28	27	23	19	19
2000	20.9	20	18	14	14	14
4000	14.5	14	14	14	14	14
8000	14	14	14	14	14	14
A-WT.	30.9	33	32	29	26	26

FILE EXX010.DA
A-WT. SOUND LEVELS

Sound Level (A Weighting) in dB @ 20µPa	%	CUMULATIVE DISTRIBUTION (%) EXCEEDED	SOUND PRESSURE LEVEL-1
24	* 0.1 %		
25	***** 3.8 %		
26	***** 11.4 %		
27	***** 15.1 %		
28	***** 17.9 %		
29	***** 19.2 %		
30	***** 12 %		
31	***** 9.3 %		
32	***** 4.6 %		
33	***** 3.8 %		
34	**** 1.7 %		
35	** 0.6 %		
36	* 0.3 %		
37			
38	* 0.3 %		
39	** 0.8 %		
40	* 0.2 %		
41	* 0.1 %		
42			
43	* 0.2 %		
44	* 0.1 %		
45	* 0.1 %		
46	* 0.2 %		
47			
48	* 0.1 %		

EQUIVALENT SOUND LEVEL = 30.9 DB

Background Ambient Sound Level Data

Location: 1
Date: March 5, 1977
Time: 2030

TABLE A-8

AMBIENT SOUND LEVEL DATA

FILE EXX009.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	52.1	58	56	48	39	37
63	42.1	49	46	38	34	33
125	36.5	40	37	29	23	22
250	30.5	33	30	24	20	20
500	28.1	33	31	24	21	21
1000	34.8	35	33	23	16	15
2000	28.2	32	29	17	14	14
4000	21.1	23	19	14	14	14
8000	16.4	14	14	14	14	14
A-MT.	38.1	40	37	28	23	23

Background Ambient Sound Level Data

FILE EXX009.DA
A-MT. SOUND LEVELS

Location: 2
Date: March 5, 1977
Time: 2000

21	*** 0.6 %
22	***** 2.8 %
23	***** 7 %
24	***** 9.8 %
25	***** 9.2 %
26	***** 8 %
27	***** 7.6 %
28	***** 5.1 %
29	***** 6.2 %
30	***** 5.3 %
31	***** 6 %
32	***** 5.4 %
33	***** 4.3 %
34	***** 3.4 %
35	***** 3.9 %
36	***** 3.2 %
37	***** 2.3 %
38	***** 2 %
39	***** 2.3 %
40	***** 1.1 %
41	***** 1 %
42	***** 0.8 %
43	***** 0.7 %
44	***** 0.7 %
45	* 0.2 %
46	* 0.2 %
47	* 0.2 %
48	
49	
50	* 0.2 %
51	
52	
53	* 0.2 %
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	* 0.1 %

CUMULATIVE DISTRIBUTION

Sound Level (A Weighting) in dB re 20 uPa	(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
23	95	23
24	90	23
25	85	24
26	80	24
27	75	25
28	70	25
29	65	26
30	60	26
31	55	27
32	50	28
33	45	28
34	40	29
35	35	29
36	30	30
37	25	30
38	20	31
39	15	31
40	10	32
41	5	32
42		33
43		34
44		34
45		36
46		36
47		37
48		37
49		40
50		40

EQUIVALENT SOUND LEVEL = 38.1 DB

TABLE A-9

AMBIENT SOUND LEVEL DATA

FILE EXX008.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	40	53	40	33	27	27
63	40.5	42	40	35	28	26
125	36	35	33	22	20	19
250	32.0	33	30	24	19	19
500	39.4	45	44	34	19	18
1000	38.9	45	44	34	15	14
2000	30	35	34	24	14	14
4000	23.2	23	22	15	14	14
8000	18.7	19	18	15	14	14
A-MT.	41.9	47	46	39	21	21

FILE EXX008.DA
A-MT. SOUND LEVELS

Background Ambient Sound Level Data

Location: 3
Date: March 5, 1977
Time: 1930

19	*** 0.7 %
20	***** 4 %
21	***** 6.2 %
22	***** 4.3 %
23	***** 4.9 %
24	***** 3.8 %
25	***** 2.7 %
26	***** 2.5 %
27	***** 2.5 %
28	***** 2.5 %
29	***** 2.4 %
30	***** 1.7 %
31	***** 2.7 %
32	*** 0.7 %
33	***** 1.6 %
34	***** 1.7 %
35	***** 1.4 %
36	*** 0.9 %
37	***** 1 %
38	***** 1.1 %
39	***** 2 %
40	***** 2.4 %
41	***** 4 %
42	***** 5.3 %
43	***** 5.8 %
44	***** 5.4 %
45	***** 7 %
46	***** 7.2 %
47	***** 4.7 %
48	***** 2.2 %
49	***** 1.3 %
50	* 0.2 %
51	* 0.1 %

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	21
90	21
85	22
80	22
75	23
70	23
65	24
60	24
55	25
50	25
45	26
40	26
35	27
30	27
25	28
20	28
15	29
10	29
5	30

EQUIVALENT SOUND LEVEL = 41.9 DB

TABLE A-10

AMBIENT SOUND LEVEL DATA

FILE EXX007.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	44.8	49	42	32	29	29
63	39.7	41	38	24	22	21
125	40.2	34	29	23	21	21
250	32.5	29	25	22	20	20
500	34.2	31	25	20	19	19
1000	35.0	31	23	15	14	14
2000	31.0	25	16	14	14	14
4000	24.9	14	14	14	14	14
8000	29.4	14	14	14	14	14
A-WT.	39.8	36	28	22	21	21

FILE EXX007.DA
A-WT. SOUND LEVELS

20	** 1 %
21	***** 18 %
22	***** 33.6 %
23	***** 19.9 %
24	***** 7.3 %
25	***** 3.3 %
26	***** 3.7 %
27	** 1.4 %
28	*** 1.9 %
29	** 1.2 %
30	* 0.5 %
31	* 0.4 %
32	* 0.7 %
33	* 0.1 %
34	** 1 %
35	* 0.3 %
36	** 1 %
37	* 0.3 %
38	* 0.3 %
39	* 0.3 %
40	* 0.4 %
41	* 0.0 %
42	* 0.3 %
43	* 0.1 %
44	* 0.2 %
45	* 0.1 %
46	
47	* 0.2 %
48	* 0.1 %
49	
50	* 0.2 %
51	* 0.2 %
52	* 0.2 %
53	* 0.1 %
54	
55	
56	* 0.1 %
57	
58	
59	* 0.1 %
60	* 0.1 %
61	
62	* 0.1 %
63	
64	
65	* 0.1 %

Background Ambient Sound Level Data

Location: 4
Date: March 5, 1977
Time: 1900

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	21
90	21
85	21
80	22
75	22
70	22
65	22
60	22
55	22
50	22
45	23
40	23
35	23
30	23
25	24
20	25
15	25
10	28
5	36

EQUIVALENT SOUND LEVEL = 39.8 DB

TABLE A-11

AMBIENT SOUND LEVEL DATA

FILE EXX012.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	46.7	53	51	40	32	31
53	40.4	47	44	36	34	33
125	33.8	39	36	28	25	24
250	25.1	27	26	23	21	21
500	21.6	24	23	21	19	19
1000	17.5	20	19	17	16	15
2000	18.6	21	21	18	16	15
4000	20.7	24	23	20	17	17
8000	19.8	22	21	18	16	15
A-WT.	28.4	31	30	27	25	25

FILE EXX012.DA
A-WT. SOUND LEVELS

Sound Level (A Weighting) in dB re 20 uPa	Percentage
24	***** 2.3 %
25	***** 9.6 %
26	***** 19.6 %
27	***** 19.1 %
28	***** 18.9 %
29	***** 14.8 %
30	***** 6 %
31	***** 5 %
32	***** 3.1 %
33	** 0.9 %
34	* 0.1 %
35	* 0.2 %
36	* 0.1 %
37	
38	* 0.2 %
39	
40	
41	
42	
43	
44	* 0.1 %

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	25
90	25
80	26
70	26
60	26
50	27
40	27
30	27
20	28
15	28
10	28
5	29
	29
	29
	30
	30
	31

EQUIVALENT SOUND LEVEL = 28.4 DB

Background Ambient Sound Level Data

Location: 5
Date: March 5, 1977
Time: 2130

TABLE A-12

AMBIENT SOUND LEVEL DATA

FILE EXX011.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	40.1	46	41	29	26	25
63	37.5	40	39	36	28	26
125	30.1	33	27	21	19	19
250	24.2	27	23	18	16	16
500	19.4	22	19	15	14	14
1000	14.3	14	14	14	14	14
2000	14	14	14	14	14	14
4000	14	14	14	14	14	14
8000	14	14	14	14	14	14
A-WT.	22.6	26	22	19	18	18

FILE EXX011.DA
A-WT. SOUND LEVELS

Sound Level (A Weighting) in dB re 20 µPa	(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
17	** 1 %	
18	***** 21 %	
19	***** 32.2 %	
20	***** 23.8 %	
21	***** 9.9 %	
22	***** 3.2 %	
23	*** 1.4 %	
24	** 1 %	
25	* 0.7 %	
26	** 1.2 %	
27	* 0.7 %	
28	** 1 %	
29	* 0.7 %	
30	* 0.6 %	
31	* 0.3 %	
32	* 0.3 %	
33	* 0.2 %	
34	* 0.1 %	
35	* 0.1 %	
36	* 0.1 %	
37	* 0.1 %	
38	* 0.1 %	
39	* 0.1 %	
40	* 0.1 %	

EQUIVALENT SOUND LEVEL = 22.6 DB

Background Ambient Sound Level Data

Location: 6
Date: March 5, 1977
Time: 2100

TABLE A-13

AMBIENT SOUND LEVEL DATA

FILE EXX017.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	45.6	50	49	44	41	40
63	39.2	40	40	38	37	36
125	27.3	30	29	27	25	25
250	22.8	25	24	22	21	20
500	28	31	30	26	23	22
1000	25.3	29	26	21	18	16
2000	19.9	21	16	14	14	14
4000	14.1	14	14	14	14	14
8000	14	14	14	14	14	14
A-WT.	29.8	32	31	26	24	23

Background Ambient Sound Level Data

FILE EXX017.DA
A-WT. SOUND LEVELS

Location: 1
Date: March 6, 1977
Time: 0025

Sound Level (A Weighting) in dB re 20 µPa	%
21	* 0.2 %
22	**** 1.4 %
23	***** 4.4 %
24	***** 8.7 %
25	***** 18 %
26	***** 21.4 %
27	***** 17.8 %
28	***** 6.7 %
29	***** 5.9 %
30	***** 3.2 %
31	***** 3.8 %
32	***** 2.4 %
33	***** 2.6 %
34	**** 1 %
35	
36	* 0.1 %
37	* 0.2 %
38	
39	* 0.1 %
40	
41	* 0.1 %
42	
43	* 0.1 %
44	* 0.1 %
45	* 0.2 %
46	
47	* 0.3 %
48	* 0.1 %

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-(
95	23
90	24
85	25
80	25
75	25
70	25
65	25
60	25
55	25
50	25
45	27
40	27
35	27
30	27
25	28
20	29
15	29
10	31
5	32

EQUIVALENT SOUND LEVEL = 29.8 DB

TABLE A-14

AMBIENT SOUND LEVEL DATA

FILE EXX018.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	49.4	56	54	42	35	32
63	41.7	48	46	34	32	32
125	33	39	34	26	22	20
250	26.5	28	27	26	25	25
500	27.6	29	28	27	27	27
1000	29.9	27	25	17	16	16
2000	17.3	23	21	14	14	14
4000	14.1	14	14	14	14	14
8000	14	14	14	14	14	14
A-WT.	28.5	33	31	27	26	26

FILE EXX018.DA
A-WT. SOUND LEVELS

Sound Level (A Weighting) in dB	%
25	* 0.3 %
26	35.9 %
27	30.3 %
28	9.3 %
29	7.3 %
30	4.7 %
31	2.8 %
32	3.7 %
33	2.3 %
34	** 1.4 %
35	** 1.3 %
36	* 0.3 %
37	
38	* 0.1 %
39	
40	* 0.1 %

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	26
90	26
85	26
80	26
75	26
70	26
65	26
60	27
55	27
50	27
45	27
40	27
35	27
30	28
25	28
20	29
15	30
10	31
5	33

EQUIVALENT SOUND LEVEL = 28.5 DB

Background Ambient Sound Level Data

Location: 2
Date: March 6, 1977
Time: 0055

TABLE A-15

AMBIENT SOUND LEVEL DATA

FILE EXX014.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	27.2	32	29	25	23	23
63	35.6	38	38	36	26	24
125	25.2	29	28	24	20	20
250	21.8	25	24	20	17	16
500	25.8	30	28	24	21	20
1000	18.2	23	21	16	14	14
2000	14	14	14	14	14	14
4000	14	14	14	14	14	14
8000	14	14	14	14	14	14
A-WT.	23.9	28	26	22	20	19

FILE EXX014.DA
A-WT. SOUND LEVELS

Sound Level (A Weighting) in dB @ 20 µPa	%
17	* 0.1 %
18	**** 1 %
19	***** 9.4 %
20	***** 15.4 %
21	***** 10.7 %
22	***** 14.8 %
23	***** 14.2 %
24	***** 9.9 %
25	***** 9.2 %
26	***** 6.3 %
27	***** 3.4 %
28	***** 2.6 %
29	***** 1.7 %
30	**** 0.9 %
31	** 0.4 %
32	* 0.2 %
33	* 0.1 %
34	* 0.1 %
35	* 0.3 %

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL
95	19
90	20
85	20
80	20
75	20
70	21
65	21
60	22
55	22
50	22
45	23
40	23
35	24
30	24
25	25
20	25
15	26
10	26
5	28

EQUIVALENT SOUND LEVEL = 23.9 DB

Background Ambient Sound Level Data

Location: 3
Date: March 5, 1977
Time: 2250

TABLE A-16

AMBIENT SOUND LEVEL DATA

FILE EXX013.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	37.9	40	34	30	28	27
63	36.9	39	33	29	29	28
125	31.5	36	34	29	27	26
250	27.5	33	30	23	20	20
500	32	33	34	26	24	24
1000	30.4	32	29	16	14	14
2000	29.4	29	25	14	14	14
4000	15.9	16	14	14	14	14
8000	14	14	14	14	14	14
A-WT.	35.1	36	33	24	21	21

Background Ambient Sound Level Data

FILE EXX013.DA
A-WT. SOUND LEVELS

Location: 4
Date: March 5, 1977
Time: 2215

20	*****	4.9 %
21	*****	20.9 %
22	*****	14.8 %
23	*****	7.6 %
24	*****	4.6 %
25	*****	6.3 %
26	*****	5.7 %
27	*****	4.1 %
28	*****	3.8 %
29	*****	4.9 %
30	*****	4.3 %
31	*****	3.1 %
32	*****	4.1 %
33	*****	2.4 %
34	****	1.8 %
35	****	1.4 %
36	* 0.4 %	
37	** 0.6 %	
38	* 0.4 %	
39	** 0.7 %	
40	* 0.3 %	
41	* 0.4 %	
42	* 0.1 %	
43	* 0.1 %	
44	* 0.1 %	
45	* 0.3 %	
46	* 0.4 %	
47	* 0.2 %	
48	* 0.1 %	
49	* 0.4 %	
50	* 0.1 %	
51	* 0.1 %	
52	* 0.2 %	
53	* 0.1 %	
54	* 0.1 %	
55	* 0.1 %	

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	21
90	21
85	21
80	21
75	21
70	22
65	22
60	22
55	23
50	24
45	25
40	26
35	27
30	28
25	28
20	28
15	30
10	33
5	36

EQUIVALENT SOUND LEVEL = 35.1 DB

TABLE A-17

AMBIENT SOUND LEVEL DATA

FILE EXX016.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	44.8	50	45	34	29	28
63	39.1	41	37	32	32	32
125	36.1	32	27	23	21	21
250	34.4	28	25	20	17	17
500	45.4	27	24	19	17	17
1000	50	24	19	15	14	14
2000	40.9	22	19	15	14	14
4000	36.0	24	21	17	14	14
8000	36.7	21	19	16	14	14
A-WT.	50.5	31	29	24	22	21

FILE EXX016.DA
A-WT. SOUND LEVELS

20	*** 1.2 %
21	***** 8.2 %
22	***** 11.6 %
23	***** 13.2 %
24	***** 17.8 %
25	***** 15.2 %
26	***** 10.8 %
27	***** 9 %
28	***** 2 %
29	***** 2.2 %
30	***** 1.6 %
31	***** 2.2 %
32	** 0.8 %
33	* 0.4 %
34	
35	* 0.2 %
36	
37	* 0.2 %
38	* 0.1 %
39	* 0.1 %
40	
41	
42	* 0.1 %
43	* 0.1 %
44	
45	
46	
47	
48	
49	* 0.1 %
50	* 0.1 %
51	
52	
53	* 0.1 %
54	* 0.2 %
55	
56	
57	
58	
59	* 0.2 %
60	* 0.1 %
61	* 0.1 %
62	* 0.2 %
63	
64	
65	* 0.2 %
66	* 0.1 %
67	* 0.1 %
68	** 0.6 %
69	* 0.1 %
70	* 0.1 %

Background Ambient Sound Level Data

Location: 5
Date: March 5, 1977
Time: 2350

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	21
90	22
85	22
80	22
75	23
70	23
65	24
60	24
55	24
50	24
45	25
40	25
35	25
30	26
25	26
20	27
15	27
10	29
5	31

EQUIVALENT SOUND LEVEL = 50.5 DB

TABLE A-18
AMBIENT SOUND LEVEL DATA

FILE EXX015.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	28.2	32	30	27	25	24
63	35	38	38	35	23	21
125	20.3	22	21	19	18	18
250	17.8	22	19	16	15	15
500	18.6	20	19	18	17	17
1000	14	14	14	14	14	14
2000	14	14	14	14	14	14
4000	14	14	14	14	14	14
8000	14	14	14	14	14	14
A-WT.	19	21	20	19	18	17

FILE EXX015.DA
 A-WT. SOUND LEVELS

A-Weighted Sound Level dB re 20 µPa	17	***** 5.4 %	
	18	*****	40.4 %
	19	*****	35.8 %
	20	***** 12.4 %	
	21	**** 3.3 %	
	22	** 1 %	
	23	* 0.9 %	
	24	* 0.3 %	
	25		
	26	* 0.3 %	

Background Ambient Sound Level Data

Location: 6
 Date: March 5, 1977
 Time: 2320

EQUIVALENT SOUND LEVEL = 19 DB

FILE EXX015.DA
 CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	17
90	18
85	18
80	18
75	18
70	18
65	18
60	18
55	18
50	18
45	19
40	19
35	19
30	19
25	19
20	19
15	20
10	20
5	21

TABLE A-19

AMBIENT SOUND LEVEL DATA

FILE EXX021.DAK

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	52.1	57	55	49	46	45
63	55.8	63	60	47	45	44
125	59	62	61	58	54	53
250	46.7	54	49	41	37	35
500	40.6	45	43	39	35	34
1000	40.4	44	43	39	36	35
2000	34.1	38	36	32	29	28
4000	27.4	31	29	26	24	24
8000	26.5	30	29	25	24	24
A-WT.	47.2	51	49	46	43	42 ?

A-Weighted Sound Level - dB re: 20µPa

39	* 0.1 %	
40	*** 0.3 %	
41	**** 1.2 %	
42	***** 3.4 %	
43	***** 4.9 %	
44	***** 13.7 %	
45	***** 20.9 %	
46	***** 17.2 %	
47	***** 12.4 %	
48	***** 8.6 %	
49	***** 6.9 %	
50	***** 3.5 %	
51	**** 2 %	
52	**** 1.7 %	
53	*** 1.4 %	
54	** 0.6 %	
55	* 0.3 %	
56	* 0.4 %	
57	* 0.2 %	

Background Ambient Sound Level

Location: 1
Date: 7/16/77
Time: 1015

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	42
90	43
85	44
80	44
75	45
70	45
65	45
60	45
55	46
50	46
45	46
40	46
35	46
30	47
25	47
20	48
15	48
10	49
5	49
	51

EQUIVALENT SOUND LEVEL = 47.2 DB

TABLE A-20

AMBIENT SOUND LEVEL DATA

FILE EXX020.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	56	61	60	53	46	44
63	57	59	58	56	56	56
125	52	57	54	45	41	40
250	46	52	48	39	38	38
500	36.8	41	38	34	34	34
1000	36.2	41	39	34	34	34
2000	35	38	36	34	34	34
4000	34.1	34	34	34	34	34
8000	34	34	34	34	34	34
A-WT.	43	49	46	39	36	36 ?

Background Ambient Sound Level

Location: 2
Date: 7/16/77
Time: 0930

A-Weighted Sound Level dB re 20µPa	%
36	***** 12 %
37	***** 22.5 %
38	***** 13.8 %
39	***** 10.1 %
40	***** 6.7 %
41	***** 5.5 %
42	***** 4.9 %
43	***** 4.6 %
44	***** 4.3 %
45	***** 2.6 %
46	***** 3.3 %
47	**** 1.8 %
48	***** 2.1 %
49	**** 1.7 %
50	*** 1.4 %
51	** 0.8 %
52	** 0.8 %
53	* 0.3 %
54	* 0.3 %
55	* 0.3 %
56	* 0.2 %
57	
58	* 0.1 %

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	36
90	36
85	37
80	37
75	37
70	37
65	38
60	38
55	38
50	39
45	39
40	40
35	40
30	41
25	42
20	43
15	45
10	46
5	49

EQUIVALENT SOUND LEVEL = 43 DB

TABLE A-21

AMBIENT SOUND LEVEL DATA

FILE EXX024.DAC

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	48.3	47	45	42	40	39
63	44.9	45	44	43	42	41
125	39.7	42	39	35	34	33
250	36.2	37	35	32	29	28
500	39.3	39	38	33	30	30
1000	40.4	39	37	32	29	28
2000	37.6	38	36	30	27	26
4000	33	37	36	30	25	24
8000	32	36	35	30	27	27
A-WT.	45.3	46	44	39	36	35 ?

A-Weighted Sound Level - dB re: 20µPa	(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
34	***** 1.7 %	
35	***** 5.2 %	
36	***** 10.3 %	
37	***** 11.5 %	
38	***** 12.3 %	
39	***** 11.7 %	
40	***** 10.4 %	
41	***** 8.8 %	
42	***** 6.6 %	
43	***** 6.3 %	
44	***** 5.3 %	
45	***** 2.9 %	
46	***** 2.1 %	
47	***** 1.7 %	
48	*** 0.6 %	
49	* 0.2 %	
50	** 0.4 %	
51	* 0.2 %	
52	* 0.2 %	
53	* 0.1 %	
54	* 0.2 %	
55		
56	* 0.1 %	
57		
58		
59		
60	* 0.1 %	
61	* 0.2 %	
62		
63	* 0.1 %	
64		
65		
66		
67	* 0.1 %	
68	* 0.1 %	
69	* 0.1 %	

CUMULATIVE DISTRIBUTION

EQUIVALENT SOUND LEVEL = 45.3 DB

Background Ambient Sound Level

Location: 3
Date: 7/16/77
Time: 1525

TABLE A-22

AMBIENT SOUND LEVEL DATA

FILE EXX023.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	57.8	63	59	49	45	44
63	61.4	67	62	54	52	52
125	63.3	67	61	50	42	41
250	61.4	66	59	43	36	35
500	61.8	64	58	42	34	34
1000	60.8	63	58	40	34	34
2000	56.3	58	53	37	34	34
4000	50	49	43	34	34	34
8000	46	42	36	34	34	34
A-WT.	65.1	68	63	46	40	39 ?

36	* 0.2 %
37	***** 0.9 %
38	***** 2.3 %
39	***** 5.4 %
40	***** 5.5 %
41	***** 7.3 %
42	***** 7.9 %
43	***** 6.9 %
44	***** 5.4 %
45	***** 5.8 %
46	***** 4.6 %
47	***** 3.9 %
48	***** 4 %
49	***** 4.3 %
50	***** 3.2 %
51	***** 2.7 %
52	***** 2.3 %
53	***** 2.1 %
54	***** 2.6 %
55	***** 2.4 %
56	***** 2 %
57	***** 2.8 %
58	***** 1.4 %
59	***** 0.8 %
60	***** 1.5 %
61	*** 0.4 %
62	***** 1.2 %
63	***** 1.1 %
64	***** 1.1 %
65	***** 1.3 %
66	***** 0.8 %
67	***** 0.8 %
68	**** 0.7 %
69	** 0.3 %
70	**** 0.6 %
71	* 0.2 %
72	**** 0.5 %
73	**** 0.6 %
74	** 0.3 %
75	**** 0.5 %
76	* 0.1 %
77	* 0.2 %
78	** 0.3 %
79	** 0.3 %
80	** 0.3 %
81	* 0.1 %
82	* 0.2 %
83	
84	
85	* 0.2 %
86	* 0.2 %

Background Ambient Sound Level

Location: 4
Date: 7/16/77
Time: 1445

A-Weighted Sound Level - dB re 20 µPa

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	39
90	40
85	41
80	41
75	42
70	43
65	43
60	44
55	45
50	46
45	47
40	48
35	50
30	51
25	54
20	56
15	58
10	63
5	68

EQUIVALENT SOUND LEVEL = 65.1 DB

TABLE A-23

AMBIENT SOUND LEVEL DATA

FILE EXX025.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	54.1	60	56	47	41	40
63	51.3	53	49	44	42	42
125	51.1	50	46	40	36	35
250	47.9	48	43	35	31	30
500	50.8	47	42	33	29	28
1000	54	61	48	33	28	27
2000	50.7	56	43	33	26	25
4000	43.9	46	41	32	25	24
8000	34	40	37	30	24	24
A-WT.	58.2	65	53	41	35	34 ?

33	***** 1.9 %
34	***** 4.6 %
35	***** 5.3 %
36	***** 7.6 %
37	***** 7.4 %
38	***** 5.4 %
39	***** 5.5 %
40	***** 6.9 %
41	***** 8.9 %
42	***** 7.4 %
43	***** 6.3 %
44	***** 4.3 %
45	***** 4.3 %
46	***** 3.7 %
47	***** 3.3 %
48	***** 1.6 %
49	***** 1.8 %
50	**** 0.8 %
51	***** 1.6 %
52	**** 0.9 %
53	** 0.5 %
54	*** 0.6 %
55	*** 0.7 %
56	* 0.2 %
57	* 0.3 %
58	*** 0.6 %
59	** 0.3 %
60	** 0.5 %
61	* 0.3 %
62	** 0.5 %
63	** 0.5 %
64	* 0.1 %
65	*** 0.6 %
66	*** 0.6 %
67	* 0.2 %
68	***** 1.3 %
69	** 0.5 %
70	***** 0.8 %
71	** 0.4 %
72	* 0.2 %
73	** 0.3 %
74	* 0.3 %
75	* 0.3 %
76	* 0.2 %

Background Ambient Sound Level

Location: 5
Date: 7/16/77
Time: 1600

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	34
90	35
85	36
80	37
75	37
70	38
65	39
60	40
55	41
50	41
45	42
40	42
35	43
30	44
25	45
20	47
15	49
10	53
5	65

EQUIVALENT SOUND LEVEL = 58.2 DB

TABLE A-24

AMBIENT SOUND LEVEL DATA

FILE EXX022.DAC

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	47.8	54	51	40	36	36
53	47.9	52	48	42	41	41
125	38.4	39	36	32	30	30
250	33.6	33	32	28	25	25
500	34.8	33	32	29	25	24
1000	32.2	33	32	27	24	24
2000	29.1	32	30	26	24	24
4000	27.3	31	30	26	24	24
8000	27.1	30	29	27	24	24
A-WT.	38.4	40	39	35	31	29 ?

Background Ambient Sound Level

Location: 6
Date: 7/16/77
Time: 1140

A-Weighted Sound Level - dB re: 20 µPa	(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
27	* 0.1 %	29
28	*** 0.8 %	31
29	***** 4.8 %	32
30	***** 3.6 %	33
31	***** 5.8 %	34
32	***** 7.1 %	35
33	***** 9.3 %	36
34	***** 12.8 %	37
35	***** 16.3 %	38
36	***** 13.5 %	39
37	***** 6.3 %	40
38	***** 8.3 %	41
39	***** 5.6 %	42
40	***** 2.5 %	43
41	***** 1.6 %	44
42	** 0.4 %	45
43	* 0.2 %	46
44	** 0.4 %	47
45	* 0.2 %	48
46	* 0.3 %	49
47		50
48		51
49	* 0.1 %	52
50		53
51		54
52	* 0.1 %	55
53	* 0.1 %	56
54		57
55	* 0.1 %	58
56		59
57		60
58		61
59	* 0.2 %	
60		
61	* 0.1 %	

CUMULATIVE DISTRIBUTION

EQUIVALENT SOUND LEVEL = 38.4 DB

TABLE A-25

AMBIENT SOUND LEVEL DATA

FILE EXX029.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	48.1	52	50	47	45	44
63	47.4	53	49	42	40	40
125	50.5	55	49	41	39	39
250	46.6	47	41	38	28	27
500	43.4	41	35	26	21	20
1000	40.9	41	37	27	20	19
2000	37.8	38	32	21	15	15
4000	34.1	33	28	15	14	14
8000	31.5	27	21	14	14	14
A-WT.	44.6	47	43	33	29	28 ?

A-Weighted Sound Level - dB re : 20µPa	Percentage	Background Ambient Sound Level	Location:
27	0.7 %		1
28	7.5 %		
29	11.5 %		
30	8.1 %		
31	9.6 %		
32	9.5 %		
33	6.8 %		
34	7.3 %		
35	6.8 %		
36	5.4 %		
37	3.7 %		
38	4.3 %		
39	1.7 %		
40	2.3 %		
41	2 %		
42	2 %		
43	1 %		
44	1.5 %		
45	0.9 %		
46	1.9 %		
47	0.6 %		
48	0.5 %		
49	0.5 %		
50	0.5 %		
51	0.3 %		
52	0.6 %		
53	0.3 %		
54	0.3 %		
55	0.2 %		
56	0.1 %		
57	0.3 %		
58	0.3 %		
59	0.4 %		
60	0.3 %		
61	0.2 %		
62	0.1 %		
63			
64			
65	0.1 %		
66			
67	0.1 %		

Background Ambient Sound Level
 Location: 1
 Date: 7/16/77
 Time: 2015

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	28
90	29
85	29
80	29
75	30
70	31
65	31
60	32
55	32
50	33
45	34
40	34
35	35
30	35
25	37
20	38
15	40
10	43
5	47

EQUIVALENT SOUND LEVEL = 44.6 DB

TABLE A-26

AMBIENT SOUND LEVEL DATA

FILE EXX028.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	42.2	48	46	39	35	35
63	48.5	54	51	40	36	36
125	48.1	54	51	39	34	33
250	40.1	48	43	29	25	24
500	30.9	37	33	24	19	18
1000	29	35	33	25	19	18
2000	26.6	33	31	19	15	15
4000	19.8	25	23	16	14	14
8000	22.8	27	27	18	14	14
A-WT.	38	45	42	32	27	27 ?

Background Ambient Sound Level

Location: 2
Date: 7/16/77
Time: 1930

A-Weighted Sound Level - dB re: 20 µPa	%	(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
24	* 0.1 %		
25	**** 1 %		
26	***** 3.4 %		
27	***** 5.3 %		
28	***** 6.1 %		
29	***** 9.3 %		
30	***** 8.6 %		
31	***** 11.2 %		
32	***** 9.2 %		
33	***** 7.5 %		
34	***** 6.3 %		
35	***** 4.5 %		
36	***** 3.8 %		
37	***** 1.8 %		
38	***** 1 %		
39	***** 2.4 %		
40	***** 3 %		
41	***** 2.1 %		
42	***** 2.1 %		
43	***** 1.9 %		
44	***** 1.3 %		
45	***** 1.3 %		
46	***** 1 %		
47	***** 0.8 %		
48	***** 0.9 %		
49	** 0.5 %		
50	* 0.3 %		
51	** 0.4 %		
52	* 0.1 %		

CUMULATIVE DISTRIBUTION

EQUIVALENT SOUND LEVEL = 38 DB

TABLE A-27

AMBIENT SOUND LEVEL DATA

FILE EXX027.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	44.7	46	41	36	33	33
63	51.3	47	45	43	42	42
125	47.8	45	40	34	32	31
250	42.2	39	32	26	25	25
500	48.2	43	35	24	24	24
1000	44.9	44	33	24	24	24
2000	40.2	40	29	24	24	24
4000	31.7	30	29	28	25	24
8000	30.1	31	31	27	25	25
A-WT.	50.1	49	40	33	31	31 ?

29 * 0.7 %
 30 ***** 3.3 %
 31 ***** 10.4 %
 32 ***** 30.3 %
 33 ***** 25.6 %
 34 ***** 10.3 %

35 ***** 3.3 %
 36 **** 1.8 %
 37 **** 1.6 %
 38 *** 1.1 %

CUMULATIVE DISTRIBUTION

A-Weighted Sound Level - dB re: 20µPa

39 * 0.5 %
 40 *** 0.8 %
 41 * 0.6 %
 42 * 0.7 %
 43 * 0.4 %
 44 * 0.7 %
 45 * 0.3 %
 46 * 0.3 %
 47 * 0.6 %
 48 *** 0.8 %
 49 *** 0.9 %
 50 * 0.6 %
 51 * 0.7 %
 52 * 0.4 %
 53 * 0.3 %
 54 * 0.3 %
 55 * 0.2 %
 56 * 0.3 %
 57 * 0.1 %
 58 * 0.2 %
 59 * 0.3 %
 60 * 0.3 %
 61
 62
 63 * 0.1 %
 64
 65 * 0.1 %
 66 * 0.1 %
 67 * 0.2 %
 68 * 0.2 %
 69
 70 * 0.1 %
 71
 72
 73
 74
 75 * 0.2 %

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	31
90	31
85	32
80	32
75	32
70	32
65	32
60	32
55	33
50	33
45	33
40	33
35	33
30	33
25	34
20	34
15	36
10	40
5	49

Background Ambient Sound Level

Location: 3
 Date: 7/16/77
 Time: 1905

EQUIVALENT SOUND LEVEL = 50.1 DB

TABLE A-28

AMBIENT SOUND LEVEL DATA

FILE EXX026.DA<

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	50.4	55	53	43	36	35
63	53	57	53	45	42	42
125	52.6	58	55	43	33	32
250	48.8	50	45	32	26	25
500	50	52	47	29	24	24
1000	50.4	54	48	29	24	24
2000	44.1	48	43	27	24	24
4000	33.6	38	34	27	24	24
8000	29.9	35	33	28	26	26
A-WT.	54.1	58	52	38	31	31.7

29	***** 0.5 %
30	***** 3.5 %
31	***** 6.2 %
32	***** 7.1 %
33	***** 6.6 %
34	***** 5.8 %
35	***** 5.8 %
36	***** 5.5 %
37	***** 7 %
38	***** 6.1 %
39	***** 4.4 %
40	***** 5.2 %
41	***** 4.2 %
42	***** 4.1 %
43	***** 2.8 %
44	***** 1.9 %
45	***** 2.3 %
46	***** 1.6 %
47	***** 1.3 %
48	***** 1.8 %
49	***** 0.8 %
50	***** 1.4 %
51	***** 1.3 %
52	***** 1.3 %
53	***** 0.7 %
54	***** 1.3 %
55	***** 0.8 %
56	***** 0.8 %
57	***** 0.6 %
58	***** 0.7 %
59	***** 0.7 %
60	***** 0.8 %
61	** 0.3 %
62	** 0.3 %
63	** 0.3 %
64	**** 0.4 %
65	* 0.1 %
66	* 0.2 %
67	* 0.2 %
68	** 0.3 %
69	** 0.3 %
70	** 0.3 %
71	* 0.2 %
72	* 0.1 %
73	* 0.2 %
74	* 0.1 %

Background Ambient Sound Level

Location: 4
Date: 7/16/77
Time: 1810

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	31
90	31
85	32
80	32
75	34
70	35
65	35
60	36
55	37
50	38
45	38
40	40
35	40
30	42
25	42
20	45
15	48
10	52
5	58

EQUIVALENT SOUND LEVEL = 54.1 DB

TABLE A-29

AMBIENT SOUND LEVEL DATA

FILE EXX031.DA

OCTAVE BAND HZ.	LER DB	L 5	L 10	L 50	L 90	L 95
31.5	39.5	38	38	35	32	32
63	39.4	38	36	34	33	33
125	39.8	38	36	31	30	30
250	39.3	29	26	21	19	17
500	42.1	24	22	16	14	14
1000	43.1	20	19	16	14	14
2000	40.1	18	17	14	14	14
4000	38	14	14	14	14	14
8000	37.5	14	14	14	14	14
A-WT.	42.7	28	26	23	21	21 ?

20 ***** 4.5 %
 21 ***** 14.2 %
 22 ***** 19.9 %
 23 ***** 23.4 %
 24 ***** 15.4 %
 25 ***** 8.7 %
 26 ***** 4.3 %
 27 ***** 2.4 %
 28 ***** 1.8 %
 29 *** 1.3 %
 30 ** 0.8 %
 31 ** 0.8 %
 32 * 0.3 %
 33 * 0.2 %
 34 * 0.1 %

Background Ambient Sound Level
 Location: 5
 Date: 7/16/77
 Time: 2130

CUMULATIVE DISTRIBUTION

A-Weighted Sound Level - dB re : 20 µPa	(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
35	95	21
36	90	21
37	85	21
38	80	22
39	75	22
40	70	22
41	65	22
42	60	23
43	55	23
44	50	23
45	45	23
46	40	23
47	35	24
48	30	24
49	25	24
50	20	25
51	15	25
52	10	26
53	5	28
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		

EQUIVALENT SOUND LEVEL = 42.7 DB

TABLE A-30

AMBIENT SOUND LEVEL DATA

FILE EXX030.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	40.3	42	39	34	30	30
63	40.7	42	41	36	32	31
125	38.3	43	41	29	25	24
250	34.3	35	31	19	16	16
500	35.3	34	31	19	15	15
1000	31.4	32	29	17	14	14
2000	24.1	24	21	14	14	14
4000	18.2	16	15	14	14	14
8000	16.8	22	16	14	14	14
A-WT.	36.8	37	34	24	21	20 ?

20	***** 7.6 %
21	***** 17.2 %
22	***** 13.9 %
23	***** 8.1 %
24	***** 5.2 %
25	***** 4.3 %
26	***** 5.7 %
27	***** 4.6 %
28	***** 2.6 %
29	***** 3 %
30	***** 4.6 %
31	***** 4.3 %
32	***** 4.5 %
33	***** 3.8 %
34	***** 3.1 %
35	*** 1.3 %
36	*** 1.2 %
37	** 0.6 %
38	**** 1.4 %
39	* 0.4 %
40	** 0.8 %
41	* 0.4 %
42	* 0.2 %
43	* 0.2 %
44	* 0.3 %
45	* 0.3 %
46	* 0.2 %
47	* 0.1 %
48	* 0.2 %
49	* 0.1 %
50	
51	
52	* 0.1 %
53	* 0.1 %
54	
55	
56	
57	
58	
59	* 0.1 %
60	* 0.1 %
61	
62	
63	* 0.1 %

Background Ambient Sound Level

Location: 6
Date: 7/16/77
Time: 2050

A-Weighted Sound Level - dB re 20 uPa

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	20
90	21
85	21
80	21
75	22
70	22
65	22
60	23
55	23
50	24
45	25
40	26
35	27
30	29
25	30
20	31
15	32
10	34
5	37

EQUIVALENT SOUND LEVEL = 36.8 DB

TABLE A-31

AMBIENT SOUND LEVEL DATA

FILE EXX035.DA

OCTAVE BAND HZ.	LEQ DB	L' 5	L 10	L 50	L 90	L 95
31.5	46.8	50	47	44	43	42
63	48.2	51	44	39	38	37
125	50.1	52	46	38	36	35
250	41.9	41	36	25	23	23
500	35.6	36	33	20	16	15
1000	34.9	37	34	20	14	14
2000	34	38	30	15	14	14
4000	30	29	20	14	14	14
8000	24	18	15	14	14	14
A-WT.	42.7	45	40	27	24	24 ?

23	*****	3.3 %				
24	*****					17 %
25	*****				11.3 %	
26	*****				12.2 %	
27	*****			8.2 %		
28	*****			8.1 %		
29	*****			5.9 %		
30	*****	3.5 %				
31	*****	2.8 %				
32	*****	2.7 %				
33	*****	2.1 %				
34	*****	3.7 %				
35	*****	2.9 %				
36	****	1.3 %				
37	****	1.3 %				
38	****	1.8 %				
39	***	1.2 %				
40	***	1.2 %				
41	***	1.3 %				
42	***	1.2 %				
43	***	1 %				
44	***	1.2 %				
45	**	0.5 %				
46	**	0.8 %				
47	*	0.2 %				
48	*	0.4 %				
49	**	0.5 %				
50	*	0.4 %				
51	*	0.3 %				
52	*	0.2 %				
53	*	0.3 %				
54	*	0.4 %				
55	*	0.3 %				
56	*	0.1 %				
57	*	0.1 %				
58	*	0.1 %				
59	*	0.2 %				
60	*	0.2 %				
61	*	0.1 %				
62						
63	*	0.1 %				
64						
65	*	0.2 %				

Background Ambient Sound Level

Location: 1
Date: 7/17/77
Time: 0050

A-Weighted Sound Level - dB re: 20uPa

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	24
90	24
85	24
80	24
75	25
70	25
65	25
60	25
55	26
50	27
45	27
40	28
35	28
30	29
25	31
20	33
15	34
10	37
5	40
	45

EQUIVALENT SOUND LEVEL = 42.7 DB

TABLE A-32

AMBIENT SOUND LEVEL DATA

FILE EXX033.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	40.8	46	44	36	31	30
63	42.5	49	46	36	33	32
125	46	53	50	36	29	28
250	39.8	47	41	27	21	20
500	31.2	36	33	25	19	19
1000	33.4	40	38	27	16	15
2000	31.7	39	36	21	14	14
4000	25	32	28	15	14	14
8000	22.5	27	27	19	14	14
A-WT.	39.7	47	45	32	26	25 ?

Background Ambient Sound Level

Location: 2
Date: 7/16/77
Time: 2345

A-Weighted Sound Level - dB re 20µPa	%
22	* 0.1 %
23	***** 1.6 %
24	***** 2.7 %
25	***** 3.8 %
26	***** 3.7 %
27	***** 3.9 %
28	***** 6.1 %
29	***** 7.7 %
30	***** 8.3 %
31	***** 7.3 %
32	***** 7.3 %
33	***** 4.8 %
34	***** 5.8 %
35	***** 5 %
36	***** 3.3 %
37	***** 2 %
38	***** 2 %
39	***** 1.8 %
40	***** 2 %
41	***** 2.3 %
42	***** 2.9 %
43	***** 2 %
44	***** 2.9 %
45	***** 2.5 %
46	***** 2.6 %
47	***** 2.3 %
48	***** 1.5 %
49	***** 1.1 %
50	** 0.5 %
51	* 0.1 %
52	* 0.2 %
53	* 0.2 %

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	25
90	26
85	27
80	28
75	29
70	30
65	30
60	31
55	31
50	32
45	32
40	34
35	35
30	36
25	38
20	41
15	43
10	45
5	47

EQUIVALENT SOUND LEVEL = 39.7 DB
?

TABLE A-33

AMBIENT SOUND LEVEL DATA

FILE EXX036.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	37.9	43	41	36	33	32
63	33.6	37	35	32	31	31
125	31.1	37	33	25	21	20
250	23.3	28	24	18	15	15
500	24	27	22	15	14	14
1000	24.4	27	19	14	14	14
2000	20.7	22	16	14	14	14
4000	41.6	45	44	41	36	24
8000	21.2	23	23	20	18	16
A-WT.	44.1	47	47	43	39	28 ?

A-Weighted Sound Level - dB re: 20µPa	26 * 0.3 %	
	27 ***** 2.3 %	
	28 ***** 3.1 %	
	29 ** 0.6 %	
	30 * 0.3 %	
	31 * 0.3 %	
	32 * 0.2 %	
	33 * 0.1 %	
	34 * 0.1 %	
	35 * 0.3 %	
	36 ** 0.6 %	
	37 * 0.5 %	
	38 **** 1.1 %	
	39 ** 0.8 %	
	40 ***** 2.5 %	
	41 ***** 4.6 %	
	42 ***** 15.9 %	
	43 ***** 22.7 %	
	44 ***** 11.2 %	
	45 ***** 6.5 %	
	46 ***** 11.2 %	
	47 ***** 12.3 %	
	48 ***** 2.4 %	
	49 * 0.1 %	
	50 * 0.1 %	
	51 * 0.1 %	
	52	
	53 * 0.1 %	

Background Ambient Sound Level

Location: 3
Date: 7/17/77
Time: 0130

CUMULATIVE DISTRIBUTION

	(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
	95	28
	90	30
	85	41
	80	42
	75	42
	70	42
	65	43
	60	43
	55	43
	50	43
	45	43
	40	44
	35	44
	30	45
	25	45
	20	45
	15	47
	10	47
	5	47

EQUIVALENT SOUND LEVEL = 44.1 DB

TABLE A-34

AMBIENT SOUND LEVEL DATA

FILE EXX037.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	46.7	51	48	41	37	36
63	52.3	56	52	42	41	41
125	55	56	53	36	28	28
250	45.9	47	42	27	25	25
500	41.7	43	38	25	24	24
1000	40.9	43	40	24	24	24
2000	36.7	39	35	24	24	24
4000	32.6	34	28	24	24	24
8000	28.5	27	24	24	24	24
A-WT.	47	49	44	30	23	23 ?

22	**	0.5 %				
23	*****				14.3 %	
24	*****				12.8 %	
25	*****		7.3 %			
26	*****	3.3 %				
27	*****	2.8 %				
28	*****	3.4 %				
29	*****	2.5 %				
30	*****	3.8 %				
31	*****	2.6 %				
32	*****	4.4 %				
33	*****	4.4 %				
34	*****	3 %				
35	*****	3.3 %				
36	*****	3.8 %				
37	*****	2.7 %				
38	*****	2.6 %				
39	*****	3 %				
40	*****	1.5 %				
41	*****	1.7 %				
42	*****	2.9 %				
43	*****	2.3 %				
44	*****	1.1 %				
45	*****	1.8 %				
46	***	0.9 %				
47	***	0.9 %				
48	***	0.9 %				
49	**	0.7 %				
50	**	0.7 %				
51	**	0.5 %				
52	***	0.8 %				
53	*	0.1 %				
54	*	0.3 %				
55	**	0.4 %				
56	*	0.3 %				
57	**	0.4 %				
58	*	0.2 %				
59	*	0.2 %				
60						
61	*	0.1 %				
62	*	0.1 %				
63						
64	*	0.1 %				
65	*	0.3 %				
66						
67	*	0.1 %				
68						
69	*	0.1 %				
70	*	0.1 %				

Background Ambient Sound Level

Location: 4
Date: 7/17/77
Time: 0205

A-Weighted Sound Level - dB re: 20µPa

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	23
90	23
85	24
80	24
75	24
70	25
65	26
60	27
55	29
50	30
45	32
40	33
35	34
30	36
25	38
20	39
15	42
10	44
5	49

EQUIVALENT SOUND LEVEL = 47 DB

TABLE A-35

AMBIENT SOUND LEVEL DATA

FILE EXX034.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	32.4	35	34	32	29	29
63	33.4	35	34	33	32	32
125	29.3	32	31	29	28	28
250	18.2	21	20	17	16	16
500	16.3	18	17	16	15	15
1000	18.3	20	20	18	17	17
2000	19.8	22	21	20	18	18
4000	18.4	20	20	18	17	17
8000	15.7	17	17	16	15	15
A-WT.	26.5	28	28	26	25	25 ?

A-Weighted Sound Level - dB re 20 µPa

14	* 0.2 %
15	* 0.2 %
16	
17	* 0.2 %
18	
19	
20	
21	* 0.1 %
22	
23	
24	* 0.7 %
25	***** 16.2 %
26	***** 41.2 %
27	***** 25.9 %
28	***** 13 %
29	*** 2 %
30	* 0.3 %
31	* 0.1 %
32	* 0.1 %

Background Ambient Sound Level

Location: 5
Date: 7/17/77
Time: 0020

EQUIVALENT SOUND LEVEL = 26.5 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	25
90	25
85	25
80	26
75	26
70	26
65	26
60	26
55	26
50	26
45	26
40	27
35	27
30	27
25	27
20	27
15	28
10	28
5	28

TABLE A-36

AMBIENT SOUND LEVEL DATA

FILE EXX032.DA

OCTAVE BAND HZ.	LEQ DB	L 5	L 10	L 50	L 90	L 95
31.5	42.9	48	46	39	35	34
63	39.5	44	41	35	33	32
125	36.9	39	36	26	23	22
250	31.9	35	31	16	15	15
500	32	36	31	14	14	14
1000	36.3	34	30	14	14	14
2000	23.6	29	23	14	14	14
4000	20.7	23	18	14	14	14
8000	19.5	25	22	15	14	14
A-WT.	38.6	38	35	21	19	19 ?

```

18 **** 1.8 %
19 ***** 15 %
20 ***** 22.3 %
21 ***** 11.5 %
22 ***** 9.1 %
23 ***** 6.4 %
24 ***** 4 %
25 ***** 3.3 %
26 **** 1.7 %
27 ***** 2.8 %
28 ***** 3.7 %
29 ***** 2.3 %
30 **** 1.2 %
31 ***** 2.4 %
32 **** 1.3 %
33 * 0.4 %
34 ** 0.8 %
35 * 0.5 %
36 **** 1.3 %
37 ***** 2.2 %
38 **** 1.3 %
39 ** 0.6 %
40 * 0.5 %
41 * 0.4 %
42 * 0.3 %
43 ** 0.8 %
44 * 0.4 %
45 * 0.3 %
46 * 0.1 %
47 * 0.5 %
48 * 0.2 %
49 * 0.3 %
50 * 0.1 %
51 * 0.1 %
52
53
54
55 * 0.1 %
56
57 * 0.1 %

```

Background Ambient Sound Level

Location: 6
Date: 7/16/77
Time: 2215

CUMULATIVE DISTRIBUTION

A-Weighted Sound Level - dB re: 20µPa

(%) EXCEEDED	SOUND PRESSURE LEVEL-DE
95	19
90	19
85	19
80	20
75	20
70	20
65	20
60	21
55	21
50	21
45	22
40	23
35	23
30	24
25	26
20	28
15	30
10	35
5	38

EQUIVALENT SOUND LEVEL = 38.6 DB

TABLE A-37

METEOROLOGICAL CONDITIONS

LOCATION	DATE	SAMPLING INTERVAL	TEMPERATURE (°C)	HUMIDITY (%)	WIND SPEED (m/sec)
<u>SUMMER</u>					
1	7/16/77	1015	26	64	1.8
2	7/16/77	0930	26	64	2.7
3	7/16/77	1525	26	67	1.8
4	7/16/77	1445	26	67	0
5	7/16/77	1600	26	64	1.8
6	7/16/77	1140	27	71	2.7
1	7/16/77	2015	21.5	79	0
2	7/16/77	1930	21.5	79	0
3	7/16/77	1905	25	63	0
4	7/16/77	1810	25.5	60	0-0.9
5	7/16/77	2130	21.5	79	0
6	7/16/77	2050	21.5	79	0
1	7/17/77	0050	18	82	0-0.9
2	7/16/77	2345	21	83	0
3	7/17/77	0130	17.5	81	0-0.9
4	7/17/77	0205	16	81	0
5	7/17/77	0020	21	83	0-0.9
6	7/16/77	2215	21	83	0
<u>WINTER</u>					
1	3/5/77	1155	-3.3	Low	4.5 ^a
2	3/5/77	1230	-2.2	Low	3.6
3	3/5/77	1312	-1.1	Low	1.8
4	3/5/77	1455	0	Low	0-0.9
5	3/5/77	1555	0	Low	0.9-1.8
6	3/5/77	1617	0	Low	0-0.9
1	3/5/77	2030	0	Low	1.8
2	3/5/77	2000	0	Low	0.9-1.8 ^b
3	3/5/77	1930	0	Low	0-0.9
4	3/5/77	1900	0	Low	0-0.9
5	3/5/77	2130	0	Low	0.9-1.8
6	3/5/77	2100	0	Low	0
1	3/6/77	0025	-3.3	Low	0-0.9
2	3/6/77	0055	-3.8	Low	0-0.9
3	3/5/77	2250	-2.2	Low	0-0.9
4	3/5/77	2215	-2.2	Low	0-0.9
5	3/5/77	2350	-3.3	Low	0.9
6	3/5/77	2320	-3.3	Low	0-0.9

^aGusts to 5.4 m/sec.^bGusts to 2.7 m/sec.

APPENDIX 2.8B

AMBIENT SOUND LEVEL DATA
(MARCH AND JULY 1983)

TABLE B-1

AMBIENT SOUND LEVEL DATA

FILE 01002.DA

OCTAVE BAND HZ	LEG DB	L 1	L 20	L 30	L 50	L 70
125	41.1	41.1	41.1	41.1	41.1	41.1
160	41.1	41.1	41.1	41.1	41.1	41.1
200	41.1	41.1	41.1	41.1	41.1	41.1
250	41.1	41.1	41.1	41.1	41.1	41.1
315	41.1	41.1	41.1	41.1	41.1	41.1
400	41.1	41.1	41.1	41.1	41.1	41.1
500	41.1	41.1	41.1	41.1	41.1	41.1
630	41.1	41.1	41.1	41.1	41.1	41.1
800	41.1	41.1	41.1	41.1	41.1	41.1
1000	41.1	41.1	41.1	41.1	41.1	41.1
1250	41.1	41.1	41.1	41.1	41.1	41.1
1600	41.1	41.1	41.1	41.1	41.1	41.1
2000	41.1	41.1	41.1	41.1	41.1	41.1
2500	41.1	41.1	41.1	41.1	41.1	41.1
3150	41.1	41.1	41.1	41.1	41.1	41.1
4000	41.1	41.1	41.1	41.1	41.1	41.1
5000	41.1	41.1	41.1	41.1	41.1	41.1
6300	41.1	41.1	41.1	41.1	41.1	41.1
8000	41.1	41.1	41.1	41.1	41.1	41.1
10000	41.1	41.1	41.1	41.1	41.1	41.1

A-Weighted Sound Level - dB re 20µPa

0-10	11.4 %
10-20	21.1 %
20-30	4.1 %
30-40	
40-50	
50-60	
60-70	
70-80	
80-90	
90-100	

61.8 %

EQUIVALENT SOUND LEVEL = 44.3 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	41.1
90	41.1
80	41.1
70	41.1
60	41.1
50	41.1
40	41.1
30	41.1
20	41.1
10	41.1
0	41.1

Background Ambient Sound Level Data

Location: 7
Date: March 29, 1983
Time: 2100

TABLE B-2

AMBIENT SOUND LEVEL DATA

FILE 00001.DA

OCTAVE BAND	1/1	1/2	1/3	1/4	1/5	1/6	1/8
125	42	42	42	42	42	42	42
160	42	42	42	42	42	42	42
200	42	42	42	42	42	42	42
250	42	42	42	42	42	42	42
315	42	42	42	42	42	42	42
396	42	42	42	42	42	42	42
500	42	42	42	42	42	42	42
630	42	42	42	42	42	42	42
800	42	42	42	42	42	42	42
1000	42	42	42	42	42	42	42
1250	42	42	42	42	42	42	42
1600	42	42	42	42	42	42	42
2000	42	42	42	42	42	42	42
2500	42	42	42	42	42	42	42
3150	42	42	42	42	42	42	42
3960	42	42	42	42	42	42	42
5000	42	42	42	42	42	42	42
6300	42	42	42	42	42	42	42
8000	42	42	42	42	42	42	42
10000	42	42	42	42	42	42	42

A-Weighted Sound Level

- dB re 20 μPa

125	*	5	0	2
160	*	5	0	2
200	*	5	0	2
250	*	5	0	2
315	*	5	0	2
396	*	5	0	2
500	*	5	0	2
630	*	5	0	2
800	*	5	0	2
1000	*	5	0	2
1250	*	5	0	2
1600	*	5	0	2
2000	*	5	0	2
2500	*	5	0	2
3150	*	5	0	2
3960	*	5	0	2
5000	*	5	0	2
6300	*	5	0	2
8000	*	5	0	2
10000	*	5	0	2

19.7 X

78.5 X

EQUIVALENT SOUND LEVEL = 30.3 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	42
90	42
80	42
70	42
60	42
50	42
40	42
30	42
20	42
10	42
5	42
2	42
1	42

Background Ambient Sound Level Data

Location: 9
Date: March 29, 1983
Time: 2245

TABLE B-3

AMBIENT SOUND LEVEL DATA

FILE BCR05.DR

OCTAVE BAND Hz	LEQ dB	L ₁₀ dB	L ₅₀ dB	L ₉₀ dB	L ₉₅ dB	L ₉₉ dB
12.5	29.0	34.0	31.0	28.0	27.0	26.0
15.6	29.0	34.0	31.0	28.0	27.0	26.0
20.0	29.0	34.0	31.0	28.0	27.0	26.0
25.1	29.0	34.0	31.0	28.0	27.0	26.0
31.5	29.0	34.0	31.0	28.0	27.0	26.0
39.8	29.0	34.0	31.0	28.0	27.0	26.0
50.1	29.0	34.0	31.0	28.0	27.0	26.0
63.2	29.0	34.0	31.0	28.0	27.0	26.0
79.6	29.0	34.0	31.0	28.0	27.0	26.0
100.0	29.0	34.0	31.0	28.0	27.0	26.0
126.1	29.0	34.0	31.0	28.0	27.0	26.0
159.1	29.0	34.0	31.0	28.0	27.0	26.0
200.0	29.0	34.0	31.0	28.0	27.0	26.0
251.2	29.0	34.0	31.0	28.0	27.0	26.0
315.0	29.0	34.0	31.0	28.0	27.0	26.0
398.0	29.0	34.0	31.0	28.0	27.0	26.0
501.0	29.0	34.0	31.0	28.0	27.0	26.0
632.0	29.0	34.0	31.0	28.0	27.0	26.0
796.0	29.0	34.0	31.0	28.0	27.0	26.0
1000.0	29.0	34.0	31.0	28.0	27.0	26.0
1260.0	29.0	34.0	31.0	28.0	27.0	26.0
1590.0	29.0	34.0	31.0	28.0	27.0	26.0
2000.0	29.0	34.0	31.0	28.0	27.0	26.0
2510.0	29.0	34.0	31.0	28.0	27.0	26.0
3150.0	29.0	34.0	31.0	28.0	27.0	26.0
3980.0	29.0	34.0	31.0	28.0	27.0	26.0
5010.0	29.0	34.0	31.0	28.0	27.0	26.0
6320.0	29.0	34.0	31.0	28.0	27.0	26.0
7960.0	29.0	34.0	31.0	28.0	27.0	26.0
10000.0	29.0	34.0	31.0	28.0	27.0	26.0

A-Weighted Sound Level
dB re 20µPa

100	0.0 %
110	0.0 %
120	0.0 %
130	0.0 %
140	0.0 %
150	0.0 %
160	0.0 %
170	0.0 %
180	0.0 %
190	0.0 %
200	0.0 %
210	0.0 %
220	0.0 %
230	0.0 %
240	0.0 %
250	0.0 %
260	0.0 %
270	0.0 %
280	0.0 %
290	0.0 %
300	0.0 %
310	0.0 %
320	0.0 %
330	0.0 %
340	0.0 %
350	0.0 %
360	0.0 %
370	0.0 %
380	0.0 %
390	0.0 %
400	0.0 %
410	0.0 %
420	0.0 %
430	0.0 %
440	0.0 %
450	0.0 %
460	0.0 %
470	0.0 %
480	0.0 %
490	0.0 %
500	0.0 %
510	0.0 %
520	0.0 %
530	0.0 %
540	0.0 %
550	0.0 %
560	0.0 %
570	0.0 %
580	0.0 %
590	0.0 %
600	0.0 %
610	0.0 %
620	0.0 %
630	0.0 %
640	0.0 %
650	0.0 %
660	0.0 %
670	0.0 %
680	0.0 %
690	0.0 %
700	0.0 %
710	0.0 %
720	0.0 %
730	0.0 %
740	0.0 %
750	0.0 %
760	0.0 %
770	0.0 %
780	0.0 %
790	0.0 %
800	0.0 %
810	0.0 %
820	0.0 %
830	0.0 %
840	0.0 %
850	0.0 %
860	0.0 %
870	0.0 %
880	0.0 %
890	0.0 %
900	0.0 %
910	0.0 %
920	0.0 %
930	0.0 %
940	0.0 %
950	0.0 %
960	0.0 %
970	0.0 %
980	0.0 %
990	0.0 %
1000	0.0 %

EQUIVALENT SOUND LEVEL = 29.6 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	26.0
95	26.0
90	26.0
85	26.0
80	26.0
75	26.0
70	26.0
65	26.0
60	26.0
55	26.0
50	26.0
45	26.0
40	26.0
35	26.0
30	26.0
25	26.0
20	26.0
15	26.0
10	26.0
5	26.0
0	26.0

Background Ambient Sound Level Data
 Location: 9
 Date: March 29, 1983
 Time: 2310

TABLE B-4

AMBIENT SOUND LEVEL DATA

FILE B09005.DA

OCTAVE BAND	LEQ	L	L	L	L	L
Hz	dB	4	10	20	50	100
31.5	41.0	41.0	41.0	41.0	41.0	41.0
37.5	41.0	41.0	41.0	41.0	41.0	41.0
45.0	41.0	41.0	41.0	41.0	41.0	41.0
53.1	41.0	41.0	41.0	41.0	41.0	41.0
63.5	41.0	41.0	41.0	41.0	41.0	41.0
75.0	41.0	41.0	41.0	41.0	41.0	41.0
87.5	41.0	41.0	41.0	41.0	41.0	41.0
100.0	41.0	41.0	41.0	41.0	41.0	41.0
112.2	41.0	41.0	41.0	41.0	41.0	41.0
125.9	41.0	41.0	41.0	41.0	41.0	41.0
140.6	41.0	41.0	41.0	41.0	41.0	41.0
157.5	41.0	41.0	41.0	41.0	41.0	41.0
176.8	41.0	41.0	41.0	41.0	41.0	41.0
198.7	41.0	41.0	41.0	41.0	41.0	41.0
223.4	41.0	41.0	41.0	41.0	41.0	41.0
251.0	41.0	41.0	41.0	41.0	41.0	41.0
281.8	41.0	41.0	41.0	41.0	41.0	41.0
316.2	41.0	41.0	41.0	41.0	41.0	41.0
354.8	41.0	41.0	41.0	41.0	41.0	41.0
397.8	41.0	41.0	41.0	41.0	41.0	41.0
445.7	41.0	41.0	41.0	41.0	41.0	41.0
498.8	41.0	41.0	41.0	41.0	41.0	41.0
557.4	41.0	41.0	41.0	41.0	41.0	41.0
622.0	41.0	41.0	41.0	41.0	41.0	41.0
693.9	41.0	41.0	41.0	41.0	41.0	41.0
773.8	41.0	41.0	41.0	41.0	41.0	41.0
862.3	41.0	41.0	41.0	41.0	41.0	41.0
960.1	41.0	41.0	41.0	41.0	41.0	41.0
1068.0	41.0	41.0	41.0	41.0	41.0	41.0
1186.5	41.0	41.0	41.0	41.0	41.0	41.0
1316.1	41.0	41.0	41.0	41.0	41.0	41.0
1458.3	41.0	41.0	41.0	41.0	41.0	41.0
1613.8	41.0	41.0	41.0	41.0	41.0	41.0
1783.4	41.0	41.0	41.0	41.0	41.0	41.0
1968.0	41.0	41.0	41.0	41.0	41.0	41.0
2168.8	41.0	41.0	41.0	41.0	41.0	41.0
2386.5	41.0	41.0	41.0	41.0	41.0	41.0
2623.0	41.0	41.0	41.0	41.0	41.0	41.0
2880.0	41.0	41.0	41.0	41.0	41.0	41.0
3159.0	41.0	41.0	41.0	41.0	41.0	41.0
3463.0	41.0	41.0	41.0	41.0	41.0	41.0
3795.0	41.0	41.0	41.0	41.0	41.0	41.0
4159.0	41.0	41.0	41.0	41.0	41.0	41.0
4558.0	41.0	41.0	41.0	41.0	41.0	41.0
4995.0	41.0	41.0	41.0	41.0	41.0	41.0
5475.0	41.0	41.0	41.0	41.0	41.0	41.0
5999.0	41.0	41.0	41.0	41.0	41.0	41.0
6571.0	41.0	41.0	41.0	41.0	41.0	41.0
7204.0	41.0	41.0	41.0	41.0	41.0	41.0
7903.0	41.0	41.0	41.0	41.0	41.0	41.0
8683.0	41.0	41.0	41.0	41.0	41.0	41.0
9550.0	41.0	41.0	41.0	41.0	41.0	41.0
10510.0	41.0	41.0	41.0	41.0	41.0	41.0
11580.0	41.0	41.0	41.0	41.0	41.0	41.0
12770.0	41.0	41.0	41.0	41.0	41.0	41.0
14090.0	41.0	41.0	41.0	41.0	41.0	41.0
15550.0	41.0	41.0	41.0	41.0	41.0	41.0
17170.0	41.0	41.0	41.0	41.0	41.0	41.0
18960.0	41.0	41.0	41.0	41.0	41.0	41.0
20940.0	41.0	41.0	41.0	41.0	41.0	41.0
23130.0	41.0	41.0	41.0	41.0	41.0	41.0
25560.0	41.0	41.0	41.0	41.0	41.0	41.0
28260.0	41.0	41.0	41.0	41.0	41.0	41.0
31250.0	41.0	41.0	41.0	41.0	41.0	41.0
34560.0	41.0	41.0	41.0	41.0	41.0	41.0
38220.0	41.0	41.0	41.0	41.0	41.0	41.0
42270.0	41.0	41.0	41.0	41.0	41.0	41.0
46750.0	41.0	41.0	41.0	41.0	41.0	41.0
51700.0	41.0	41.0	41.0	41.0	41.0	41.0
57170.0	41.0	41.0	41.0	41.0	41.0	41.0
63220.0	41.0	41.0	41.0	41.0	41.0	41.0
69920.0	41.0	41.0	41.0	41.0	41.0	41.0
77340.0	41.0	41.0	41.0	41.0	41.0	41.0
85550.0	41.0	41.0	41.0	41.0	41.0	41.0
94630.0	41.0	41.0	41.0	41.0	41.0	41.0
104670.0	41.0	41.0	41.0	41.0	41.0	41.0
115800.0	41.0	41.0	41.0	41.0	41.0	41.0
128130.0	41.0	41.0	41.0	41.0	41.0	41.0
141780.0	41.0	41.0	41.0	41.0	41.0	41.0
156880.0	41.0	41.0	41.0	41.0	41.0	41.0
173580.0	41.0	41.0	41.0	41.0	41.0	41.0
192030.0	41.0	41.0	41.0	41.0	41.0	41.0
212400.0	41.0	41.0	41.0	41.0	41.0	41.0
234870.0	41.0	41.0	41.0	41.0	41.0	41.0
259640.0	41.0	41.0	41.0	41.0	41.0	41.0
286930.0	41.0	41.0	41.0	41.0	41.0	41.0
316960.0	41.0	41.0	41.0	41.0	41.0	41.0
350000.0	41.0	41.0	41.0	41.0	41.0	41.0

A-Weighted Sound Level -
dB re 20 µPa

.....	29.2 %
.....	13.3 %
.....	17.9 %
.....	13.5 %
.....	4.9 %
* * * * *	4.2 %
* * * * *	4.2 %
* * * * *	4.2 %
* * * * *	4.2 %

EQUIVALENT SOUND LEVEL = 32.1 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100.0	41.0
90.0	41.0
80.0	41.0
70.0	41.0
60.0	41.0
50.0	41.0
40.0	41.0
30.0	41.0
20.0	41.0
10.0	41.0
0.0	41.0

Background Ambient Sound Level Data

Location: 9
Date: March 30, 1983
Time: 1000

TABLE B-5

AMBIENT SOUND LEVEL DATA

FILE BCR07.DA

OCTAVE BAND	LEG	L	L	L	L	L
Hz	dB	1	10	50	95	99
125	44	44	44	44	44	44
150	44	44	44	44	44	44
200	44	44	44	44	44	44
250	44	44	44	44	44	44
315	44	44	44	44	44	44
400	44	44	44	44	44	44
500	44	44	44	44	44	44
630	44	44	44	44	44	44
800	44	44	44	44	44	44
1000	44	44	44	44	44	44
1250	44	44	44	44	44	44
1600	44	44	44	44	44	44
2000	44	44	44	44	44	44
2500	44	44	44	44	44	44
3150	44	44	44	44	44	44
4000	44	44	44	44	44	44
5000	44	44	44	44	44	44
6300	44	44	44	44	44	44
8000	44	44	44	44	44	44
10000	44	44	44	44	44	44

A-Weighted
Sound Level -
dB re: 20µPa

```

##### 4.5 %
##### 12.5 %
##### 28.1 %
##### 42.7 %
##### 50.4 %
##### 51.1 %

```

EQUIVALENT SOUND LEVEL = 51.4 DB

CUMULATIVE DISTRIBUTION

NO EXCEEDED	SOUND PRESSURE LEVEL-DB
100	21
99	21
98	21
97	21
96	21
95	21
94	21
93	21
92	21
91	21
90	21
89	21
88	21
87	21
86	21
85	21
84	21
83	21
82	21
81	21
80	21
79	21
78	21
77	21
76	21
75	21
74	21
73	21
72	21
71	21
70	21
69	21
68	21
67	21
66	21
65	21
64	21
63	21
62	21
61	21
60	21
59	21
58	21
57	21
56	21
55	21
54	21
53	21
52	21
51	21
50	21
49	21
48	21
47	21
46	21
45	21
44	21
43	21
42	21
41	21
40	21
39	21
38	21
37	21
36	21
35	21
34	21
33	21
32	21
31	21
30	21
29	21
28	21
27	21
26	21
25	21
24	21
23	21
22	21
21	21
20	21
19	21
18	21
17	21
16	21
15	21
14	21
13	21
12	21
11	21
10	21
9	21
8	21
7	21
6	21
5	21
4	21
3	21
2	21
1	21

TABLE B-6

AMBIENT SOUND LEVEL DATA

FILE # 000000.00

OCTAVE BAND	LEG	L	L	L	L	L
Hz	dB	1	1/3	1/3	1/3	1/3
125	4	4	4	4	4	4
150	4	4	4	4	4	4
180	4	4	4	4	4	4
220	4	4	4	4	4	4
270	4	4	4	4	4	4
330	4	4	4	4	4	4
400	4	4	4	4	4	4
480	4	4	4	4	4	4
580	4	4	4	4	4	4
700	4	4	4	4	4	4
850	4	4	4	4	4	4
1000	4	4	4	4	4	4
1200	4	4	4	4	4	4
1450	4	4	4	4	4	4
1750	4	4	4	4	4	4
2100	4	4	4	4	4	4
2500	4	4	4	4	4	4
3000	4	4	4	4	4	4
3600	4	4	4	4	4	4
4400	4	4	4	4	4	4
5400	4	4	4	4	4	4
6600	4	4	4	4	4	4
8000	4	4	4	4	4	4
9800	4	4	4	4	4	4

A-Weighted Sound Level dB re: 20µPa	%
15	0.1 %
16	0.1 %
17	0.1 %
18	0.1 %
19	0.1 %
20	0.1 %
21	0.1 %
22	0.1 %
23	0.1 %
24	0.1 %
25	0.1 %
26	0.1 %
27	0.1 %
28	0.1 %
29	0.1 %
30	0.1 %
31	0.1 %
32	0.1 %
33	0.1 %
34	0.1 %
35	0.1 %
36	0.1 %
37	0.1 %
38	0.1 %
39	0.1 %
40	0.1 %
41	0.1 %
42	0.1 %
43	0.1 %
44	0.1 %
45	0.1 %
46	0.1 %
47	0.1 %
48	0.1 %
49	0.1 %
50	0.1 %
51	0.1 %
52	0.1 %
53	0.1 %
54	0.1 %
55	0.1 %
56	0.1 %
57	0.1 %
58	0.1 %
59	0.1 %
60	0.1 %
61	0.1 %
62	0.1 %
63	0.1 %
64	0.1 %
65	0.1 %
66	0.1 %
67	0.1 %
68	0.1 %
69	0.1 %
70	0.1 %
71	0.1 %
72	0.1 %
73	0.1 %
74	0.1 %
75	0.1 %
76	0.1 %
77	0.1 %
78	0.1 %
79	0.1 %
80	0.1 %
81	0.1 %
82	0.1 %
83	0.1 %
84	0.1 %
85	0.1 %
86	0.1 %
87	0.1 %
88	0.1 %
89	0.1 %
90	0.1 %
91	0.1 %
92	0.1 %
93	0.1 %
94	0.1 %
95	0.1 %
96	0.1 %
97	0.1 %
98	0.1 %
99	0.1 %
100	0.1 %

EQUIVALENT SOUND LEVEL = 33.4 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	31
95	31
90	31
85	31
80	31
75	31
70	31
65	31
60	31
55	31
50	31
45	31
40	31
35	31
30	31
25	31
20	31
15	31
10	31
5	31
0	31

Background Ambient Sound Level Data

Location: 10
Date: March 30, 1983
Time: 1118

TABLE B-7

AMBIENT SOUND LEVEL DATA

FILE 80009.0A

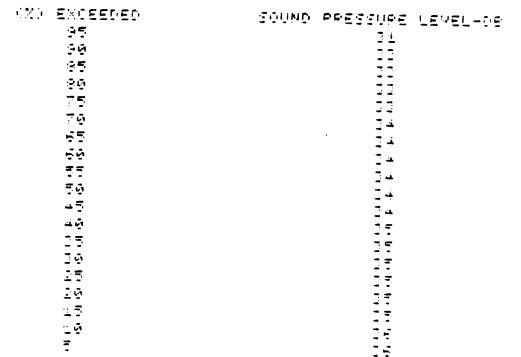
OCTAVE BAND Hz	LEQ dB	L 1	L 10	L 50	L 90	L 99
12.5	34.8	31.0	34.7	34.4	33.5	33.5
15.0	34.9	31.1	34.8	34.5	33.6	33.6
18.8	35.0	31.2	34.9	34.6	33.7	33.7
23.2	35.1	31.3	35.0	34.7	33.8	33.8
28.2	35.2	31.4	35.1	34.8	33.9	33.9
33.9	35.3	31.5	35.2	34.9	34.0	34.0
40.3	35.4	31.6	35.3	35.0	34.1	34.1
48.4	35.5	31.7	35.4	35.1	34.2	34.2
58.3	35.6	31.8	35.5	35.2	34.3	34.3
70.0	35.7	31.9	35.6	35.3	34.4	34.4
83.8	35.8	32.0	35.7	35.4	34.5	34.5
100.0	35.9	32.1	35.8	35.5	34.6	34.6
119.0	36.0	32.2	35.9	35.6	34.7	34.7
141.0	36.1	32.3	36.0	35.7	34.8	34.8
167.0	36.2	32.4	36.1	35.8	34.9	34.9
200.0	36.3	32.5	36.2	35.9	35.0	35.0

A-Weighted Sound Level
- dB re 20 µPa

EQUIVALENT SOUND LEVEL = 34.5 dB

PERCENTILE	LEQ
100%	36.3
90%	35.0
50%	34.5
10%	33.5
5%	33.5

CUMULATIVE DISTRIBUTION



Background Ambient Sound Level Data

Location: 10
Date: March 30, 1983
Time: 1143

TABLE B-8

AMBIENT SOUND LEVEL DATA

FILM RECORDING

OCTAVE BAND	LEQ	L	L	L	L	L
125	45.0	44.0	44.0	44.0	44.0	44.0
150	45.0	44.0	44.0	44.0	44.0	44.0
200	45.0	44.0	44.0	44.0	44.0	44.0
250	45.0	44.0	44.0	44.0	44.0	44.0
315	45.0	44.0	44.0	44.0	44.0	44.0
400	45.0	44.0	44.0	44.0	44.0	44.0
500	45.0	44.0	44.0	44.0	44.0	44.0
630	45.0	44.0	44.0	44.0	44.0	44.0
800	45.0	44.0	44.0	44.0	44.0	44.0
1000	45.0	44.0	44.0	44.0	44.0	44.0
1250	45.0	44.0	44.0	44.0	44.0	44.0
1600	45.0	44.0	44.0	44.0	44.0	44.0
2000	45.0	44.0	44.0	44.0	44.0	44.0
2500	45.0	44.0	44.0	44.0	44.0	44.0
3150	45.0	44.0	44.0	44.0	44.0	44.0
4000	45.0	44.0	44.0	44.0	44.0	44.0
5000	45.0	44.0	44.0	44.0	44.0	44.0
6300	45.0	44.0	44.0	44.0	44.0	44.0
8000	45.0	44.0	44.0	44.0	44.0	44.0
10000	45.0	44.0	44.0	44.0	44.0	44.0

A-Weighted Sound Level - dB re: 20µPa

Frequency (Hz)	Level (dB)
125	45.0
150	45.0
200	45.0
250	45.0
315	45.0
400	45.0
500	45.0
630	45.0
800	45.0
1000	45.0
1250	45.0
1600	45.0
2000	45.0
2500	45.0
3150	45.0
4000	45.0
5000	45.0
6300	45.0
8000	45.0
10000	45.0

EQUIVALENT SOUND LEVEL = 45.9 DB

CUMULATIVE DISTRIBUTION

% EXCEEDED	SOUND PRESSURE LEVEL-DB
100	41
90	41
80	41
70	41
60	41
50	41
40	41
30	41
20	41
10	41
5	41
2	41
1	41

Background Ambient Sound Level
 Location: 7
 Date: March 30, 1983
 Time: 1225

TABLE B-10

AMBIENT SOUND LEVEL DATA

FILE BCR12.DA

OCTAVE BAND Hz	LEQ dB	L 1	L 10	L 50	L 90	L 99
0.125	44.0	44.0	44.0	44.0	44.0	44.0
0.25	44.0	44.0	44.0	44.0	44.0	44.0
0.5	44.0	44.0	44.0	44.0	44.0	44.0
1.0	44.0	44.0	44.0	44.0	44.0	44.0
2.0	44.0	44.0	44.0	44.0	44.0	44.0
4.0	44.0	44.0	44.0	44.0	44.0	44.0
8.0	44.0	44.0	44.0	44.0	44.0	44.0
16.0	44.0	44.0	44.0	44.0	44.0	44.0
32.0	44.0	44.0	44.0	44.0	44.0	44.0
63.0	44.0	44.0	44.0	44.0	44.0	44.0
125.0	44.0	44.0	44.0	44.0	44.0	44.0
250.0	44.0	44.0	44.0	44.0	44.0	44.0
500.0	44.0	44.0	44.0	44.0	44.0	44.0
1000.0	44.0	44.0	44.0	44.0	44.0	44.0
2000.0	44.0	44.0	44.0	44.0	44.0	44.0
4000.0	44.0	44.0	44.0	44.0	44.0	44.0
8000.0	44.0	44.0	44.0	44.0	44.0	44.0

A-Weighted Sound Level
- dB re: 20 µPa

0.125	44.0	20.5
0.25	44.0	11
0.5	44.0	21.4
1.0	44.0	15.5
2.0	44.0	20.3
4.0	44.0	9.4
8.0	44.0	9.6
16.0	44.0	9.1
32.0	44.0	9.1
63.0	44.0	9.1
125.0	44.0	9.1
250.0	44.0	9.1
500.0	44.0	9.1
1000.0	44.0	9.1
2000.0	44.0	9.1
4000.0	44.0	9.1
8000.0	44.0	9.1

EQUIVALENT SOUND LEVEL = 33.7 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	44.0
90	44.0
80	44.0
70	44.0
60	44.0
50	44.0
40	44.0
30	44.0
20	44.0
10	44.0
5	44.0
2	44.0
1	44.0

Background Ambient Sound Level Data

Location: 8
Date: March 30, 1983
Time: 1345

TABLE B-12

AMBIENT SOUND LEVEL DATA

FILE BCRI4.DA

OCTAVE BAND HZ.	LEQ DB	L 1	L 10	L 50	L 90	L 99
12.5	110.5	4.7	4.4	3.6	3.3	3.1
15.6	113.4	4.3	3.9	3.1	2.9	2.9
19.8	115.3	3.9	3.6	2.9	2.4	2.4
25.1	117.2	3.5	3.2	2.4	2.4	2.4
31.5	119.1	3.1	2.8	2.4	2.4	2.4
39.1	121.0	2.7	2.4	2.4	2.4	2.4
47.9	122.9	2.3	2.4	2.4	2.4	2.4
58.8	124.8	1.9	2.4	2.4	2.4	2.4
71.8	126.7	1.5	2.4	2.4	2.4	2.4
87.0	128.6	1.1	2.4	2.4	2.4	2.4
104.5	130.5	0.7	2.4	2.4	2.4	2.4
124.5	132.4	0.3	2.4	2.4	2.4	2.4
147.0	134.3	0.0	2.4	2.4	2.4	2.4

A-Weighted
Sound Level
dB re: 20uPa

```

*****
***** 42.5 X
***** 45.5 X
***** 7.4 X
***** 2.7 X
***** 1.9 X
***** 0.9 X
***** 0.3 X
*****

```

EQUIVALENT SOUND LEVEL = 30.9 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	134.3
90	132.4
80	130.5
70	128.6
60	126.7
50	124.8
40	122.9
30	121.0
20	119.1
10	117.2
5	115.3
2	113.4
1	110.5

Background Ambient Sound Level Data
Location: 10
Date: March 30, 1983
Time: 1800

TABLE B-13

AMBIENT SOUND LEVEL DATA

FILE RECORDS: 08

OCTAVE BAND	1/3	1/2	2/3	1	3/2	2	3	4
125	44	44	44	44	44	44	44	44
150	44	44	44	44	44	44	44	44
200	44	44	44	44	44	44	44	44
250	44	44	44	44	44	44	44	44
315	44	44	44	44	44	44	44	44
400	44	44	44	44	44	44	44	44
500	44	44	44	44	44	44	44	44
630	44	44	44	44	44	44	44	44
800	44	44	44	44	44	44	44	44
1000	44	44	44	44	44	44	44	44
1250	44	44	44	44	44	44	44	44
1600	44	44	44	44	44	44	44	44
2000	44	44	44	44	44	44	44	44
2500	44	44	44	44	44	44	44	44
3150	44	44	44	44	44	44	44	44
4000	44	44	44	44	44	44	44	44
5000	44	44	44	44	44	44	44	44
6300	44	44	44	44	44	44	44	44
8000	44	44	44	44	44	44	44	44
10000	44	44	44	44	44	44	44	44

A-Weighted Sound Level

- dB re: 20 μPa

125	44	44	44	44	44	44	44	44
150	44	44	44	44	44	44	44	44
200	44	44	44	44	44	44	44	44
250	44	44	44	44	44	44	44	44
315	44	44	44	44	44	44	44	44
400	44	44	44	44	44	44	44	44
500	44	44	44	44	44	44	44	44
630	44	44	44	44	44	44	44	44
800	44	44	44	44	44	44	44	44
1000	44	44	44	44	44	44	44	44
1250	44	44	44	44	44	44	44	44
1600	44	44	44	44	44	44	44	44
2000	44	44	44	44	44	44	44	44
2500	44	44	44	44	44	44	44	44
3150	44	44	44	44	44	44	44	44
4000	44	44	44	44	44	44	44	44
5000	44	44	44	44	44	44	44	44
6300	44	44	44	44	44	44	44	44
8000	44	44	44	44	44	44	44	44
10000	44	44	44	44	44	44	44	44
EQUIVALENT SOUND LEVEL = 31.6 DB								

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	44
90	44
80	44
70	44
60	44
50	44
40	44
30	44
20	44
10	44
5	44
1	44

Background Ambient Sound Level Data

Location: 10
Date: March 30, 1983
Time: 1827

TABLE B-14

AMBIENT SOUND LEVEL DATA

FILE ECR15.DA

OCTAVE BAND Hz	LEG DB	L 1	L 10	L 50	L 90	L 99
12.5	12.7	10	14	21	20	27
15.0	13.0	10	10	20	25	25
18.8	11.0	10	22	21	19	18
22.5	11.7	10	24	20	18	17
27.0	11.2	10	22	20	19	19
31.5	11.3	10	24	21	21	20
36.0	10	10	23	23	23	23
40.5	10.4	10	25	24	24	24
45.0	10.1	10	23	22	22	22
50.0	9.8	10	21	19	19	19

A-Weighted Sound Level
 dB re: 20 µPa

 * 5.2 %

 * 1.4 %
 * 5.4 %
 * 5.4 %
 * 5.2 %

EQUIVALENT SOUND LEVEL = 30.5 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	13
90	13
85	13
80	13
75	13
70	13
65	13
60	13
55	13
50	13
45	13
40	13
35	13
30	13
25	13
20	13
15	13
10	13
5	13
0	13

Background Ambient Sound Level Data

Location: 9
 Date: March 30, 1983
 Time: 1910

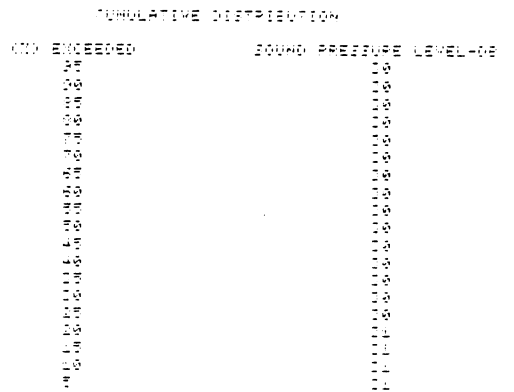
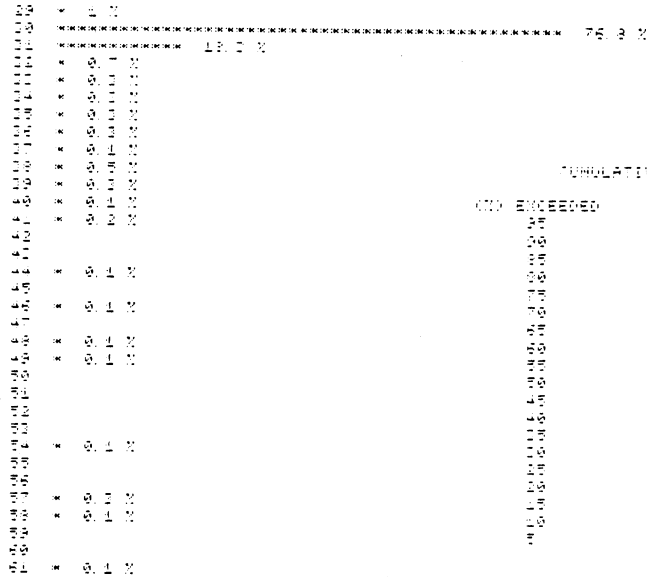
TABLE B-15

AMBIENT SOUND LEVEL DATA

FILE B03017.DA

OCTAVE BAND	LEQ	L	L	L	L	L
125	44.0	44.0	44.0	44.0	44.0	44.0
150	44.0	44.0	44.0	44.0	44.0	44.0
200	44.0	44.0	44.0	44.0	44.0	44.0
250	44.0	44.0	44.0	44.0	44.0	44.0
315	44.0	44.0	44.0	44.0	44.0	44.0
400	44.0	44.0	44.0	44.0	44.0	44.0
500	44.0	44.0	44.0	44.0	44.0	44.0
630	44.0	44.0	44.0	44.0	44.0	44.0
800	44.0	44.0	44.0	44.0	44.0	44.0
1000	44.0	44.0	44.0	44.0	44.0	44.0
1250	44.0	44.0	44.0	44.0	44.0	44.0
1600	44.0	44.0	44.0	44.0	44.0	44.0
2000	44.0	44.0	44.0	44.0	44.0	44.0
2500	44.0	44.0	44.0	44.0	44.0	44.0
3150	44.0	44.0	44.0	44.0	44.0	44.0
4000	44.0	44.0	44.0	44.0	44.0	44.0
5000	44.0	44.0	44.0	44.0	44.0	44.0
6300	44.0	44.0	44.0	44.0	44.0	44.0
8000	44.0	44.0	44.0	44.0	44.0	44.0
10000	44.0	44.0	44.0	44.0	44.0	44.0

A-Weighted Sound Level - dB re: 20µPa



EQUIVALENT SOUND LEVEL = 65.8 DB

Background Ambient Sound Level Data

Location: 9
 Date: March 30, 1983
 Time: 1940

TABLE B-16

AMBIENT SOUND LEVEL DATA

FILE BCR19.DAT

OCTAVE BAND Hz.	LEQ DB	L 1	L 10	L 50	L 90	L 99
12.5	41.0	41.0	41.0	41.0	41.0	41.0
15.0	41.0	41.0	41.0	41.0	41.0	41.0
18.8	41.0	41.0	41.0	41.0	41.0	41.0
22.5	41.0	41.0	41.0	41.0	41.0	41.0
27.0	41.0	41.0	41.0	41.0	41.0	41.0
31.5	41.0	41.0	41.0	41.0	41.0	41.0
36.0	41.0	41.0	41.0	41.0	41.0	41.0
40.5	41.0	41.0	41.0	41.0	41.0	41.0
45.0	41.0	41.0	41.0	41.0	41.0	41.0
50.0	41.0	41.0	41.0	41.0	41.0	41.0
56.2	41.0	41.0	41.0	41.0	41.0	41.0
62.5	41.0	41.0	41.0	41.0	41.0	41.0
68.8	41.0	41.0	41.0	41.0	41.0	41.0
75.0	41.0	41.0	41.0	41.0	41.0	41.0
81.2	41.0	41.0	41.0	41.0	41.0	41.0
87.5	41.0	41.0	41.0	41.0	41.0	41.0
93.8	41.0	41.0	41.0	41.0	41.0	41.0
100.0	41.0	41.0	41.0	41.0	41.0	41.0
TOTAL	41.0	41.0	41.0	41.0	41.0	41.0

A-Weighted
Sound Level
dB re: 20µPa

0	0.0 %
5	0.0 %
10	0.0 %
15	0.0 %
20	0.0 %
25	0.0 %
30	0.0 %
35	0.0 %
40	0.0 %
45	0.0 %
50	0.0 %
55	0.0 %
60	0.0 %
65	0.0 %
70	0.0 %
75	0.0 %
80	0.0 %
85	0.0 %
90	0.0 %
95	0.0 %
100	0.0 %
105	0.0 %
110	0.0 %
115	0.0 %
120	0.0 %
125	0.0 %
130	0.0 %
135	0.0 %
140	0.0 %
145	0.0 %
150	0.0 %
155	0.0 %
160	0.0 %
165	0.0 %
170	0.0 %
175	0.0 %
180	0.0 %
185	0.0 %
190	0.0 %
195	0.0 %
200	0.0 %
205	0.0 %
210	0.0 %
215	0.0 %
220	0.0 %
225	0.0 %
230	0.0 %
235	0.0 %
240	0.0 %
245	0.0 %
250	0.0 %
255	0.0 %
260	0.0 %
265	0.0 %
270	0.0 %
275	0.0 %
280	0.0 %
285	0.0 %
290	0.0 %
295	0.0 %
300	0.0 %
305	0.0 %
310	0.0 %
315	0.0 %
320	0.0 %
325	0.0 %
330	0.0 %
335	0.0 %
340	0.0 %
345	0.0 %
350	0.0 %
355	0.0 %
360	0.0 %
365	0.0 %
370	0.0 %
375	0.0 %
380	0.0 %
385	0.0 %
390	0.0 %
395	0.0 %
400	0.0 %
405	0.0 %
410	0.0 %
415	0.0 %
420	0.0 %
425	0.0 %
430	0.0 %
435	0.0 %
440	0.0 %
445	0.0 %
450	0.0 %
455	0.0 %
460	0.0 %
465	0.0 %
470	0.0 %
475	0.0 %
480	0.0 %
485	0.0 %
490	0.0 %
495	0.0 %
500	0.0 %
505	0.0 %
510	0.0 %
515	0.0 %
520	0.0 %
525	0.0 %
530	0.0 %
535	0.0 %
540	0.0 %
545	0.0 %
550	0.0 %
555	0.0 %
560	0.0 %
565	0.0 %
570	0.0 %
575	0.0 %
580	0.0 %
585	0.0 %
590	0.0 %
595	0.0 %
600	0.0 %
605	0.0 %
610	0.0 %
615	0.0 %
620	0.0 %
625	0.0 %
630	0.0 %
635	0.0 %
640	0.0 %
645	0.0 %
650	0.0 %
655	0.0 %
660	0.0 %
665	0.0 %
670	0.0 %
675	0.0 %
680	0.0 %
685	0.0 %
690	0.0 %
695	0.0 %
700	0.0 %
705	0.0 %
710	0.0 %
715	0.0 %
720	0.0 %
725	0.0 %
730	0.0 %
735	0.0 %
740	0.0 %
745	0.0 %
750	0.0 %
755	0.0 %
760	0.0 %
765	0.0 %
770	0.0 %
775	0.0 %
780	0.0 %
785	0.0 %
790	0.0 %
795	0.0 %
800	0.0 %
805	0.0 %
810	0.0 %
815	0.0 %
820	0.0 %
825	0.0 %
830	0.0 %
835	0.0 %
840	0.0 %
845	0.0 %
850	0.0 %
855	0.0 %
860	0.0 %
865	0.0 %
870	0.0 %
875	0.0 %
880	0.0 %
885	0.0 %
890	0.0 %
895	0.0 %
900	0.0 %
905	0.0 %
910	0.0 %
915	0.0 %
920	0.0 %
925	0.0 %
930	0.0 %
935	0.0 %
940	0.0 %
945	0.0 %
950	0.0 %
955	0.0 %
960	0.0 %
965	0.0 %
970	0.0 %
975	0.0 %
980	0.0 %
985	0.0 %
990	0.0 %
995	0.0 %
1000	0.0 %
1005	0.0 %
1010	0.0 %
1015	0.0 %
1020	0.0 %
1025	0.0 %
1030	0.0 %
1035	0.0 %
1040	0.0 %
1045	0.0 %
1050	0.0 %
1055	0.0 %
1060	0.0 %
1065	0.0 %
1070	0.0 %
1075	0.0 %
1080	0.0 %
1085	0.0 %
1090	0.0 %
1095	0.0 %
1100	0.0 %
1105	0.0 %
1110	0.0 %
1115	0.0 %
1120	0.0 %
1125	0.0 %
1130	0.0 %
1135	0.0 %
1140	0.0 %
1145	0.0 %
1150	0.0 %
1155	0.0 %
1160	0.0 %
1165	0.0 %
1170	0.0 %
1175	0.0 %
1180	0.0 %
1185	0.0 %
1190	0.0 %
1195	0.0 %
1200	0.0 %

EQUIVALENT SOUND LEVEL = 32.1 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	30
95	31
90	31
85	31
80	31
75	31
70	31
65	31
60	31
55	31
50	31
45	31
40	31
35	31
30	31
25	31
20	31
15	31
10	31
5	31
0	31

Background Ambient Sound Level Data

Location: 8
Date: March 30, 1983
Time: 2045

TABLE B-17

AMBIENT SOUND LEVEL DATA

FILE 000000 OF

OCTAVE BAND	LEQ	L	L	L	L	L
Hz	dB	1	5	10	50	100
12.5	41	41	41	41	41	41
15.8	41	41	41	41	41	41
20.0	41	41	41	41	41	41
25.1	41	41	41	41	41	41
31.5	41	41	41	41	41	41
39.8	41	41	41	41	41	41
50.1	41	41	41	41	41	41
63.0	41	41	41	41	41	41
79.6	41	41	41	41	41	41
100.0	41	41	41	41	41	41
125.9	41	41	41	41	41	41
159.1	41	41	41	41	41	41
200.0	41	41	41	41	41	41
251.2	41	41	41	41	41	41
315.0	41	41	41	41	41	41
398.0	41	41	41	41	41	41
501.0	41	41	41	41	41	41
630.0	41	41	41	41	41	41
796.0	41	41	41	41	41	41
1000.0	41	41	41	41	41	41
1259.0	41	41	41	41	41	41
1591.0	41	41	41	41	41	41
2000.0	41	41	41	41	41	41
2512.0	41	41	41	41	41	41
3150.0	41	41	41	41	41	41
3980.0	41	41	41	41	41	41
5010.0	41	41	41	41	41	41
6300.0	41	41	41	41	41	41
7960.0	41	41	41	41	41	41
10000.0	41	41	41	41	41	41

A-Weighted
Sound Level
dB re 20µPa

34	2
35	2
36	2
37	2
38	2
39	2
40	2
41	2
42	2
43	2
44	2
45	2
46	2
47	2
48	2
49	2
50	2
51	2
52	2
53	2
54	2
55	2
56	2
57	2
58	2
59	2
60	2
61	2
62	2
63	2
64	2
65	2
66	2
67	2
68	2
69	2
70	2
71	2
72	2
73	2
74	2
75	2
76	2
77	2
78	2
79	2
80	2
81	2
82	2
83	2
84	2
85	2
86	2
87	2
88	2
89	2
90	2
91	2
92	2
93	2
94	2
95	2
96	2
97	2
98	2
99	2
100	2

EQUIVALENT SOUND LEVEL = 39.7 DB

CUMULATIVE DISTRIBUTION

% EXCEEDED	SOUND PRESSURE LEVEL-DB
100	35
95	35
90	35
85	35
80	35
75	35
70	35
65	35
60	35
55	35
50	35
45	35
40	35
35	35
30	35
25	35
20	35
15	35
10	35
5	35
0	35

Background Ambient Sound Level Data
Location: 8
Date: March 30, 1983
Time: 2115

TABLE B-18

AMBIENT SOUND LEVEL DATA

FILE BCR005.DA

OCTAVE BAND Hz	LEQ dB	L 1	L 2	L 3	L 4	L 5
0.5	31.0	31.0	31.0	31.0	31.0	31.0
1.0	31.0	31.0	31.0	31.0	31.0	31.0
2.0	31.0	31.0	31.0	31.0	31.0	31.0
3.0	31.0	31.0	31.0	31.0	31.0	31.0
4.0	31.0	31.0	31.0	31.0	31.0	31.0
5.0	31.0	31.0	31.0	31.0	31.0	31.0
6.0	31.0	31.0	31.0	31.0	31.0	31.0
8.0	31.0	31.0	31.0	31.0	31.0	31.0
10.0	31.0	31.0	31.0	31.0	31.0	31.0
15.0	31.0	31.0	31.0	31.0	31.0	31.0
20.0	31.0	31.0	31.0	31.0	31.0	31.0
30.0	31.0	31.0	31.0	31.0	31.0	31.0
40.0	31.0	31.0	31.0	31.0	31.0	31.0
50.0	31.0	31.0	31.0	31.0	31.0	31.0
70.0	31.0	31.0	31.0	31.0	31.0	31.0
100.0	31.0	31.0	31.0	31.0	31.0	31.0
150.0	31.0	31.0	31.0	31.0	31.0	31.0
200.0	31.0	31.0	31.0	31.0	31.0	31.0
300.0	31.0	31.0	31.0	31.0	31.0	31.0
400.0	31.0	31.0	31.0	31.0	31.0	31.0
500.0	31.0	31.0	31.0	31.0	31.0	31.0
700.0	31.0	31.0	31.0	31.0	31.0	31.0
1000.0	31.0	31.0	31.0	31.0	31.0	31.0
1500.0	31.0	31.0	31.0	31.0	31.0	31.0
2000.0	31.0	31.0	31.0	31.0	31.0	31.0
3000.0	31.0	31.0	31.0	31.0	31.0	31.0
4000.0	31.0	31.0	31.0	31.0	31.0	31.0
5000.0	31.0	31.0	31.0	31.0	31.0	31.0
7000.0	31.0	31.0	31.0	31.0	31.0	31.0
10000.0	31.0	31.0	31.0	31.0	31.0	31.0

A-Weighted
Sound Level
- dB re: 20µPa

31.0
31.0

EQUIVALENT SOUND LEVEL = 31.00

CUMULATIVE DISTRIBUTION

% EXCEEDED	SOUND PRESSURE LEVEL-DB
100	31
95	31
90	31
85	31
80	31
75	31
70	31
65	31
60	31
55	31
50	31
45	31
40	31
35	31
30	31
25	31
20	31
15	31
10	31
5	31
0	31

Background Ambient Sound Level Data

Location: 10
Date: March 30, 1983
Time: 2225

TABLE B-19

AMBIENT SOUND LEVEL DATA

FILE BCR21.DR

OCTAVE BAND	LEQ DB	L 1	L 15	L 30	L 60	L 90
0.5	38.4	38.0	37.5	37.0	36.5	36.0
1.0	39.3	38.9	38.4	37.9	37.4	36.9
2.0	40.2	39.8	39.3	38.8	38.3	37.8
3.0	40.8	40.4	39.9	39.4	38.9	38.4
4.0	41.2	40.8	40.3	39.8	39.3	38.8
5.0	41.5	41.1	40.6	40.1	39.6	39.1
6.0	41.7	41.3	40.8	40.3	39.8	39.3
8.0	41.9	41.5	41.0	40.5	40.0	39.5
10.0	42.0	41.6	41.1	40.6	40.1	39.6
12.5	42.1	41.7	41.2	40.7	40.2	39.7
16.0	42.2	41.8	41.3	40.8	40.3	39.8
20.0	42.3	41.9	41.4	40.9	40.4	39.9
25.0	42.4	42.0	41.5	41.0	40.5	40.0
31.5	42.5	42.1	41.6	41.1	40.6	40.1
40.0	42.6	42.2	41.7	41.2	40.7	40.2
50.0	42.7	42.3	41.8	41.3	40.8	40.3
63.0	42.8	42.4	41.9	41.4	40.9	40.4
80.0	42.9	42.5	42.0	41.5	41.0	40.5
100.0	43.0	42.6	42.1	41.6	41.1	40.6
125.0	43.1	42.7	42.2	41.7	41.2	40.7
160.0	43.2	42.8	42.3	41.8	41.3	40.8
200.0	43.3	42.9	42.4	41.9	41.4	40.9
250.0	43.4	43.0	42.5	42.0	41.5	41.0
315.0	43.5	43.1	42.6	42.1	41.6	41.1
400.0	43.6	43.2	42.7	42.2	41.7	41.2
500.0	43.7	43.3	42.8	42.3	41.8	41.3
630.0	43.8	43.4	42.9	42.4	41.9	41.4
800.0	43.9	43.5	43.0	42.5	42.0	41.5
1000.0	44.0	43.6	43.1	42.6	42.1	41.6
1250.0	44.1	43.7	43.2	42.7	42.2	41.7
1600.0	44.2	43.8	43.3	42.8	42.3	41.8
2000.0	44.3	43.9	43.4	42.9	42.4	41.9
2500.0	44.4	44.0	43.5	43.0	42.5	42.0
3150.0	44.5	44.1	43.6	43.1	42.6	42.1
4000.0	44.6	44.2	43.7	43.2	42.7	42.2
5000.0	44.7	44.3	43.8	43.3	42.8	42.3
6300.0	44.8	44.4	43.9	43.4	42.9	42.4
8000.0	44.9	44.5	44.0	43.5	43.0	42.5
10000.0	45.0	44.6	44.1	43.6	43.1	42.6

A-Weighted:
Sound Level
dB re: 20µPa

EQUIVALENT SOUND LEVEL = 31 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	31
90	31
80	31
70	31
60	31
50	31
40	31
30	31
20	31
10	31
5	31
2	31
1	31
0.5	31
0.2	31
0.1	31
0.05	31
0.02	31
0.01	31

Background Ambient Sound Level Data

Location: 10
Date: March 30, 1983
Time: 2250

TABLE B-20

AMBIENT SOUND LEVEL DATA

FILE BCR22.DR

OCTAVE BAND Hz	LBB DB	L 1	L 1.5	L 2.5	L 3.5	L 5.0
12.5	41.9	42.5	42.5	42.4	41.9	41.9
15.6	41.9	42.5	42.5	42.4	41.9	41.9
20.0	41.9	42.5	42.5	42.4	41.9	41.9
25.1	41.9	42.5	42.5	42.4	41.9	41.9
31.5	41.9	42.5	42.5	42.4	41.9	41.9
39.8	41.9	42.5	42.5	42.4	41.9	41.9
50.1	41.9	42.5	42.5	42.4	41.9	41.9
63.2	41.9	42.5	42.5	42.4	41.9	41.9
79.6	41.9	42.5	42.5	42.4	41.9	41.9
100.0	41.9	42.5	42.5	42.4	41.9	41.9
126.0	41.9	42.5	42.5	42.4	41.9	41.9
159.0	41.9	42.5	42.5	42.4	41.9	41.9
202.0	41.9	42.5	42.5	42.4	41.9	41.9
254.0	41.9	42.5	42.5	42.4	41.9	41.9
320.0	41.9	42.5	42.5	42.4	41.9	41.9
400.0	41.9	42.5	42.5	42.4	41.9	41.9
500.0	41.9	42.5	42.5	42.4	41.9	41.9
630.0	41.9	42.5	42.5	42.4	41.9	41.9
790.0	41.9	42.5	42.5	42.4	41.9	41.9
1000.0	41.9	42.5	42.5	42.4	41.9	41.9

A - Weighted
Sound Level
dB re: 20µPa

41.9	* 0.1 %
42.1	15 %
42.5	89.1 %
42.9	4.9 %

EQUIVALENT SOUND LEVEL = 41.9 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	41
95	41
90	41
85	41
80	41
75	41
70	41
65	41
60	41
55	41
50	41
45	41
40	41
35	41
30	41
25	41
20	41
15	41
10	41
5	41
0	42

Background Ambient Sound Level Data

Location: 7
Date: March 30, 1983
Time: 2340

TABLE B-21

AMBIENT SOUND LEVEL DATA

FILE B0R21.DR

OCTAVE BAND	FREQ Hz	L ₁ dB	L ₂ dB	L ₃ dB	L ₄ dB	L ₅ dB	L ₆ dB	L ₇ dB	L ₈ dB	A-Weighted	
										Sound Level - dB re 20µPa	%
125	125	41	41	41	41	41	41	41	41	41	0
150	150	41	41	41	41	41	41	41	41	41	0
180	180	41	41	41	41	41	41	41	41	41	0
225	225	41	41	41	41	41	41	41	41	41	0
280	280	41	41	41	41	41	41	41	41	41	0
350	350	41	41	41	41	41	41	41	41	41	0
450	450	41	41	41	41	41	41	41	41	41	0
560	560	41	41	41	41	41	41	41	41	41	0
700	700	41	41	41	41	41	41	41	41	41	0
880	880	41	41	41	41	41	41	41	41	41	0
1100	1100	41	41	41	41	41	41	41	41	41	0
1400	1400	41	41	41	41	41	41	41	41	41	0
1750	1750	41	41	41	41	41	41	41	41	41	0
2200	2200	41	41	41	41	41	41	41	41	41	0
2800	2800	41	41	41	41	41	41	41	41	41	0
3500	3500	41	41	41	41	41	41	41	41	41	0
4500	4500	41	41	41	41	41	41	41	41	41	0
5600	5600	41	41	41	41	41	41	41	41	41	0
7000	7000	41	41	41	41	41	41	41	41	41	0
8800	8800	41	41	41	41	41	41	41	41	41	0
11000	11000	41	41	41	41	41	41	41	41	41	0
14000	14000	41	41	41	41	41	41	41	41	41	0
17500	17500	41	41	41	41	41	41	41	41	41	0
22000	22000	41	41	41	41	41	41	41	41	41	0
EQUIVALENT SOUND LEVEL = 41.7 DB										41.7	0

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	41
95	41
90	41
85	41
80	41
75	41
70	41
65	41
60	41
55	41
50	41
45	41
40	41
35	41
30	41
25	41
20	41
15	41
10	41
5	41
0	41

Background Ambient Sound Level Data
 Location: 7
 Date: March 31, 1983
 Time: 0010

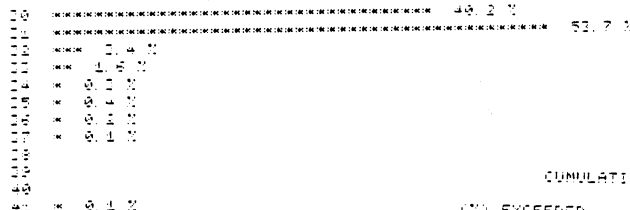
TABLE B-22

AMBIENT SOUND LEVEL DATA

FILE BCR24.DA

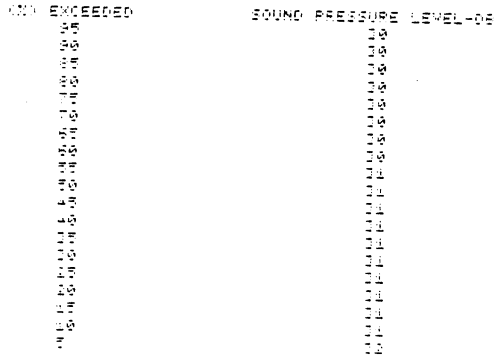
OCTAVE BAND	LEQ DB	L 1	L 10	L 50	L 90	L 95
12.5	20.0	18.0	19.0	20.0	21.0	22.0
15.0	20.0	18.0	19.0	20.0	21.0	22.0
18.8	20.0	18.0	19.0	20.0	21.0	22.0
22.5	20.0	18.0	19.0	20.0	21.0	22.0
27.5	20.0	18.0	19.0	20.0	21.0	22.0
33.8	20.0	18.0	19.0	20.0	21.0	22.0
41.3	20.0	18.0	19.0	20.0	21.0	22.0
50.0	20.0	18.0	19.0	20.0	21.0	22.0
60.0	20.0	18.0	19.0	20.0	21.0	22.0
72.5	20.0	18.0	19.0	20.0	21.0	22.0
87.5	20.0	18.0	19.0	20.0	21.0	22.0
105.0	20.0	18.0	19.0	20.0	21.0	22.0
125.0	20.0	18.0	19.0	20.0	21.0	22.0
150.0	20.0	18.0	19.0	20.0	21.0	22.0
180.0	20.0	18.0	19.0	20.0	21.0	22.0
225.0	20.0	18.0	19.0	20.0	21.0	22.0
275.0	20.0	18.0	19.0	20.0	21.0	22.0
338.0	20.0	18.0	19.0	20.0	21.0	22.0
413.0	20.0	18.0	19.0	20.0	21.0	22.0
500.0	20.0	18.0	19.0	20.0	21.0	22.0
600.0	20.0	18.0	19.0	20.0	21.0	22.0
725.0	20.0	18.0	19.0	20.0	21.0	22.0
875.0	20.0	18.0	19.0	20.0	21.0	22.0
1050.0	20.0	18.0	19.0	20.0	21.0	22.0
1250.0	20.0	18.0	19.0	20.0	21.0	22.0
1500.0	20.0	18.0	19.0	20.0	21.0	22.0
1800.0	20.0	18.0	19.0	20.0	21.0	22.0
2250.0	20.0	18.0	19.0	20.0	21.0	22.0
2750.0	20.0	18.0	19.0	20.0	21.0	22.0
3380.0	20.0	18.0	19.0	20.0	21.0	22.0
4130.0	20.0	18.0	19.0	20.0	21.0	22.0
5000.0	20.0	18.0	19.0	20.0	21.0	22.0
6000.0	20.0	18.0	19.0	20.0	21.0	22.0
7250.0	20.0	18.0	19.0	20.0	21.0	22.0
8750.0	20.0	18.0	19.0	20.0	21.0	22.0
10500.0	20.0	18.0	19.0	20.0	21.0	22.0
12500.0	20.0	18.0	19.0	20.0	21.0	22.0
15000.0	20.0	18.0	19.0	20.0	21.0	22.0
18000.0	20.0	18.0	19.0	20.0	21.0	22.0
22500.0	20.0	18.0	19.0	20.0	21.0	22.0
27500.0	20.0	18.0	19.0	20.0	21.0	22.0
33800.0	20.0	18.0	19.0	20.0	21.0	22.0
41300.0	20.0	18.0	19.0	20.0	21.0	22.0
50000.0	20.0	18.0	19.0	20.0	21.0	22.0

A-Weighted
Sound Level
dB re: 20µPa



EQUIVALENT SOUND LEVEL = 20.8 DB

CUMULATIVE DISTRIBUTION



Background Ambient Sound Level Data

Location: 8
Date: March 31, 1983
Time: 0100

TABLE B-23

AMBIENT SOUND LEVEL DATA

FILE BCR25.DA

OCTAVE BAND	LEQ	L	L	L	L	L
Hz	DB	1	1.25	1.5	1.75	2
12.5	39.5	39.5	39.5	39.5	39.5	39.5
15.6	40.0	40.0	40.0	40.0	40.0	40.0
19.8	40.5	40.5	40.5	40.5	40.5	40.5
25.1	41.0	41.0	41.0	41.0	41.0	41.0
31.5	41.5	41.5	41.5	41.5	41.5	41.5
39.8	42.0	42.0	42.0	42.0	42.0	42.0
50.0	42.5	42.5	42.5	42.5	42.5	42.5
63.0	43.0	43.0	43.0	43.0	43.0	43.0
79.6	43.5	43.5	43.5	43.5	43.5	43.5
100.0	44.0	44.0	44.0	44.0	44.0	44.0
126.0	44.5	44.5	44.5	44.5	44.5	44.5
159.0	45.0	45.0	45.0	45.0	45.0	45.0
200.0	45.5	45.5	45.5	45.5	45.5	45.5
251.0	46.0	46.0	46.0	46.0	46.0	46.0
315.0	46.5	46.5	46.5	46.5	46.5	46.5
398.0	47.0	47.0	47.0	47.0	47.0	47.0
500.0	47.5	47.5	47.5	47.5	47.5	47.5
630.0	48.0	48.0	48.0	48.0	48.0	48.0
796.0	48.5	48.5	48.5	48.5	48.5	48.5
1000.0	49.0	49.0	49.0	49.0	49.0	49.0
1260.0	49.5	49.5	49.5	49.5	49.5	49.5
1590.0	50.0	50.0	50.0	50.0	50.0	50.0
2000.0	50.5	50.5	50.5	50.5	50.5	50.5
2510.0	51.0	51.0	51.0	51.0	51.0	51.0
3150.0	51.5	51.5	51.5	51.5	51.5	51.5
3980.0	52.0	52.0	52.0	52.0	52.0	52.0
5000.0	52.5	52.5	52.5	52.5	52.5	52.5
6300.0	53.0	53.0	53.0	53.0	53.0	53.0
7960.0	53.5	53.5	53.5	53.5	53.5	53.5
10000.0	54.0	54.0	54.0	54.0	54.0	54.0

A-Weighted
Sound Level
dB re: 20µPa

12.5	* 0.0 %	
15.6		26.4 %
19.8		70 %
25.1	* 0.0 %	
31.5	* 0.0 %	

EQUIVALENT SOUND LEVEL = 36.8 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	36.8
90	36.8
80	36.8
70	36.8
60	36.8
50	36.8
40	36.8
30	36.8
20	36.8
10	36.8
5	36.8
2	36.8
1	36.8

Background Ambient Sound Level Data

Location: 8
Date: March 31, 1983
Time: 0125

TABLE B-24

AMBIENT SOUND LEVEL DATA

FILE RECORD 04

OCTAVE BAND	FREQ	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL	LEVEL
Hz	dB	dB	dB	dB	dB	dB	dB	dB	dB
125	125	125	125	125	125	125	125	125	125
150	150	150	150	150	150	150	150	150	150
200	200	200	200	200	200	200	200	200	200
250	250	250	250	250	250	250	250	250	250
315	315	315	315	315	315	315	315	315	315
400	400	400	400	400	400	400	400	400	400
500	500	500	500	500	500	500	500	500	500
630	630	630	630	630	630	630	630	630	630
800	800	800	800	800	800	800	800	800	800
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1250	1250	1250	1250	1250	1250	1250	1250	1250	1250
1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
3150	3150	3150	3150	3150	3150	3150	3150	3150	3150
4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
6300	6300	6300	6300	6300	6300	6300	6300	6300	6300
8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
12500	12500	12500	12500	12500	12500	12500	12500	12500	12500
16000	16000	16000	16000	16000	16000	16000	16000	16000	16000
20000	20000	20000	20000	20000	20000	20000	20000	20000	20000
25000	25000	25000	25000	25000	25000	25000	25000	25000	25000
31500	31500	31500	31500	31500	31500	31500	31500	31500	31500
40000	40000	40000	40000	40000	40000	40000	40000	40000	40000
50000	50000	50000	50000	50000	50000	50000	50000	50000	50000
63000	63000	63000	63000	63000	63000	63000	63000	63000	63000
80000	80000	80000	80000	80000	80000	80000	80000	80000	80000
100000	100000	100000	100000	100000	100000	100000	100000	100000	100000

A-Weighted Sound Level - dB re: 20 μPa

EQUIVALENT SOUND LEVEL = 47.7 dB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	100
90	90
80	80
70	70
60	60
50	50
40	40
30	30
20	20
10	10
5	5
2	2
1	1

Background Ambient Sound Level Data

Location: 7
 Date: July 11, 1983
 Time: 1910

TABLE B-25

AMBIENT SOUND LEVEL DATA

FILE SCR22.DR

OCTAVE BAND	LEQ	L	L	L	L	L
Hz	dB	1	10	50	90	99
125	44.0	44.0	44.0	44.0	44.0	44.0
150	44.0	44.0	44.0	44.0	44.0	44.0
200	44.0	44.0	44.0	44.0	44.0	44.0
250	44.0	44.0	44.0	44.0	44.0	44.0
315	44.0	44.0	44.0	44.0	44.0	44.0
400	44.0	44.0	44.0	44.0	44.0	44.0
500	44.0	44.0	44.0	44.0	44.0	44.0
630	44.0	44.0	44.0	44.0	44.0	44.0
800	44.0	44.0	44.0	44.0	44.0	44.0
1000	44.0	44.0	44.0	44.0	44.0	44.0
1250	44.0	44.0	44.0	44.0	44.0	44.0
1600	44.0	44.0	44.0	44.0	44.0	44.0
2000	44.0	44.0	44.0	44.0	44.0	44.0
2500	44.0	44.0	44.0	44.0	44.0	44.0
3150	44.0	44.0	44.0	44.0	44.0	44.0
4000	44.0	44.0	44.0	44.0	44.0	44.0
5000	44.0	44.0	44.0	44.0	44.0	44.0
6300	44.0	44.0	44.0	44.0	44.0	44.0
8000	44.0	44.0	44.0	44.0	44.0	44.0
10000	44.0	44.0	44.0	44.0	44.0	44.0

A-Weighted Sound Level -
dB re 20µPa

11	1.0 %
12	
13	13 %
14	17.9 %
15	
16	14.1 %
17	
18	11.9 %
19	10.2 %
20	
21	7.9 %
22	
23	5.1 %
24	
25	3.7 %
26	
27	2.2 %
28	
29	1.1 %
30	
31	1.1 %
32	
33	0.5 %
34	
35	0.2 %
36	
37	0.1 %
38	
39	0.1 %
40	
41	0.1 %
42	
43	0.1 %
44	
45	0.1 %
46	
47	0.1 %
48	
49	0.1 %
50	
51	0.1 %
52	
53	0.1 %
54	
55	0.1 %
56	
57	0.1 %
58	
59	0.1 %
60	
61	0.1 %
62	
63	0.1 %
64	
65	0.1 %
66	
67	0.1 %
68	
69	0.1 %
70	
71	0.1 %
72	
73	0.1 %
74	
75	0.1 %
76	
77	0.1 %
78	
79	0.1 %
80	
81	0.1 %
82	
83	0.1 %
84	
85	0.1 %
86	
87	0.1 %
88	
89	0.1 %
90	
91	0.1 %
92	
93	0.1 %
94	
95	0.1 %
96	
97	0.1 %
98	
99	0.1 %
100	

EQUIVALENT SOUND LEVEL = 44.5 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	0.0
99	0.0
95	0.0
90	0.0
80	0.0
70	0.0
60	0.0
50	0.0
40	0.0
30	0.0
20	0.0
10	0.0
5	0.0
2	0.0
1	0.0

TABLE B-26

AMBIENT SOUND LEVEL DATA

FILE SCREEN.DA

OCTAVE BAND	LBG	L	L	L	L	L
Hz	dB	1	10	50	90	95
12.5	41	41	41	41	41	41
15.8	41	41	41	41	41	41
20.0	41	41	41	41	41	41
25.1	41	41	41	41	41	41
31.5	41	41	41	41	41	41
39.8	41	41	41	41	41	41
50.1	41	41	41	41	41	41
63.0	41	41	41	41	41	41
79.4	41	41	41	41	41	41
100.0	41	41	41	41	41	41
125.9	41	41	41	41	41	41
158.5	41	41	41	41	41	41
200.0	41	41	41	41	41	41
251.2	41	41	41	41	41	41
315.0	41	41	41	41	41	41
398.0	41	41	41	41	41	41
501.2	41	41	41	41	41	41
630.0	41	41	41	41	41	41
794.3	41	41	41	41	41	41
1000.0	41	41	41	41	41	41
1258.9	41	41	41	41	41	41
1584.9	41	41	41	41	41	41
2000.0	41	41	41	41	41	41
2511.9	41	41	41	41	41	41
3151.9	41	41	41	41	41	41
3981.0	41	41	41	41	41	41
5011.3	41	41	41	41	41	41
6301.5	41	41	41	41	41	41
7943.2	41	41	41	41	41	41
10000.0	41	41	41	41	41	41

A-Weighted Sound Level -
dB re: 20µPa

12.5	21.2
15.8	21.2
20.0	21.2
25.1	21.2
31.5	21.2
39.8	21.2
50.1	21.2
63.0	21.2
79.4	21.2
100.0	21.2
125.9	21.2
158.5	21.2
200.0	21.2
251.2	21.2
315.0	21.2
398.0	21.2
501.2	21.2
630.0	21.2
794.3	21.2
1000.0	21.2
1258.9	21.2
1584.9	21.2
2000.0	21.2
2511.9	21.2
3151.9	21.2
3981.0	21.2
5011.3	21.2
6301.5	21.2
7943.2	21.2
10000.0	21.2

EQUIVALENT SOUND LEVEL = 39.3 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	41
90	41
80	41
70	41
60	41
50	41
40	41
30	41
20	41
10	41
5	41
2	41
1	41

Background Ambient Sound Level Data
Location: 8
Date: July 11, 1983
Time: 2036

TABLE B-27

AMBIENT SOUND LEVEL DATA

FILE BCR34.DA

OCTAVE BAND Hz.	LEQ DB	L 1	L 15	L 35	L 55	L 75	L 95
0.125	44.4	44.4	44.4	44.4	44.4	44.4	44.4
0.25	44.4	44.4	44.4	44.4	44.4	44.4	44.4
0.5	44.4	44.4	44.4	44.4	44.4	44.4	44.4
1.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
2.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
4.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
8.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
16.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
31.5	44.4	44.4	44.4	44.4	44.4	44.4	44.4
63.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
125.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
250.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
500.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
1000.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
2000.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
4000.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
8000.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
16000.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
31500.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
63000.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
125000.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
250000.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
500000.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4
1000000.0	44.4	44.4	44.4	44.4	44.4	44.4	44.4

A-Weighted Sound Level -
dB re: 20 uPa

```

*****
* 36.2 *
*****
* 35.0 *
*****
* 34.0 *
*****
* 33.0 *
*****
* 32.0 *
*****
* 31.0 *
*****
* 30.0 *
*****
* 29.0 *
*****
* 28.0 *
*****
* 27.0 *
*****
* 26.0 *
*****
* 25.0 *
*****
* 24.0 *
*****
* 23.0 *
*****
* 22.0 *
*****
* 21.0 *
*****
* 20.0 *
*****
* 19.0 *
*****
* 18.0 *
*****
* 17.0 *
*****
* 16.0 *
*****
* 15.0 *
*****
* 14.0 *
*****
* 13.0 *
*****
* 12.0 *
*****
* 11.0 *
*****
* 10.0 *
*****
* 9.0 *
*****
* 8.0 *
*****
* 7.0 *
*****
* 6.0 *
*****
* 5.0 *
*****
* 4.0 *
*****
* 3.0 *
*****
* 2.0 *
*****
* 1.0 *
*****
* 0.0 *
*****

```

EQUIVALENT SOUND LEVEL = 36.2 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	36.2
90	35.0
80	34.0
70	33.0
60	32.0
50	31.0
40	30.0
30	29.0
20	28.0
10	27.0
5	26.0
2	25.0
1	24.0
0.5	23.0
0.2	22.0
0.1	21.0
0.05	20.0
0.02	19.0
0.01	18.0
0.005	17.0
0.002	16.0
0.001	15.0
0.0005	14.0
0.0002	13.0
0.0001	12.0
0.00005	11.0
0.00002	10.0
0.00001	9.0
0.000005	8.0
0.000002	7.0
0.000001	6.0
0.0000005	5.0
0.0000002	4.0
0.0000001	3.0
0.00000005	2.0
0.00000002	1.0
0.00000001	0.0

Background Ambient Sound Level Data

Location: 8
Date: July 11, 1983
Time: 2110

TABLE B-28

AMBIENT SOUND LEVEL DATA

FILE BCR05.DA

OCTAVE BAND	LEQ	L	L	L	L	L
Hz	dB	1	10	50	90	95
0.125	40.0	45.0	45.0	45.0	45.0	45.0
0.25	40.0	45.0	45.0	45.0	45.0	45.0
0.5	40.0	45.0	45.0	45.0	45.0	45.0
1.0	40.0	45.0	45.0	45.0	45.0	45.0
2.0	40.0	45.0	45.0	45.0	45.0	45.0
4.0	40.0	45.0	45.0	45.0	45.0	45.0
8.0	40.0	45.0	45.0	45.0	45.0	45.0
15.0	40.0	45.0	45.0	45.0	45.0	45.0
31.5	40.0	45.0	45.0	45.0	45.0	45.0
63.0	40.0	45.0	45.0	45.0	45.0	45.0
125.0	40.0	45.0	45.0	45.0	45.0	45.0
250.0	40.0	45.0	45.0	45.0	45.0	45.0
500.0	40.0	45.0	45.0	45.0	45.0	45.0
1000.0	40.0	45.0	45.0	45.0	45.0	45.0
2000.0	40.0	45.0	45.0	45.0	45.0	45.0
4000.0	40.0	45.0	45.0	45.0	45.0	45.0
8000.0	40.0	45.0	45.0	45.0	45.0	45.0
15000.0	40.0	45.0	45.0	45.0	45.0	45.0
31500.0	40.0	45.0	45.0	45.0	45.0	45.0

A-Weighted Sound Level -

dB re: 20µPa	%
10.0	0.0 %
11.1	11.1 %
12.2	15.4 %
13.3	15.5 %
14.4	12.9 %
15.5	10.5 %
16.6	9.5 %
17.7	6.7 %
18.8	3.9 %
19.9	3.4 %
21.0	3.7 %
22.1	1.2 %
23.2	0.9 %
24.3	0.2 %

EQUIVALENT SOUND LEVEL = 40.2 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	40.2
90	40.2
80	40.2
70	40.2
60	40.2
50	40.2
40	40.2
30	40.2
20	40.2
10	40.2
0	40.2

TABLE B-29

AMBIENT SOUND LEVEL DATA

FILE ECR35.DA

OCTAVE BAND HZ.	LEQ DB	L 1	L 10	L 50	L 90	L 95
0.5	41.0	41.0	41.0	41.0	41.0	41.0
0.63	41.0	41.0	41.0	41.0	41.0	41.0
0.8	41.0	41.0	41.0	41.0	41.0	41.0
1.0	41.0	41.0	41.0	41.0	41.0	41.0
1.25	41.0	41.0	41.0	41.0	41.0	41.0
1.6	41.0	41.0	41.0	41.0	41.0	41.0
2.0	41.0	41.0	41.0	41.0	41.0	41.0
2.5	41.0	41.0	41.0	41.0	41.0	41.0
3.15	41.0	41.0	41.0	41.0	41.0	41.0
4.0	41.0	41.0	41.0	41.0	41.0	41.0
5.0	41.0	41.0	41.0	41.0	41.0	41.0
6.3	41.0	41.0	41.0	41.0	41.0	41.0
8.0	41.0	41.0	41.0	41.0	41.0	41.0
10.0	41.0	41.0	41.0	41.0	41.0	41.0
12.5	41.0	41.0	41.0	41.0	41.0	41.0
16.0	41.0	41.0	41.0	41.0	41.0	41.0
20.0	41.0	41.0	41.0	41.0	41.0	41.0
25.0	41.0	41.0	41.0	41.0	41.0	41.0
31.5	41.0	41.0	41.0	41.0	41.0	41.0
40.0	41.0	41.0	41.0	41.0	41.0	41.0
50.0	41.0	41.0	41.0	41.0	41.0	41.0
63.0	41.0	41.0	41.0	41.0	41.0	41.0
80.0	41.0	41.0	41.0	41.0	41.0	41.0
100.0	41.0	41.0	41.0	41.0	41.0	41.0
125.0	41.0	41.0	41.0	41.0	41.0	41.0
160.0	41.0	41.0	41.0	41.0	41.0	41.0
200.0	41.0	41.0	41.0	41.0	41.0	41.0
250.0	41.0	41.0	41.0	41.0	41.0	41.0
315.0	41.0	41.0	41.0	41.0	41.0	41.0
400.0	41.0	41.0	41.0	41.0	41.0	41.0
500.0	41.0	41.0	41.0	41.0	41.0	41.0
630.0	41.0	41.0	41.0	41.0	41.0	41.0
800.0	41.0	41.0	41.0	41.0	41.0	41.0
1000.0	41.0	41.0	41.0	41.0	41.0	41.0
1250.0	41.0	41.0	41.0	41.0	41.0	41.0
1600.0	41.0	41.0	41.0	41.0	41.0	41.0
2000.0	41.0	41.0	41.0	41.0	41.0	41.0
2500.0	41.0	41.0	41.0	41.0	41.0	41.0
3150.0	41.0	41.0	41.0	41.0	41.0	41.0
4000.0	41.0	41.0	41.0	41.0	41.0	41.0
5000.0	41.0	41.0	41.0	41.0	41.0	41.0
6300.0	41.0	41.0	41.0	41.0	41.0	41.0
8000.0	41.0	41.0	41.0	41.0	41.0	41.0
10000.0	41.0	41.0	41.0	41.0	41.0	41.0

A-Weighted Sound Level
- dB re: 20µPa

100	1.3 %
110	
120	10.2 %
130	14 %
140	10.2 %
150	11.5 %
160	15.9 %
170	13 %
180	7.3 %
190	6.3 %
200	3.4 %
210	1.9 %
220	0.9 %
230	1.9 %
240	0.9 %
250	0.2 %

EQUIVALENT SOUND LEVEL = 38.9 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	34
90	34
80	34
70	34
60	34
50	34
40	34
30	34
20	34
10	34
5	34
2	34
1	34

Background Ambient Sound Level Data

Location: 8
Date: July 11, 1983
Time: 2300

TABLE B-30

AMBIENT SOUND LEVEL DATA

FILE B0927.DA

OCTAVE BAND HZ	LEQ DB	L 1	L 15	L 50	L 90	L 95
12.5	40.0	40.0	40.0	40.0	40.0	40.0
15.0	40.0	40.0	40.0	40.0	40.0	40.0
18.8	40.0	40.0	40.0	40.0	40.0	40.0
22.5	40.0	40.0	40.0	40.0	40.0	40.0
27.0	40.0	40.0	40.0	40.0	40.0	40.0
31.5	40.0	40.0	40.0	40.0	40.0	40.0
36.0	40.0	40.0	40.0	40.0	40.0	40.0
40.0	40.0	40.0	40.0	40.0	40.0	40.0
45.0	40.0	40.0	40.0	40.0	40.0	40.0
50.0	40.0	40.0	40.0	40.0	40.0	40.0
56.0	40.0	40.0	40.0	40.0	40.0	40.0
63.0	40.0	40.0	40.0	40.0	40.0	40.0
70.0	40.0	40.0	40.0	40.0	40.0	40.0
78.0	40.0	40.0	40.0	40.0	40.0	40.0
86.0	40.0	40.0	40.0	40.0	40.0	40.0
95.0	40.0	40.0	40.0	40.0	40.0	40.0

A-Weighted Sound Level - dB re: 20µPa	%
33	1.0 %
34	
35	22.1 %
36	25.4 %
37	13.3 %
38	7.7 %
39	5.9 %
40	3.1 %
41	1.4 %
42	0.9 %
43	0.9 %
44	0.4 %
45	2.7 %
46	1.3 %
47	0.7 %
48	0.5 %

EQUIVALENT SOUND LEVEL = 42.9 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	33
90	34
80	35
70	36
60	37
50	38
40	39
30	40
20	41
10	42
5	43
2	44
1	45
0	46

Background Ambient Sound Level Data

Location: 7
Date: July 11, 1983
Time: 2350

TABLE B-32

AMBIENT SOUND LEVEL DATA

FILE SCR209.DR

OCTAVE BAND	LF	L	L	L	L	L
HZ	0.05	1	1.6	2.5	3.6	5.0
125.0	42.1	42.1	42.1	42.1	42.1	42.1
150.0	42.1	42.1	42.1	42.1	42.1	42.1
180.0	42.1	42.1	42.1	42.1	42.1	42.1
220.0	42.1	42.1	42.1	42.1	42.1	42.1
270.0	42.1	42.1	42.1	42.1	42.1	42.1
330.0	42.1	42.1	42.1	42.1	42.1	42.1
400.0	42.1	42.1	42.1	42.1	42.1	42.1
480.0	42.1	42.1	42.1	42.1	42.1	42.1
580.0	42.1	42.1	42.1	42.1	42.1	42.1
700.0	42.1	42.1	42.1	42.1	42.1	42.1
850.0	42.1	42.1	42.1	42.1	42.1	42.1
1000.0	42.1	42.1	42.1	42.1	42.1	42.1
1200.0	42.1	42.1	42.1	42.1	42.1	42.1
1450.0	42.1	42.1	42.1	42.1	42.1	42.1
1750.0	42.1	42.1	42.1	42.1	42.1	42.1
2100.0	42.1	42.1	42.1	42.1	42.1	42.1
2500.0	42.1	42.1	42.1	42.1	42.1	42.1
3000.0	42.1	42.1	42.1	42.1	42.1	42.1
3600.0	42.1	42.1	42.1	42.1	42.1	42.1
4200.0	42.1	42.1	42.1	42.1	42.1	42.1
5000.0	42.1	42.1	42.1	42.1	42.1	42.1
6000.0	42.1	42.1	42.1	42.1	42.1	42.1
7200.0	42.1	42.1	42.1	42.1	42.1	42.1
8700.0	42.1	42.1	42.1	42.1	42.1	42.1
10500.0	42.1	42.1	42.1	42.1	42.1	42.1

A-Weighted Sound Level
 ~ dB re:20µPa

Frequency Band	Percentage
125-150 Hz	0.1 %
150-180 Hz	0.1 %
180-220 Hz	0.1 %
220-270 Hz	0.1 %
270-330 Hz	0.1 %
330-400 Hz	0.1 %
400-480 Hz	0.1 %
480-580 Hz	0.1 %
580-700 Hz	0.1 %
700-850 Hz	0.1 %
850-1000 Hz	0.1 %
1000-1200 Hz	0.1 %
1200-1450 Hz	0.1 %
1450-1750 Hz	0.1 %
1750-2100 Hz	0.1 %
2100-2500 Hz	0.1 %
2500-3000 Hz	0.1 %
3000-3600 Hz	0.1 %
3600-4200 Hz	0.1 %
4200-5000 Hz	0.1 %
5000-6000 Hz	0.1 %
6000-7200 Hz	0.1 %
7200-8700 Hz	0.1 %
8700-10500 Hz	0.1 %

EQUIVALENT SOUND LEVEL = 42.1 DB

CUMULATIVE DISTRIBUTION

NO. EXCEEDED	SOUND PRESSURE LEVEL-DB
100	35
95	35
90	35
85	35
80	35
75	35
70	35
65	35
60	35
55	35
50	35
45	35
40	35
35	35
30	35
25	35
20	35
15	35
10	35
5	35
1	35
0	35

Background Ambient Sound Level Data

Location: 8
 Date: July 12, 1983
 Time: 1530

TABLE B-33

AMBIENT SOUND LEVEL DATA

FILE ECR40.DA

OCTAVE BAND Hz	LEQ dB	L ₁	L ₁₀	L ₅₀	L ₉₀	L ₉₅
12.5	31.9	4.5	11.5	25	37.2	41.6
15.75	31.4	4.5	11.5	24	37.2	41.6
20	32.4	4.5	11.5	21	36.2	41.6
25.125	31.9	4.5	11.5	23	36.2	41.6
31.5	32.9	4.5	11.5	22	35.2	41.6
39.8	33.9	4.5	11.5	22	35.2	41.6
50.125	32.9	4.5	11.5	27	34.2	41.6
63.5	32.9	4.5	11.5	22	34.2	41.6
80	33.9	4.5	11.5	22	34.2	41.6
100	32.9	4.5	11.5	22	34.2	41.6
125.125	33.9	4.5	11.5	22	34.2	41.6
157.5	33.9	4.5	11.5	22	34.2	41.6
200	33.9	4.5	11.5	22	34.2	41.6
251.25	33.9	4.5	11.5	22	34.2	41.6
315	33.9	4.5	11.5	22	34.2	41.6
397.5	33.9	4.5	11.5	22	34.2	41.6
500	33.9	4.5	11.5	22	34.2	41.6
635	33.9	4.5	11.5	22	34.2	41.6
800	33.9	4.5	11.5	22	34.2	41.6
1000	33.9	4.5	11.5	22	34.2	41.6
1250	33.9	4.5	11.5	22	34.2	41.6
1575	33.9	4.5	11.5	22	34.2	41.6
2000	33.9	4.5	11.5	22	34.2	41.6
2512.5	33.9	4.5	11.5	22	34.2	41.6
3150	33.9	4.5	11.5	22	34.2	41.6
3975	33.9	4.5	11.5	22	34.2	41.6
5000	33.9	4.5	11.5	22	34.2	41.6
6350	33.9	4.5	11.5	22	34.2	41.6
8000	33.9	4.5	11.5	22	34.2	41.6
10000	33.9	4.5	11.5	22	34.2	41.6

A-Weighted Sound Level
- dB re 20µPa

```

31 * 0.5 %
32 * 0.5 %
33 * 0.5 %
34 * 0.5 %
35 * 0.5 %
36 * 0.5 %
37 * 0.5 %
38 * 0.5 %
39 * 0.5 %
40 * 0.5 %
41 * 0.5 %
42 * 0.5 %
43 * 0.5 %
44 * 0.5 %
45 * 0.5 %
46 * 0.5 %
47 * 0.5 %
48 * 0.5 %
49 * 0.5 %
50 * 0.5 %
51 * 0.5 %
52 * 0.5 %
53 * 0.5 %
54 * 0.5 %
55 * 0.5 %
56 * 0.5 %
57 * 0.5 %
58 * 0.5 %
59 * 0.5 %
60 * 0.5 %
61 * 0.5 %
62 * 0.5 %
63 * 0.5 %
64 * 0.5 %
65 * 0.5 %
66 * 0.5 %
67 * 0.5 %
68 * 0.5 %
69 * 0.5 %
70 * 0.5 %

```

9.1 %
7.9 %
3.4 %
12.4 %
17 %
15.5 %
8.8 %

EQUIVALENT SOUND LEVEL = 49.5 DB

CUMULATIVE DISTRIBUTION

% EXCEEDED	SOUND PRESSURE LEVEL-DB
100	31
90	31
80	31
70	31
60	31
50	31
40	31
30	31
20	31
10	31
5	31
2	31
1	31
0	31

TABLE B-34

AMBIENT SOUND LEVEL DATA

FILE 80041.DA

A-Weighted Sound Level
- dB re: 20µPa

OCTAVE BAND	LEQ	L	L	L	L	L
Hz	dB	1	5	9	9	9
12.5	44.0	44.0	44.0	44.0	44.0	44.0
15.8	44.0	44.0	44.0	44.0	44.0	44.0
20.0	44.0	44.0	44.0	44.0	44.0	44.0
25.1	44.0	44.0	44.0	44.0	44.0	44.0
31.5	44.0	44.0	44.0	44.0	44.0	44.0
39.8	44.0	44.0	44.0	44.0	44.0	44.0
50.1	44.0	44.0	44.0	44.0	44.0	44.0
63.1	44.0	44.0	44.0	44.0	44.0	44.0
79.6	44.0	44.0	44.0	44.0	44.0	44.0
100.0	44.0	44.0	44.0	44.0	44.0	44.0
125.9	44.0	44.0	44.0	44.0	44.0	44.0
159.1	44.0	44.0	44.0	44.0	44.0	44.0
200.0	44.0	44.0	44.0	44.0	44.0	44.0
251.9	44.0	44.0	44.0	44.0	44.0	44.0
315.1	44.0	44.0	44.0	44.0	44.0	44.0
398.0	44.0	44.0	44.0	44.0	44.0	44.0
501.2	44.0	44.0	44.0	44.0	44.0	44.0
631.0	44.0	44.0	44.0	44.0	44.0	44.0
796.0	44.0	44.0	44.0	44.0	44.0	44.0
1000	44.0	44.0	44.0	44.0	44.0	44.0

Frequency (Hz)	Level (dB)	Level (dB)	Level (dB)	Level (dB)	Level (dB)	Level (dB)
12.5	44.0	44.0	44.0	44.0	44.0	44.0
15.8	44.0	44.0	44.0	44.0	44.0	44.0
20.0	44.0	44.0	44.0	44.0	44.0	44.0
25.1	44.0	44.0	44.0	44.0	44.0	44.0
31.5	44.0	44.0	44.0	44.0	44.0	44.0
39.8	44.0	44.0	44.0	44.0	44.0	44.0
50.1	44.0	44.0	44.0	44.0	44.0	44.0
63.1	44.0	44.0	44.0	44.0	44.0	44.0
79.6	44.0	44.0	44.0	44.0	44.0	44.0
100.0	44.0	44.0	44.0	44.0	44.0	44.0
125.9	44.0	44.0	44.0	44.0	44.0	44.0
159.1	44.0	44.0	44.0	44.0	44.0	44.0
200.0	44.0	44.0	44.0	44.0	44.0	44.0
251.9	44.0	44.0	44.0	44.0	44.0	44.0
315.1	44.0	44.0	44.0	44.0	44.0	44.0
398.0	44.0	44.0	44.0	44.0	44.0	44.0
501.2	44.0	44.0	44.0	44.0	44.0	44.0
631.0	44.0	44.0	44.0	44.0	44.0	44.0
796.0	44.0	44.0	44.0	44.0	44.0	44.0
1000	44.0	44.0	44.0	44.0	44.0	44.0

EQUIVALENT SOUND LEVEL = 46.4 dB

CUMULATIVE DISTRIBUTION

NO. EXCEEDED	SOUND PRESSURE LEVEL-dB
100	41
90	41
80	41
70	41
60	41
50	41
40	41
30	41
20	41
10	41
5	41
2	41
1	41

Background Ambient Sound Level Data

Location: 7
Date: July 12, 1983
Time: 1500

TABLE B-35

AMBIENT SOUND LEVEL DATA

FILE B0642.DA

OCTAVE BAND	LEQ	L	L	L	L	L	L
1/3	41.1	41.1	41.1	41.1	41.1	41.1	41.1
1/2	41.1	41.1	41.1	41.1	41.1	41.1	41.1
2/3	41.1	41.1	41.1	41.1	41.1	41.1	41.1
1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
1 1/2	41.1	41.1	41.1	41.1	41.1	41.1	41.1
2	41.1	41.1	41.1	41.1	41.1	41.1	41.1
3	41.1	41.1	41.1	41.1	41.1	41.1	41.1
4	41.1	41.1	41.1	41.1	41.1	41.1	41.1
5	41.1	41.1	41.1	41.1	41.1	41.1	41.1
6	41.1	41.1	41.1	41.1	41.1	41.1	41.1
8	41.1	41.1	41.1	41.1	41.1	41.1	41.1
12	41.1	41.1	41.1	41.1	41.1	41.1	41.1
18	41.1	41.1	41.1	41.1	41.1	41.1	41.1
27	41.1	41.1	41.1	41.1	41.1	41.1	41.1
40	41.1	41.1	41.1	41.1	41.1	41.1	41.1

A-Weighted Sound Level - dB re 20µPa

TIME	1/3	1/2	2/3	1	1 1/2	2	3	4	5	6	8	12	18	27	40	LA
00:00	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
00:05	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
00:10	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
00:15	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
00:20	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
00:25	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
00:30	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
00:35	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
00:40	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
00:45	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
00:50	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
00:55	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
01:00	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1

CUMULATIVE DISTRIBUTION

% EXCEEDED	SOUND PRESSURE LEVEL-DB
100	41.1
90	41.1
80	41.1
70	41.1
60	41.1
50	41.1
40	41.1
30	41.1
20	41.1
10	41.1
5	41.1
2	41.1
1	41.1

EQUIVALENT SOUND LEVEL = 49.8 DB

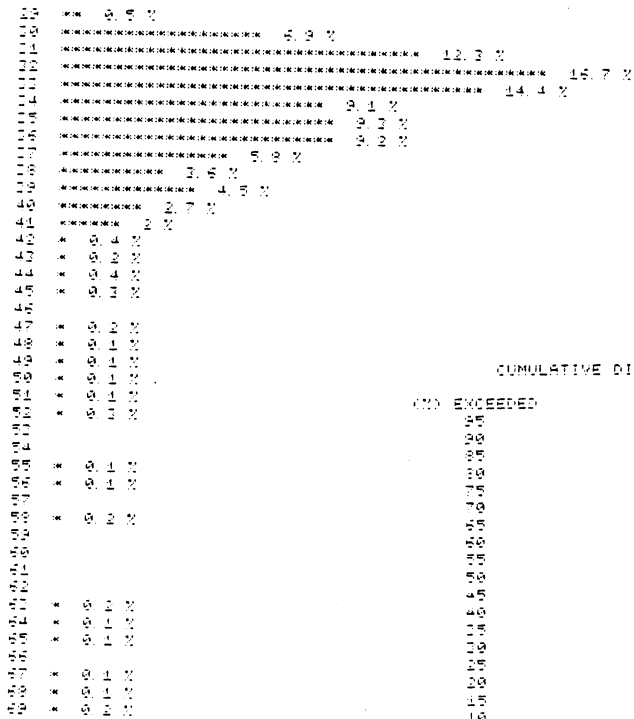
Background Ambient Sound Level Data
 Location: 7
 Date: July 12, 1983
 Time: 1530

TABLE B-36
AMBIENT SOUND LEVEL DATA

FILE ECP40 0A

OCTAVE BAND	LEQ DB	L 1	L 10	L 50	L 90	L 99
12.5	41	41	41	41	41	41
15.6	41	41	41	41	41	41
20.0	41	41	41	41	41	41
25.1	41	41	41	41	41	41
31.5	41	41	41	41	41	41
39.8	41	41	41	41	41	41
50.1	41	41	41	41	41	41
62.5	41	41	41	41	41	41
77.7	41	41	41	41	41	41

A-Weighted Sound Level - dB re 20µPa



EQUIVALENT SOUND LEVEL = 46 DB

Background Ambient Sound Level Data

Location: 9
 Date: July 12, 1983
 Time: 1825

TABLE B-37

AMBIENT SOUND LEVEL DATA

OCTAVE BAND Hz	LEQ dB	L ₁	L ₁₀	L ₅₀	L ₉₀	L ₉₅
12.5	41.4	42	43	47	48	44
15.75	41.4	44	45	47	48	44
19.75	41.4	43	45	46	48	44
25.125	41.4	44	45	46	48	44
31.5	41.4	45	46	46	48	44
39.5	41.4	45	46	46	48	44
49.7	41.4	45	46	46	48	44
63	41.4	45	46	46	48	44
79.5	41.4	45	46	46	48	44
100	41.4	45	46	46	48	44
125	41.4	45	46	46	48	44
157.5	41.4	45	46	46	48	44
197.5	41.4	45	46	46	48	44
251.25	41.4	45	46	46	48	44
315	41.4	45	46	46	48	44
395	41.4	45	46	46	48	44
497	41.4	45	46	46	48	44
630	41.4	45	46	46	48	44
795	41.4	45	46	46	48	44
1000	41.4	45	46	46	48	44
1250	41.4	45	46	46	48	44
1575	41.4	45	46	46	48	44
1975	41.4	45	46	46	48	44
2512.5	41.4	45	46	46	48	44
3150	41.4	45	46	46	48	44
3950	41.4	45	46	46	48	44
4970	41.4	45	46	46	48	44
6300	41.4	45	46	46	48	44
7950	41.4	45	46	46	48	44
10000	41.4	45	46	46	48	44
TOTAL	41.4	48	48	48	48	47

A-Weighted Sound Level - dB re 20 uPa

27	1%
28	7.7%
29	9.4%
30	9.4%
31	11.4%
32	19%
33	19.2%
34	9.2%
35	4.9%
36	2.6%
37	1.1%
38	1%
39	0.6%
40	
41	
42	0.1%

EQUIVALENT SOUND LEVEL = 32.5 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
99	28
95	29
90	29
85	29
80	29
75	29
70	29
65	29
60	29
55	29
50	29
45	29
40	29
35	29
30	29
25	29
20	29
15	29
10	29
5	29
0	29

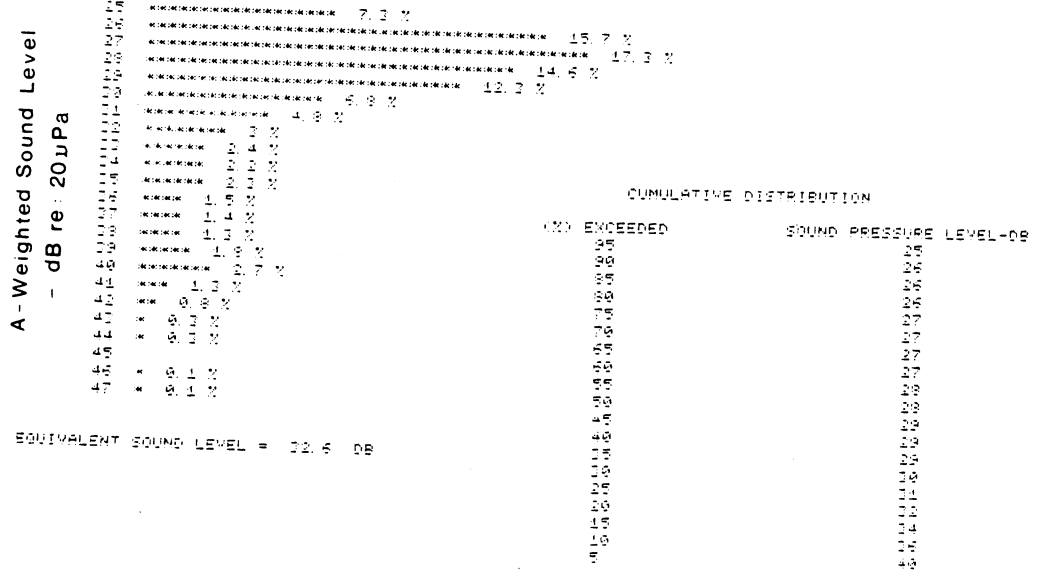
Background Ambient Sound Level Data
 Location: 9
 Date: July 12, 1983
 Time: 1847

TABLE B-38

AMBIENT SOUND LEVEL DATA

FILE ECP45.DA

OCTAVE BAND	LEQ	L	L	L	L	L
Hz	dB	1	10	50	90	95
12.5	44.0	44.0	44.0	44.0	44.0	44.0
15.8	44.0	44.0	44.0	44.0	44.0	44.0
20.0	44.0	44.0	44.0	44.0	44.0	44.0
25.1	44.0	44.0	44.0	44.0	44.0	44.0
31.5	44.0	44.0	44.0	44.0	44.0	44.0
39.8	44.0	44.0	44.0	44.0	44.0	44.0
50.0	44.0	44.0	44.0	44.0	44.0	44.0
63.1	44.0	44.0	44.0	44.0	44.0	44.0
79.4	44.0	44.0	44.0	44.0	44.0	44.0
100.0	44.0	44.0	44.0	44.0	44.0	44.0
125.9	44.0	44.0	44.0	44.0	44.0	44.0
158.5	44.0	44.0	44.0	44.0	44.0	44.0
200.0	44.0	44.0	44.0	44.0	44.0	44.0
251.2	44.0	44.0	44.0	44.0	44.0	44.0
315.0	44.0	44.0	44.0	44.0	44.0	44.0
398.0	44.0	44.0	44.0	44.0	44.0	44.0
500.0	44.0	44.0	44.0	44.0	44.0	44.0
631.0	44.0	44.0	44.0	44.0	44.0	44.0
794.0	44.0	44.0	44.0	44.0	44.0	44.0
1000.0	44.0	44.0	44.0	44.0	44.0	44.0
1259.0	44.0	44.0	44.0	44.0	44.0	44.0
1585.0	44.0	44.0	44.0	44.0	44.0	44.0
2000.0	44.0	44.0	44.0	44.0	44.0	44.0
2512.0	44.0	44.0	44.0	44.0	44.0	44.0
3150.0	44.0	44.0	44.0	44.0	44.0	44.0
3980.0	44.0	44.0	44.0	44.0	44.0	44.0
5000.0	44.0	44.0	44.0	44.0	44.0	44.0
6310.0	44.0	44.0	44.0	44.0	44.0	44.0
7940.0	44.0	44.0	44.0	44.0	44.0	44.0
10000.0	44.0	44.0	44.0	44.0	44.0	44.0



Background Ambient Sound Level Data
 Location: 10
 Date: July 12, 1983
 Time: 2025

TABLE B-40

AMBIENT SOUND LEVEL DATA

FILE ECR47.DA

OCTAVE BAND HZ.	LEQ DB	L 1	L 10	L 50	L 90	L 99
0.5	40	45	48	42	39	27
1	37	47	41	33	32	31
2	36	38	33	29	24	24
3	34	33	26	24	24	24
4	34	35	24	24	24	24
5	34	24	24	24	24	24
6	34	24	24	24	24	24
8	34	24	24	24	24	24
10	34	24	24	24	24	24
15	34	24	24	24	24	24
20	34	24	24	24	24	24
30	34	24	24	24	24	24
40	34	24	24	24	24	24
50	34	24	24	24	24	24
63	34	24	24	24	24	24
80	34	24	24	24	24	24
100	34	24	24	24	24	24
A-INT.	25.9	30	28	25	25	25

A-Weighted
 Sound Level
 - dB re: 20 μ Pa

0.5 * 9.1 %
 1 * 11.9 %
 2 * 21.9 %
 3 * 11.1 %
 4 * 2.7 %
 5 * 9.9 %
 6 * 9.9 %
 8 * 9.1 %
 10 * 9.1 %

EQUIVALENT SOUND LEVEL = 26.9 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	25
95	25
90	25
85	25
80	25
75	25
70	25
65	25
60	25
55	25
50	25
45	25
40	25
35	25
30	25
25	25
20	25
15	25
10	25
5	25
0	25

Background Ambient Sound Level Da

Location: 9
 Date: July 12, 1983
 Time: 2200

TABLE B-41

AMBIENT SOUND LEVEL DATA

FILE ECP48.DP

OCTAVE BAND HZ.	LEQ DB	L 1	L 10	L 50	L 90	L 99
31.5	38.0	40	41	29	27	26
63	41.0	44	42	32	31	30
125	29.0	30	31	24	24	24
250	26.0	26	26	24	24	24
500	24.0	24	25	24	24	24
1000	24.0	24	24	24	24	24
2000	24.0	27	24	24	24	24
4000	24.0	24	24	24	24	24
8000	24.0	24	24	24	24	24
R-M.T.	29	36	29	26	25	25

A-Weighted Sound Level
- dB re: 20µPa

21	-----	26 %
22	-----	45.7 %
23	-----	9.5 %
24	-----	4.1 %
25	-----	3.4 %
26	-----	2.8 %
27	-----	1.4 %
28	-----	1.1 %
29	-----	0.9 %
30	-----	0.8 %
31	-----	0.7 %
32	-----	0.6 %
33	-----	0.5 %
34	-----	0.4 %
35	-----	0.3 %
36	-----	0.2 %
37	-----	0.1 %
38	-----	0.1 %
39	-----	0.1 %
40	-----	0.1 %
41	-----	0.1 %
42	-----	0.1 %
43	-----	0.1 %
44	-----	0.1 %
45	-----	0.1 %
46	-----	0.1 %
47	-----	0.1 %
48	-----	0.1 %
49	-----	0.1 %
50	-----	0.1 %
51	-----	0.1 %
52	-----	0.1 %
53	-----	0.1 %
54	-----	0.1 %
55	-----	0.1 %
56	-----	0.1 %
57	-----	0.1 %
58	-----	0.1 %
59	-----	0.1 %
60	-----	0.1 %
61	-----	0.1 %
62	-----	0.1 %
63	-----	0.1 %
64	-----	0.1 %
65	-----	0.1 %
66	-----	0.1 %
67	-----	0.1 %
68	-----	0.1 %
69	-----	0.1 %
70	-----	0.1 %
71	-----	0.1 %
72	-----	0.1 %
73	-----	0.1 %
74	-----	0.1 %
75	-----	0.1 %
76	-----	0.1 %
77	-----	0.1 %
78	-----	0.1 %
79	-----	0.1 %
80	-----	0.1 %
81	-----	0.1 %
82	-----	0.1 %
83	-----	0.1 %
84	-----	0.1 %
85	-----	0.1 %
86	-----	0.1 %
87	-----	0.1 %
88	-----	0.1 %
89	-----	0.1 %
90	-----	0.1 %
91	-----	0.1 %
92	-----	0.1 %
93	-----	0.1 %
94	-----	0.1 %
95	-----	0.1 %
96	-----	0.1 %
97	-----	0.1 %
98	-----	0.1 %
99	-----	0.1 %
100	-----	0.1 %

EQUIVALENT SOUND LEVEL = 29 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	21
95	22
90	23
85	24
80	25
75	26
70	27
65	28
60	29
55	30
50	31
45	32
40	33
35	34
30	35
25	36
20	37
15	38
10	39
5	40
0	41

Background Ambient Sound Level Data

Location: 9
Date: July 12, 1983
Time: 2230

TABLE B-42
AMBIENT SOUND LEVEL DATA

FILE ECP49.DA

OCTAVE BAND HZ.	LEQ DB	L 1	L 10	L 50	L 90	L 99
31.5	22.0	24.1	23.0	27.0	26.0	25.0
63.0	24.4	23.0	23.0	24.0	24.0	24.0
125.0	25.7	24.0	24.0	24.0	24.0	24.0
250.0	24.4	24.0	24.0	24.0	24.0	24.0
500.0	24.0	24.0	24.0	24.0	24.0	24.0
1000.0	24.0	24.0	24.0	24.0	24.0	24.0
2000.0	24.0	24.0	24.0	24.0	24.0	24.0
4000.0	24.0	24.0	24.0	24.0	24.0	24.0
8000.0	24.0	24.0	24.0	24.0	24.0	24.0
A-WEI.	29.0	27.0	27.0	28.0	28.0	28.0

A-Weighted Sound Level
 - dB re 20uPa

24	*	0	0
25	.....	0	0
26	.....	0	0
27	.....	22.2	0
28	.....	0	0
29	.....	0	0
30	.....	0	0
31	.....	0	0
32	.....	0	0
33	.....	0	0
34	.....	0	0
35	.....	0	0
36	.....	0	0
37	.....	0	0
38	.....	0	0
39	.....	0	0
40	.....	0	0
41	.....	0	0
42	.....	0	0
43	.....	0	0
44	.....	0	0
45	.....	0	0
46	.....	0	0
47	.....	0	0
48	.....	0	0
49	.....	0	0
50	.....	0	0
51	.....	0	0
52	.....	0	0
53	.....	0	0
54	.....	0	0
55	.....	0	0
56	.....	0	0
57	.....	0	0
58	.....	0	0
59	.....	0	0
60	.....	0	0
61	.....	0	0
62	.....	0	0
63	.....	0	0
64	.....	0	0
65	.....	0	0
66	.....	0	0
67	.....	0	0
68	.....	0	0
69	.....	0	0
70	.....	0	0
71	.....	0	0
72	.....	0	0
73	.....	0	0
74	.....	0	0
75	.....	0	0
76	.....	0	0
77	.....	0	0
78	.....	0	0
79	.....	0	0
80	.....	0	0
81	.....	0	0
82	.....	0	0
83	.....	0	0
84	.....	0	0
85	.....	0	0
86	.....	0	0
87	.....	0	0
88	.....	0	0
89	.....	0	0
90	.....	0	0
91	.....	0	0
92	.....	0	0
93	.....	0	0
94	.....	0	0
95	.....	0	0
96	.....	0	0
97	.....	0	0
98	.....	0	0
99	.....	0	0
100	.....	0	0

EQUIVALENT SOUND LEVEL = 29 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	24.0
90	24.0
80	24.0
70	24.0
60	24.0
50	24.0
40	24.0
30	24.0
20	24.0
10	24.0
0	29.0

Background Ambient Sound Level D
 Location: 10
 Date: July 12, 1983
 Time: 2315

TABLE B-43

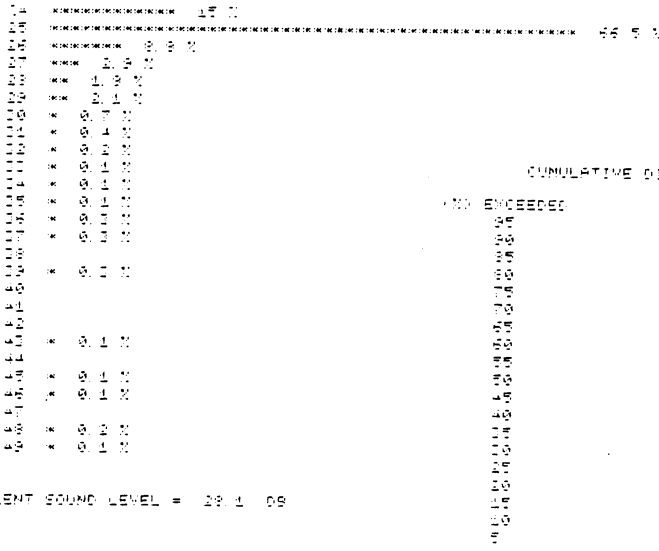
AMBIENT SOUND LEVEL DATA

FILE BCP50.DA

OCTAVE BAND	LEQ	L	L	L	L	L
Hz	dB	1	10	50	90	99
125	59	44	53	57	57	58
150	59	44	53	57	57	58
180	59	44	53	57	57	58
225	59	44	53	57	57	58
280	59	44	53	57	57	58
340	59	44	53	57	57	58
420	59	44	53	57	57	58
520	59	44	53	57	57	58
650	59	44	53	57	57	58
810	59	44	53	57	57	58
1000	59	44	53	57	57	58
1250	59	44	53	57	57	58
1570	59	44	53	57	57	58

A-Weighted Sound Level
- dB re: 20µPa

EQUIVALENT SOUND LEVEL = 58.1 DB



Background Ambient Sound Level Data

Location: 10
Date: July 12, 1983
Time: 2345

TABLE B-44

AMBIENT SOUND LEVEL DATA

FILE 80951.DAT

OCTAVE BAND	1/3	1/2	1	2	3	5
1000	42.5	43.0	43.5	44.0	44.5	45.0
1250	42.5	43.0	43.5	44.0	44.5	45.0
1500	42.5	43.0	43.5	44.0	44.5	45.0
1800	42.5	43.0	43.5	44.0	44.5	45.0
2200	42.5	43.0	43.5	44.0	44.5	45.0
2700	42.5	43.0	43.5	44.0	44.5	45.0
3300	42.5	43.0	43.5	44.0	44.5	45.0
4000	42.5	43.0	43.5	44.0	44.5	45.0
4800	42.5	43.0	43.5	44.0	44.5	45.0
5800	42.5	43.0	43.5	44.0	44.5	45.0
7000	42.5	43.0	43.5	44.0	44.5	45.0
8500	42.5	43.0	43.5	44.0	44.5	45.0
10000	42.5	43.0	43.5	44.0	44.5	45.0

A-Weighted Sound Level - dB re: 20μPa

Time	Level	Level	Level	Level	Level	Level	Level	Level	Level
00	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
01	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
02	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
03	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
04	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
05	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
06	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
07	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
08	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
09	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
10	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
11	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
12	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
13	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
14	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
15	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
16	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
17	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
18	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
19	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
20	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
21	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
22	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
23	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
24	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
25	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
26	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
27	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
28	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
29	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
30	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
31	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
32	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
33	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
34	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
35	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
36	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
37	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
38	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
39	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
40	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
41	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
42	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
43	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
44	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
45	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
46	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
47	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
48	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
49	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5
50	42.5	43.0	43.5	44.0	44.5	45.0	45.5	46.0	46.5

EQUIVALENT SOUND LEVEL = 44.2 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
100	42.5
90	42.5
80	42.5
70	42.5
60	42.5
50	42.5
40	42.5
30	42.5
20	42.5
10	42.5
5	42.5
2	42.5
1	42.5

Background Ambient Sound Level Data

Location: 9
 Date: July 13, 1983
 Time: 1205

TABLE B-45

AMBIENT SOUND LEVEL DATA

FILE ECR52.DA

OCTAVE BAND HZ.	LEQ DB	L 1	L 10	L 50	L 90	L 99
12.5	43.0	57	42	35	34	34
15.6	42.0	47	44	40	39	37
19.8	44.0	47	44	44	44	44
25.1	44.0	44	44	44	44	44
31.5	44.0	44	44	44	44	44
39.1	44.0	44	44	44	44	44
47.9	44.0	44	44	44	44	44
58.1	44.0	44	44	44	44	44
69.7	44.0	44	44	44	44	44
83.8	44.0	44	44	44	44	44
100.0	44.0	44	44	44	44	44
119.2	44.0	44	44	44	44	44
140.6	44.0	44	44	44	44	44
164.5	44.0	44	44	44	44	44
190.9	44.0	44	44	44	44	44
220.0	44.0	44	44	44	44	44
251.9	44.0	44	44	44	44	44
286.7	44.0	44	44	44	44	44
334.4	44.0	44	44	44	44	44
395.8	44.0	44	44	44	44	44
471.9	44.0	44	44	44	44	44
563.8	44.0	44	44	44	44	44
672.6	44.0	44	44	44	44	44
800.0	44.0	44	44	44	44	44
947.9	44.0	44	44	44	44	44
1117.4	44.0	44	44	44	44	44
1310.6	44.0	44	44	44	44	44
1529.7	44.0	44	44	44	44	44
1776.8	44.0	44	44	44	44	44
2054.0	44.0	44	44	44	44	44
2463.4	44.0	44	44	44	44	44
2918.8	44.0	44	44	44	44	44
3536.2	44.0	44	44	44	44	44
4234.7	44.0	44	44	44	44	44
5034.4	44.0	44	44	44	44	44
5957.3	44.0	44	44	44	44	44
7025.4	44.0	44	44	44	44	44
8369.8	44.0	44	44	44	44	44
9931.5	44.0	44	44	44	44	44
11842.7	44.0	44	44	44	44	44
14155.4	44.0	44	44	44	44	44
16940.6	44.0	44	44	44	44	44
20280.3	44.0	44	44	44	44	44
24285.5	44.0	44	44	44	44	44
29097.2	44.0	44	44	44	44	44
34866.4	44.0	44	44	44	44	44
41866.1	44.0	44	44	44	44	44
50366.1	44.0	44	44	44	44	44
60766.1	44.0	44	44	44	44	44
73566.1	44.0	44	44	44	44	44
89366.1	44.0	44	44	44	44	44
108866.1	44.0	44	44	44	44	44
132866.1	44.0	44	44	44	44	44
162866.1	44.0	44	44	44	44	44
200000.0	44.0	44	44	44	44	44

A-Weighted Sound Level
 - dB re 20 uPa

```

33.0 * 0.1 %
34.0 4.4 %
35.0 15 %
36.0 29.7 %
37.0 19.2 %
38.0 15.5 %
39.0 6.3 %
40.0 5.9 %
41.0 3.7 %
42.0 1.7 %
43.0 ** 1 %
44.0 * 0.4 %
  
```

EQUIVALENT SOUND LEVEL = 39.6 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	37
90	37
85	37
80	37
75	37
70	37
65	37
60	37
55	37
50	37
45	37
40	37
35	37
30	37
25	37
20	37
15	41
10	42
5	43

Background Ambient Sound Level Data

Location: 9
 Date: July 13, 1983
 Time: 1230

TABLE B-46

AMBIENT SOUND LEVEL DATA

FILE ECR53.DA

OCTAVE BAND HZ.	LEQ DB	L 1	L 10	L 50	L 90	L 99
31.5	42.0	54	44	37	33	31
50	38.7	42	37	34	31	29
63	38.6	37	33	30	27	26
125	38.9	35	32	27	24	24
250	38.6	37	32	28	25	24
500	38.0	35	32	27	24	24
1000	38.9	37	34	30	27	24
2000	34.1	40	38	33	27	24
4000	27.9	35	31	26	24	24
8000	38.9	45	42	38	34	31

A-Weighted Sound Level
- dB re: 20µPa

```

31.5 * 0.3 %
50 *** 0.0 %
63 ***** 1.7 %
125 ***** 1.3 %
250 ***** 5.3 %
500 ***** 10.0 %
1000 ***** 13.2 %
2000 ***** 12.2 %
4000 ***** 11.0 %
8000 ***** 10.7 %
16000 ***** 10.0 %
31500 ***** 9.4 %
63000 ***** 5.5 %
125000 ***** 2.5 %
250000 ***** 0.2 %
500000 ***** 0.0 %
1000000 * 0.3 %
    
```

EQUIVALENT SOUND LEVEL = 38.9 DB

CUMULATIVE DISTRIBUTION

(%) EXCEEDED	SOUND PRESSURE LEVEL-DB
95	32.4
90	32.4
85	32.4
80	32.4
75	32.4
70	32.4
65	32.4
60	32.4
55	32.4
50	32.4
45	32.4
40	32.4
35	32.4
30	32.4
25	32.4
20	32.4
15	32.4
10	32.4
5	32.4

Background Ambient Sound Level Data

Location: 10
Date: July 13, 1983
Time: 1655

TABLE B-47

AMBIENT SOUND LEVEL DATA

FILE 20854.DA

OCTAVE BAND HZ.	LEG dB	L 1	L 10	L 50	L 90	L 95
125	11.0	11.0	11.0	11.0	11.0	11.0
150	11.0	11.0	11.0	11.0	11.0	11.0
180	11.0	11.0	11.0	11.0	11.0	11.0
225	11.0	11.0	11.0	11.0	11.0	11.0
280	11.0	11.0	11.0	11.0	11.0	11.0
340	11.0	11.0	11.0	11.0	11.0	11.0
410	11.0	11.0	11.0	11.0	11.0	11.0
500	11.0	11.0	11.0	11.0	11.0	11.0
630	11.0	11.0	11.0	11.0	11.0	11.0
780	11.0	11.0	11.0	11.0	11.0	11.0
950	11.0	11.0	11.0	11.0	11.0	11.0
1150	11.0	11.0	11.0	11.0	11.0	11.0
1400	11.0	11.0	11.0	11.0	11.0	11.0
1700	11.0	11.0	11.0	11.0	11.0	11.0
2100	11.0	11.0	11.0	11.0	11.0	11.0
2600	11.0	11.0	11.0	11.0	11.0	11.0
3200	11.0	11.0	11.0	11.0	11.0	11.0
3900	11.0	11.0	11.0	11.0	11.0	11.0
4800	11.0	11.0	11.0	11.0	11.0	11.0
5800	11.0	11.0	11.0	11.0	11.0	11.0
7000	11.0	11.0	11.0	11.0	11.0	11.0
8500	11.0	11.0	11.0	11.0	11.0	11.0
10000	11.0	11.0	11.0	11.0	11.0	11.0

A-Weighted Sound Level
- dB re 20µPa

10	* 0 0 0
11	1 0 0
12	1 0 0
13	1 0 0
14	1 0 0
15	1 0 0
16	1 0 0
17	1 0 0
18	1 0 0
19	1 0 0
20	1 0 0
21	1 0 0
22	1 0 0
23	1 0 0
24	1 0 0
25	1 0 0
26	1 0 0
27	1 0 0
28	1 0 0
29	1 0 0
30	1 0 0
31	1 0 0
32	1 0 0
33	1 0 0
34	1 0 0
35	1 0 0
36	1 0 0
37	1 0 0
38	1 0 0
39	1 0 0
40	1 0 0
41	1 0 0
42	1 0 0
43	1 0 0
44	1 0 0
45	1 0 0
46	1 0 0
47	1 0 0
48	1 0 0
49	1 0 0
50	1 0 0
51	1 0 0
52	1 0 0
53	1 0 0
54	1 0 0
55	1 0 0
56	1 0 0
57	1 0 0
58	1 0 0
59	1 0 0
60	1 0 0
61	1 0 0
62	1 0 0
63	1 0 0
64	1 0 0
65	1 0 0
66	1 0 0
67	1 0 0
68	1 0 0
69	1 0 0
70	1 0 0
71	1 0 0
72	1 0 0
73	1 0 0
74	1 0 0
75	1 0 0
76	1 0 0
77	1 0 0
78	1 0 0
79	1 0 0
80	1 0 0
81	1 0 0
82	1 0 0
83	1 0 0
84	1 0 0
85	1 0 0
86	1 0 0
87	1 0 0
88	1 0 0
89	1 0 0
90	1 0 0
91	1 0 0
92	1 0 0
93	1 0 0
94	1 0 0
95	1 0 0
96	1 0 0
97	1 0 0
98	1 0 0
99	1 0 0
100	1 0 0

EQUIVALENT SOUND LEVEL = 39.5 DB

CUMULATIVE DISTRIBUTION

AND EXCEEDED	SOUND PRESSURE LEVEL-DB
100	100
95	100
90	100
85	100
80	100
75	100
70	100
65	100
60	100
55	100
50	100
45	100
40	100
35	100
30	100
25	100
20	100
15	100
10	100
5	100
0	100

Background Ambient Sound Level Data
 Location: 10
 Date: July 13, 1983
 Time: 1725

TABLE B-48

METEOROLOGICAL CONDITIONS

<u>LOCATION</u>	<u>DATE</u>	<u>SAMPLING INTERVAL</u>	<u>TEMPERATURE (°C)</u>	<u>HUMIDITY (%)</u>	<u>WIND SPEED (m/s)</u>
<u>WINTER</u>					
7	3/30/83	1225	7	39	2 - 4
8	3/30/83	1345	6.5	68	1 - 4
9	3/30/83	1000	4	56	0 - 3
10	3/30/83	1118	6	48	0 - 4
7	3/29/83	2100	-0.5	65	3
8	3/30/83	2045	4	85	0 - 1
9	3/30/83	1910	4	85	0 - 1
10	3/30/83	1800	5	70	1 - 3
7	3/30/83	2340	2.5	90	0 - 1
8	3/31/83	0100	2.5	90	0
9	3/29/83	2245	-2	75	0
10	3/30/83	2225	2.5	90	0 - 1
<u>SUMMER</u>					
7	7/12/83	1500	32	60	0 - 2
8	7/12/83	1530	28	68	1 - 3
9	7/13/83	1205	31	76	0 - 2
10	7/13/83	1655	30	68	0 - 2
7	7/11/83	1910	28	74	0 - 2
8	7/11/83	2036	26	80	2 - 6
9	7/12/83	1825	24	58	2 - 4
10	7/12/83	2025	23	85	0
7	7/11/83	2350	27	68	2 - 5
8	7/11/83	2230	24	58	2 - 4
9	7/12/83	2200	20	85	0 - 2
10	7/12/83	2315	19	90	0 - 2

APPENDIX 2.10A
SOCIOECONOMIC REPORT

LIST OF TABLES

<u>Table</u>	<u>Title</u>
2.10A-1	County Expenditures and Capital Projects, 1973-1979
2.10A-2	County Facilities and Services Summary
2.10A-3	City and Secondary Service Centers Expenditures and Capital Projects, 1973-1979
2.10A-4	City and Secondary Service Center Police Service
2.10A-5	City and Secondary Service Center Fire Protection
2.10A-6	City and Secondary Service Center Streets and Roads
2.10A-7	City and Secondary Service Center Solid Waste Disposal
2.10A-8	City and Secondary Service Center Water Service
2.10A-9	City and Secondary Service Center Wastewater Treatment
2.10A-10	City and Secondary Service Center Library Facilities
2.10A-11	City and Secondary Service Center Recreation Facilities
2.10A-12	City and Secondary Service Center Emergency Medical Service
2.10A-13	City and Secondary Service Center General Government
2.10A-14	Town Expenditures and Capital Projects
2.10A-15	Town Facilities and Services Summary
2.10A-16	School District Expenditures

LIST OF TABLES (continued)

<u>Table</u>	<u>Title</u>
2.10A-17	School District Descriptions
2.10A-18	Public School Enrollment by School
2.10A-19	School District School Description
2.10A-20	Number of Curriculum Offerings by School District

Table 2.10A-1

COUNTY EXPENDITURES AND CAPITAL PROJECTS
FOREST COUNTY

EXPENDITURES	YEAR						
	1973	1974	1975	1976	1977	1978	1979
General Administration							
total cost (\$ 000)	171.8	177.9	193.1	213.6	224.8	282.2	316.6
per capita (dollars)	20.78	21.59	23.59	25.56	26.43	32.50	36.34
Public Safety							
total cost (\$ 000)	125.9	207.9	248.3	275.1	296.6	303.0	336.0
per capita (dollars)	15.23	25.23	30.34	33.92	34.88	34.89	38.56
Health and Social Services							
total cost (\$ 000)	969.8	884.8	1,033.8	1,149.6	1,243.5	1,128.3	1,542.3
per capita (dollars)	117.34	107.39	126.32	137.56	146.23	129.93	177.01
Transportation							
total cost (\$ 000)	549.1	742.5	707.4	848.8	892.6	1,095.1	1,036.6
per capita (dollars)	66.44	90.12	86.44	101.57	104.96	126.11	118.97
Sanitation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conservation and Leisure							
total cost (\$ 000)	46.2	70.7	41.6	67.0	44.6	55.0	71.4
per capita (dollars)	5.59	8.58	5.08	8.02	5.24	6.33	8.19
Capital Projects/Direct Appropriation							
total cost (\$ 000)	299.0	0.0	0.0	0.0	0.0	143.6	228.9
per capita (dollars)	36.18	0.00	0.00	0.00	0.00	16.54	26.27
Principal and Interest							
total cost (\$ 000)	7.8	7.1	0.0	0.0	0.0	4.3	6.2
per capita (dollars)	0.94	0.86	0.00	0.00	0.00	0.50	0.71

(continued)

(Table 2.10A-1, continued)

(Forest County, continued)

<u>EXPENDITURES</u> (continued)	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Other							
total cost (\$ 000)	88.9	46.1	48.8	180.6	236.5	343.1	203.6
per capita (dollars)	10.76	5.60	5.96	21.61	27.81	39.51	23.37
Total General Operations							
total cost (\$ 000)	2,258.5	2,137.0	2,273.0	2,734.7	2,938.6	3,354.6	3,741.6
per capita (dollars)	273.26	259.38	277.74	327.23	345.56	386.30	429.43
Enterprises							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAPITAL PROJECTS

Street Construction (\$ 000)	126.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Transportation (equipment) (\$ 000)	104.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Department - General (building) (\$ 000)	299.0	0.0	0.0	0.0	0.0	144.0	229.0

LANGLADE COUNTY

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	226.3	264.8	281.5	336.6	351.9	382.2	446.6
per capita (dollars)	11.80	13.67	14.51	17.22	17.98	19.38	22.56

(continued)

(Table 2.10A-1, continued)

(Langlade County, continued)

<u>EXPENDITURES</u> (continued)	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Public Safety							
total cost (\$ 000)	174.8	212.1	261.8	322.6	368.0	419.5	452.0
per capita (dollars)	9.11	10.95	13.50	16.50	18.80	21.27	22.83
Health and Social Services							
total cost (\$ 000)	1,353.8	1,099.2	1,230.0	1,409.2	1,751.4	1,824.5	2,139.0
per capita (dollars)	70.57	56.74	63.42	72.07	89.47	92.52	108.05
Transportation							
total cost (\$ 000)	895.7	1,348.2	1,461.7	1,795.4	2,200.0	1,786.4	1,870.8
per capita (dollars)	46.69	69.59	75.39	91.83	112.38	90.59	94.50
Sanitation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	15.6
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.79
Conservation and Leisure							
total cost (\$ 000)	164.6	129.6	153.4	241.1	204.2	265.2	331.5
per capita (dollars)	8.58	6.69	7.91	12.33	10.43	13.45	16.74
Capital Projects/Direct Appropriation							
total cost (\$ 000)	335.0	0.0	0.0	0.0	200.0	0.0	525.8
per capita (dollars)	17.46	0.00	0.00	0.00	10.22	0.00	26.56
Principal and Interest							
total cost (\$ 000)	169.7	163.5	157.5	151.6	128.9	134.9	133.4
per capita (dollars)	8.85	8.44	8.12	7.75	6.58	6.84	6.74
Other							
total cost (\$ 000)	153.2	134.3	198.6	183.5	177.8	290.9	236.1
per capita (dollars)	7.99	6.93	10.24	9.39	9.08	14.75	11.93

(continued)

(Table 2.10A-1, continued)

(Langlade County, continued)

<u>EXPENDITURES</u> (continued)	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total General Operations							
total cost (\$ 000)	3,473.1	3,351.7	3,744.5	4,440.0	5,382.2	5,103.6	6,150.8
per capita (dollars)	181.04	173.01	193.08	227.09	274.94	258.82	310.69
Enterprises							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<u>CAPITAL PROJECTS</u>							
Street Construction (\$ 000)	125.4	0.0	0.0	0.0	0.0	0.0	0.0
Street R.O.W. (\$ 000)	3.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Transportation (\$ 000)	207.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Department General (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	475.1
Health/Social Services (\$ 000)	0.0	0.0	0.0	0.0	214.5	500.1	159.1

ONEIDA COUNTY

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	360.5	449.1	536.7	617.2	683.6	786.8	767.2
per capita (dollars)	13.53	16.11	18.96	21.35	23.13	26.10	25.25

(continued)

(Table 2.10A-1, continued)

(Oneida County, continued)

<u>EXPENDITURES</u> (continued)	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Public Safety							
total cost (\$ 000)	349.3	412.5	529.9	590.1	577.7	954.4	767.9
per capita (dollars)	13.11	14.79	18.72	20.41	19.55	31.66	25.28
Health and Social Services							
total cost (\$ 000)	1,648.5	1,461.7	2,116.1	2,255.9	2,964.7	2,908.2	3,592.5
per capita (dollars)	61.89	52.42	74.77	78.02	101.03	96.48	118.26
Transportation							
total cost (\$ 000)	904.8	1,237.2	1,270.2	1,123.2	1,032.3	1,108.0	1,337.5
per capita (dollars)	33.97	44.37	44.88	38.85	34.94	36.76	44.03
Sanitation							
total cost (\$ 000)	1.4	0.0	5.0	8.5	5.2	42.8	178.6
per capita (dollars)	0.05	0.00	0.18	0.29	0.18	1.42	5.88
Conservation and Leisure							
total cost (\$ 000)	141.1	166.1	133.5	203.2	147.1	230.3	289.2
per capita (dollars)	5.30	5.96	4.72	7.03	4.98	7.64	9.52
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	119.3	22.9
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	3.96	0.75
Principal and Interest							
total cost (\$ 000)	25.6	0.0	0.0	0.0	170.5	195.6	189.7
per capita (dollars)	0.96	0.00	0.00	0.00	5.77	6.49	6.24
Other							
total cost (\$ 000)	154.1	125.9	196.1	273.5	277.5	313.0	286.6
per capita (dollars)	5.79	4.51	6.93	9.46	9.39	10.38	9.43

(continued)

(Table 2.10A-1, continued)

(Oneida County, continued)

<u>EXPENDITURES</u> (continued)	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total General Operations							
total cost (\$ 000)	3,585.3	3,852.5	4,787.5	5,071.6	5,858.6	6,658.4	7,432.1
per capita (dollars)	134.60	138.17	169.16	175.40	198.27	220.89	244.65
Enterprises							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
 <u>CAPITAL PROJECTS</u>							
Other Transportation							
(Machinery and Airport) (\$ 000)	315.5	0.0	0.0	357.4	120.0	1,093.0	367.1

SOURCES

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Table 2.10A-2

COUNTY FACILITIES AND SERVICES
FOREST COUNTY

POLICE: Ten full-time officers, five part-time officers, three administrative personnel, and four and a half jail staff; 17 police vehicles with 14 in good condition and three in fair condition; office facility is 14 years old, with fairly adequate space and is in fair condition; detention facility has 17 cells, adequate space and good condition; station equipment is fairly adequate; no planned modifications.

STREETS/ROADS: 108 miles of county trunk roads that the county maintains; 154 miles of state and federal highways; 26 full-time maintenance workers; 50 percent of the county roads need resurfacing; 75 percent of the state highways need upgrading due to low weight limits; three county maintained trunk bridges, none needing major repairs.

SOLID WASTE: No county-operated sanitary landfill sites.

RECREATION: One major developed recreation area - 10,846 acres; facilities: 54 family campground units, 35 miles of hiking and game trails, 156 miles of snow-mobile trails, picnic tables, 600 feet swimming beach, and one boat landing.

HEALTH FACILITIES: Two satellite clinics from medical groups in Rhinelander, each with a full-time physician's assistant based in Crandon; physicians - one full-time and eight part-time; dentists - two full-time; registered nurses - ten full-time and six part-time; licensed practical nurses - two full-time and one part-time; staff needs: nine registered nurses.

EMS: Units located in Crandon, Laona, and Wabeno.

PUBLIC HEALTH AND WELFARE SERVICES:

Public Health Services include general public health and home health programs; registered nurses - two full-time and two part-time; two clerical; two outreach aides.

Social Services: adoption, day care, counseling, court, diagnostic evaluation, education/training, family planning, health related counseling, home and financial management, information and referral, placement and supervision, protective payment, home care, and transportation; 16 full-time personnel; 719 estimated persons served in 1979.

GENERAL GOVERNMENT: 47 full-time personnel; original office facility is 70 years old, first annex 14 years old, second annex one year old; building in good condition with all space being utilized; equipment includes office type machines.

(continued)

(Table 2.10A-2, continued)

LANGLADE COUNTY

- POLICE:** 14 full-time officers, 23 part-time officers, three administrative personnel, three jail staff; five police vehicles all in good condition; office facility is 10 years old and in good condition and has adequate space; detention facility has 21 cells plus a 12-bed dorm, all in good condition with adequate space; communication equipment is adequate; no planned modifications.
- STREETS/ROADS:** 270 miles of county trunk roads that the county maintains; 145 miles of state and federal highways; 48 full-time and 13 part-time employees for maintenance work; equipment: trucks, motor graders, crawler tractors, scrapers, front-end loaders, and backhoe; bridges: one overhead truss in fair condition needing major work, one steel deck girder in fair condition needing new deck, 19 other bridges in good condition needing only minor work.
- SOLID WASTE:** No county solid waste facilities.
- RECREATION:** 11 parks with 154 acres; five full-time and five part-time employees; facilities include: nine developed recreation areas, two miles of nature trails, 30 miles of hiking and game trails, 114 miles of snowmobile trails, 10 miles of other trails; 93 picnic sites, and 12 boat landings; County administers 373 additional miles of groomed snowmobile trails on private lands; County owned community center offers activity space for youth, elderly and other community groups.
- HEALTH FACILITIES:** Langlade County Memorial Hospital: located in Antigo; operated by religious Hospitaliers of St. Joseph; 80 beds; 61 percent occupancy; served 2989 patients in 1979; 13 serving physicians; 73 percent of patients from Langlade County; no planned modifications.
- Two Clinics: physicians - nine full-time and one part-time; dentists - seven full-time and three part-time; registered nurses - 25 full-time and 43 part-time; licensed practical nurses - seven full-time and five part-time; staff needs: nine registered nurses and 18 licensed practical nurses.
- EMS:** Ambulance service based at Antigo is a county subsidized operation which is under contract to serve the entire county.
- PUBLIC HEALTH AND WELFARE SERVICES:**
Public Health Services:
Mental Health: day care, education, outpatient counseling, diagnostic/evaluation, information and referral, psychiatric and alcohol/drug inpatient. 15 full-time personnel
- Public Health Nursing: home care, health screenings, health supervision, information and referral, school health. Four full-time personnel

(continued)

(Table 2.10A-2, continued)

ONEIDA COUNTY

- POLICE:** 20 full-time officers, two part-time officers, and two administrative staff; nine police vehicles all in good condition; office facility is 23 years old, has inadequate space and is in poor condition; detention facility has 28 cells, inadequate space and poor condition; communication equipment has adequate space; planned modifications include: five more jail personnel in 1981, new detention and office facility in 1982 at estimated cost of \$2.5 million.
- STREETS/ROADS:** 34 County employees; maintenance equipment: snow removal, graders, mowers; 163 miles of county trunk roads that the county maintains; 160 miles of state and federal highways; 6 bridges - one will be replaced in 1982, others in good condition
- SOLID WASTE:** 21 acre Oneida County Landfill opened November 1, 1979 in Woodboro town; 3 full-time personnel; 20 year life expectancy; 1 front-end loader and 1 bulldozer; user fees \$11.62/ton; problem exists with windblown papers; planned modification includes a new compactor in 1981 at estimated cost of \$90,000.00
- RECREATION:** Six parks with 348 total acreage; seven full-time employees; facilities include: three beaches, six picnic areas, one nature trail, three boat launches, 43 miles of snowmobile trails, and 52 miles of ski training trails
- HEALTH FACILITIES:** St. Mary's Hospital: located in Rhineland; operated by Sisters of the Sorrowful Mother; 150 beds; 57 percent occupancy; served 5157 patients in 1979; 28 serving physicians; 56 percent of patients from Oneida County; planned renovation/expansion of ancillaries
- Three clinics: physicians - 27 full-time and seven part-time; dentists - 17 full-time; registered nurses - 131 full-time and 81 part-time; licensed practical nurses - 35 full-time and 21 part-time; staff needs: four registered nurses and 22 licensed practical nurses

(continued)

(Table 2.10A-2, continued)

(Oneida County, continued)

EMS: St. Mary's Hospital in Rhinelander and Howard Young Medical Center in Woodruff Town supply services to county; stations include emergency equipment and certified personnel and are located in the towns of Cassian, Schoepke, Sugar Camp, Three Lakes, and Woodruff and the City of Rhinelander; 41 total certified personnel; 24 hour availability with 15 minute average response time; main funding through patient billing; plan to upgrade to paramedic status and to acquire paramedic equipment at estimated cost of \$140,000

PUBLIC HEALTH AND WELFARE SERVICES:

Public Health Services: health supervision, home health care, school health and immunizations; 15 personnel: administrative, registered nurses, clerical, aide, speech therapist, and physical therapists; plan to add four staff in 1981

Social Services: day care, counseling, court, diagnostic/evaluation, family planning, health related, financial management, information and referral, placement and supervision, protective payment, home care, and transportation; 25 full-time personnel; 2093 estimated persons served in 1979

GENERAL GOVERNMENT: 51 full-time and 22 part-time personnel; office building is 70 years old, in good condition, but of inadequate space; equipment: one dump truck, one truck, two 4-wheel drive trucks, one IBM 32 computer, and one Xerox 7000

(continued)

(Table 2.10A-2, continued)

SOURCES

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- Forest County. August 21, 1980. Personal Communication, Ken Conway, County Clerk.
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- Forest County Health and Social Services Department. August 14, 1980. Personal Communication, Mary Barge, Director.
- Forest County Nursing Service. 1979. Annual Report.
- Langlade County. February 12, 1981. Personal Communication, Walter Klimoski, Board of Supervisors Chairman.
- Langlade County. October 18, 1980. Personal Communication, John Hoffman, County Sheriff.
- Langlade County. September 27, 1980. Personal Communication, Norman Cejka, County Clerk.
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- Langlade County Office Cooperative Extension Programs. February 9, 1981. Personal Communication, Joseph Jopek, Resource Agent.
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- North Central Area Health Planning Association. Computer printout. Wausau. September 1978.
- Oneida County. September 19, 1980. Personal Communication, John Kunach, Highway Commissioner.
- Oneida County. September 2, 1980. Personal Communication. Denny Drivas, County Sheriff.
- Oneida County. August 21, 1980. Personal Communication, Dorothy Neal, County Clerk.

(continued)

(Table 2.10A-2, continued)

Oneida County. August 19, 1980. Personal Communication, Dale Bronson, Solid Waste Department.

Oneida County Emergency Medical Service. August 19, 1980. Personal Communication. Dennis Harper, EMS Administrator.

Oneida County Forestry Department. August 22, 1980. Personal Communication. Werner Zimmer, Forest Administrator.

Oneida County Health and Social Services Department. August 21, 1980. Personal Communication, Gayle Ferris, Service Worker.

Oneida County Public Health Services. August 21, 1980. Personal Communication, Joann Guzik, Public Health Worker.

Wisconsin Department of Health and Social Services. January 1980. Final Comprehensive Annual Services Plan: 1979-1980. Madison.

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Table 2.10A-3

EXPENDITURES AND CAPITAL PROJECTS
CITY OF CRANDON

EXPENDITURES	YEAR						
	1973	1974	1975	1976	1977	1978	1979
General Administration							
total cost (\$ 000)	17.2	19.5	20.7	25.3	25.5	29.8	35.3
per capita (dollars)	9.76	11.36	12.16	14.22	14.38	16.39	19.09
Public Safety							
total cost (\$ 000)	34.5	49.7	55.0	67.2	69.7	112.2	101.9
per capita (dollars)	19.58	28.96	32.30	37.77	39.31	61.72	55.11
Health and Social Services							
total cost (\$ 000)	1.6	0.1	0.3	0.4	0.4	3.6	0.4
per capita (dollars)	0.91	0.06	0.18	0.22	0.23	1.98	0.22
Transportation							
total cost (\$ 000)	90.5	98.4	110.3	121.9	105.0	114.7	112.3
per capita (dollars)	51.36	57.34	64.77	68.52	59.22	63.09	60.74
Sanitation							
total cost (\$ 000)	10.9	16.9	15.7	13.0	15.0	25.0	22.8
per capita (dollars)	6.19	9.85	9.22	7.31	8.46	13.75	12.33
Conservation and Leisure							
total cost (\$ 000)	10.2	10.2	21.8	55.3	14.0	13.1	14.4
per capita (dollars)	5.79	5.94	12.80	31.08	7.90	7.21	7.79
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	3.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	1.69	0.00	0.00
Principal and Interest							
total cost (\$ 000)	6.3	5.9	17.8	23.0	16.8	24.5	16.0
per capita (dollars)	3.58	3.44	10.45	12.93	9.48	13.48	8.65
Other							
total cost (\$ 000)	34.7	11.2	18.5	21.3	49.3	52.7	79.6
per capita (dollars)	19.69	6.53	10.86	11.97	27.81	28.99	43.05
Total General Operations							
total cost (\$ 000)	205.9	211.9	260.1	327.4	298.7	375.6	382.7
per capita (dollars)	116.86	123.48	152.73	184.04	168.47	206.60	206.98
Enterprises							
total cost (\$ 000)	76.5	74.1	68.5	85.1	78.5	92.4	93.0
per capita (dollars)	43.42	43.18	40.22	47.84	44.28	50.83	50.30

(continued)

(Table 2.10A-3, continued)

<u>CAPITAL PROJECTS</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Nondepartmental/General (\$ 000)	0.0	0.0	0.0	0.0	10.6	0.0	0.0
CITY OF ANTIGO							
<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	91.8	118.9	122.9	118.3	140.2	141.1	293.5
per capita (dollars)	10.45	13.55	13.87	13.29	16.10	16.50	34.27
Public Safety							
total cost (\$ 000)	416.8	479.5	535.5	581.9	610.1	675.8	775.0
per capita (dollars)	47.44	54.63	60.43	65.36	70.08	79.03	90.48
Health and Social Services							
total cost (\$ 000)	49.5	35.3	39.7	24.9	25.7	27.5	33.9
per capita (dollars)	5.63	4.02	4.48	2.80	2.95	3.22	3.96
Transportation							
total cost (\$ 000)	298.0	342.0	388.7	386.6	414.0	405.6	665.0
per capita (dollars)	33.92	38.97	43.86	43.42	47.55	47.43	77.64
Sanitation							
total cost (\$ 000)	101.3	119.6	132.1	127.9	149.5	164.5	158.7
per capita (dollars)	11.53	13.63	14.91	14.37	17.17	19.24	18.53
Conservation and Leisure							
total cost (\$ 000)	174.6	248.8	235.4	277.7	279.5	315.8	355.8
per capita (dollars)	19.87	28.35	26.56	31.19	32.10	36.93	41.54
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	162.5	197.2	288.7	773.4
per capita (dollars)	0.00	0.00	0.00	18.25	22.65	33.76	90.30
Principal and Interest							
total cost (\$ 000)	132.1	249.6	282.8	331.5	351.4	469.1	291.7
per capita (dollars)	15.04	28.44	31.91	37.23	40.36	54.86	34.06
Other							
total cost (\$ 000)	48.4	119.8	106.8	445.7	2,153.3	192.9	802.1
per capita (dollars)	5.51	13.65	12.05	50.06	247.34	22.56	93.65
Total General Operations							
total cost (\$ 000)	1,312.5	1,713.5	1,843.9	2,457.0	4,320.9	2,621.0	4,149.1
per capita (dollars)	149.40	195.23	208.07	275.97	496.31	306.5	484.42
Enterprises							
total cost (\$ 000)	290.2	311.0	365.6	366.2	414.9	529.3	567.9
per capita (dollars)	33.03	35.43	41.25	41.13	47.66	61.90	66.30

(continued)

(Table 2.10A-3, continued)

<u>EXPENDITURES</u>	LAONA TOWN						
	YEAR						
	1973	1974	1975	1976	1977	1978	1979
General Administration							
total cost (\$ 000)	9.6	11.3	13.2	16.3	12.2	15.3	29.7
per capita (dollars)	6.60	7.69	9.08	11.24	8.35	10.32	20.25
Public Safety							
total cost (\$ 000)	20.2	24.1	24.6	28.2	21.5	36.9	27.2
per capita (dollars)	13.89	16.41	16.93	19.45	14.72	24.88	18.54
Health and Social Services							
total cost (\$ 000)	0.0	2.4	34.5	30.3	0.0	4.8	0.0
per capita (dollars)	0.00	1.63	23.74	20.90	0.00	3.24	0.00
Transportation							
total cost (\$ 000)	71.4	49.6	61.8	45.5	37.1	81.9	79.4
per capita (dollars)	49.11	33.76	42.53	31.38	25.39	55.23	54.12
Sanitation							
total cost (\$ 000)	6.0	16.6	8.6	9.4	7.2	29.3	15.3
per capita (dollars)	4.13	11.30	5.92	6.48	4.93	19.76	10.43
Conservation and Leisure							
total cost (\$ 000)	7.9	18.0	16.8	11.8	8.1	10.9	10.9
per capita (dollars)	5.43	12.25	11.56	8.14	5.54	7.35	7.43
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	3.7	17.7	11.1	14.2	12.9	11.9	0.0
per capita (dollars)	2.54	12.05	7.64	9.79	8.83	8.02	0.00
Other							
total cost (\$ 000)	13.3	27.3	21.3	17.7	18.5	32.9	15.1
per capita (dollars)	9.15	18.58	14.66	12.21	12.66	22.18	10.29
Total General Operations							
total cost (\$ 000)	132.1	167.0	191.9	173.4	117.5	223.9	177.6
per capita (dollars)	90.86	113.68	132.07	119.59	80.42	150.98	121.06
Enterprises							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<u>CAPITAL PROJECTS</u>							
General Government (City Bldg.) (\$ 000)	36.6	0.0	0.0	0.0	0.0	0.0	0.0
Public Safety (\$ 000)	0.0	14.5	0.0	0.0	0.0	0.0	0.0
Street Construction/Reconstruction (\$ 000)	0.0	20.8	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-3, continued)

<u>CAPITAL PROJECTS</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Transportation							
Street construction and and reconstruction (\$ 000)	408.1	253.1	145.0	120.1	146.5	146.2	134.8
Storm sewers (\$ 000)	0.0	25.8	11.0	16.2	33.9	8.6	29.9
Highway building and equipment (\$ 000)	0.0	0.0	186.0	28.4	31.2	96.3	0.0
Other transportation (\$ 000)	8.6	0.0	0.0	0.0	0.0	0.0	0.0
Sanitation (\$ 000)	42.4	32.9	13.5	26.2	16.8	61.2	7.0
Leisure (\$ 000)	75.2	254.4	59.9	15.0	5.7	0.0	0.0
Industrial Park and Industrial Development (\$ 000)	0.0	0.0	0.0	47.2	146.7	361.3	860.3
Non-Departmental and General (\$ 000)	0.0	0.0	12.7	0.0	0.0	0.0	0.0
Conservation and Development of Natural Resources (\$ 000)	260.0	7.1	5.8	0.0	0.0	0.0	0.0
Urban Development and Housing (\$ 000)	9.2	29.3	0.0	0.0	0.0	0.0	0.0
Armory Land (\$ 000)	9.2	0.0	0.0	0.0	0.0	0.0	0.0

CITY OF RHINELANDER

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	99.3	124.2	115.3	148.5	145.6	148.3	293.5
per capita (dollars)	11.57	14.33	13.25	17.18	17.05	17.39	34.91
Public Safety							
total cost (\$ 000)	536.9	616.2	682.4	763.8	814.2	898.7	960.1
per capita (dollars)	62.57	71.07	78.41	88.37	95.34	105.39	114.20
Health and Social Services							
total cost (\$ 000)	4.5	10.1	15.5	17.7	20.3	22.0	21.1
per capita (dollars)	0.52	1.16	1.78	2.05	2.38	2.58	2.51
Transportation							
total cost (\$ 000)	549.2	622.2	680.6	803.5	833.0	693.0	1,010.6
per capita (dollars)	64.00	71.76	78.20	92.97	97.50	81.27	120.21

(continued)

(Table 2.10A-3, continued)

	YEAR						
	1973	1974	1975	1976	1977	1978	1979
Sanitation							
total cost (\$ 000)	117.4	139.9	163.2	157.4	153.3	141.5	124.9
per capita (dollars)	13.68	16.14	18.75	18.21	17.95	16.59	14.86
Conservation and Leisure							
total cost (\$ 000)	215.1	259.6	263.2	274.1	310.6	355.8	357.9
per capita (dollars)	25.07	29.94	30.24	31.71	36.37	41.73	42.57
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	108.7	388.6
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	12.75	46.22
Principal and Interest							
total cost (\$ 000)	197.9	226.3	195.2	221.8	214.4	247.0	296.5
per capita (dollars)	23.06	26.10	22.43	25.66	25.11	28.97	35.27
Other							
total cost (\$ 000)	140.1	292.8	114.5	182.1	291.0	450.0	368.4
per capita (dollars)	16.33	33.77	13.16	21.07	34.07	52.77	43.82
Total General Operations							
total cost (\$ 000)	1,860.4	2,291.3	2,229.9	2,568.9	2,782.4	3,065.0	3,821.6
per capita (dollars)	216.80	264.28	256.22	297.22	325.81	359.45	454.57
Enterprises							
total cost (\$ 000)	292.5	294.0	385.0	410.6	558.8	641.4	0.00
per capita (dollars)	39.09	33.91	44.23	47.51	65.43	75.22	0.00
CAPITAL PROJECTS							
	1973	1974	1975	1976	1977	1978	1979
Transportation							
street construction/reconstruction (\$ 000)	0.0	0.0	0.0	0.0	0.0	172.1	97.6
Public Safety (\$ 000)	109.7	0.0	0.0	0.0	0.0	0.0	0.0
Sanitation (\$ 000)	94.9	0.0	0.0	0.0	0.0	1,223.7	435.8
General Government Support (\$ 000)	0.0	0.0	154.8	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-3, continued)

WABENO TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	16.4	6.7	8.7	8.0	8.9	15.2	19.3
per capita (dollars)	14.94	6.20	8.06	7.37	8.09	13.45	16.94
Public Safety							
total cost (\$ 000)	11.6	16.5	31.6	22.3	17.5	22.9	26.3
per capita (dollars)	10.56	15.28	29.29	20.56	15.91	20.27	23.09
Health and Social Services							
total cost (\$ 000)	0.0	0.1	0.2	0.3	0.2	0.2	0.2
per capita (dollars)	0.00	0.09	0.19	0.28	0.18	0.18	0.18
Transportation							
total cost (\$ 000)	29.2	44.4	62.6	71.9	50.9	143.4	98.2
per capita (dollars)	26.59	41.11	58.02	66.27	46.27	126.90	86.22
Sanitation							
total cost (\$ 000)	6.6	2.3	3.6	2.8	2.5	4.1	3.2
per capita (dollars)	6.01	2.13	3.34	2.58	2.27	3.63	2.81
Conservation and Leisure							
total cost (\$ 000)	6.5	10.7	11.2	7.7	10.8	25.0	24.2
per capita (dollars)	5.92	9.91	10.38	7.10	9.82	22.12	21.25
Capital Projects/Direct Appropriation							
total cost (\$ 000)	5.8	38.8	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	5.28	35.93	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	3.4	1.2	15.8	10.3	0.0	0.0	6.6
per capita (dollars)	3.10	1.11	14.64	9.49	0.00	0.00	5.79
Other							
total cost (\$ 000)	7.6	29.3	16.6	7.8	1.2	2.1	26.3
per capita (dollars)	6.92	27.13	15.38	7.19	1.09	1.86	23.09
Total General Operations							
total cost (\$ 000)	87.1	150.0	150.3	131.1	92.0	212.9	204.3
per capita (dollars)	79.33	138.89	139.30	120.83	83.64	188.41	179.37
Enterprises							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

(continued)

(Table 2.10A-3, continued)

<u>CAPITAL PROJECTS</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Public Safety (\$ 000)	4.6	0.0	0.0	0.0	0.0	0.0	0.0
Street Engineering (\$ 000)	1.2	0.0	0.0	0.0	0.0	0.0	0.0
Street Construction (\$ 000)	0.0	37.3	0.0	0.0	0.0	0.0	0.0
Other Transportation (\$ 000)	0.0	19.5	0.0	0.0	0.0	0.0	0.0
Highway Building & Equipment (\$ 000)	0.0	0.0	0.0	0.0	0.0	10.0	0.0
<u>ELCHO TOWN</u>							
<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	7.1	8.8	18.5	12.1	11.0	26.6	20.4
per capita (dollars)	8.02	9.54	19.96	12.59	10.84	24.49	18.46
Public Safety							
total cost (\$ 000)	7.3	9.1	9.1	11.6	5.9	7.9	38.5
per capita (dollars)	8.25	9.87	9.82	12.07	5.81	7.27	34.84
Health and Social Services							
total cost (\$ 000)	0.4	1.3	0.8	0.1	0.1	0.6	0.5
per capita (dollars)	0.45	1.41	0.86	0.10	0.10	0.55	0.45
Transportation							
total cost (\$ 000)	51.7	67.7	50.8	71.5	80.8	77.0	79.8
per capita (dollars)	58.42	73.43	54.80	74.4	79.61	70.90	72.22
Sanitation							
total cost (\$ 000)	2.4	5.1	7.2	16.7	7.4	9.7	10.9
per capita (dollars)	3.71	5.53	7.77	17.38	7.29	8.93	9.86
Conservation and Leisure							
total cost (\$ 000)	0.4	0.7	0.0	1.1	0.5	0.0	1.0
per capita (dollars)	0.43	0.76	0.00	1.14	0.49	0.00	0.90
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	14.6	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	15.73	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	6.0	0.0	5.5	5.3	5.1	4.8	0.0
per capita (dollars)	6.78	0.00	5.93	5.52	5.02	4.42	0.00

(continued)

(Table 2.10A-3, continued)

	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Other							
total cost (\$ 000)	5.5	4.2	5.8	8.6	7.2	28.1	9.5
per capita (dollars)	6.21	4.56	6.26	8.95	7.09	25.87	8.60
Total General Operations							
total cost (\$ 000)	80.8	96.9	112.3	127.0	118.0	154.7	160.6
per capita (dollars)	91.30	105.10	121.14	132.15	116.26	142.45	145.34
Enterprises							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

<u>CAPITAL PROJECTS</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Street Construction/Reconstruction (\$ 000)	0.0	14.6	0.0	0.0	0.0	0.0	0.0

WHITE LAKE VILLAGE

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	8.2	4.7	13.1	5.7	6.3	12.4	13.9
per capita (dollars)	26.45	15.16	41.85	18.15	20.39	40.00	45.13
Public Safety							
total cost (\$ 000)	2.0	3.1	1.4	4.1	12.6	13.3	25.7
per capita (dollars)	6.45	10.00	4.48	13.06	40.78	42.90	83.44
Health and Social Services							
total cost (\$ 000)	4.9	5.8	0.2	0.1	0.1	0.1	0.1
per capita (dollars)	15.81	18.71	0.64	0.32	0.32	0.32	0.32
Transportation							
total cost (\$ 000)	5.0	8.7	3.0	25.1	12.5	9.4	17.4
per capita (dollars)	16.13	28.06	9.58	79.94	40.45	30.32	56.49
Sanitation							
total cost (\$ 000)	118.8	3.1	3.0	6.0	2.3	1.8	4.9
per capita (dollars)	38.06	10.00	9.58	19.11	7.44	5.81	15.91

(continued)

(Table 2.10A-3, continued)

	YEAR						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Conservation and Leisure							
total cost (\$ 000)	0.6	0.4	3.0	2.3	3.0	2.5	8.9
per capita (dollars)	1.94	1.29	9.58	7.32	9.71	8.06	28.90
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	7.0	2.4
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	22.58	7.79
Other							
total cost (\$ 000)	3.1	4.1	5.8	717.4	88.3	12.0	5.8
per capita (dollars)	10.00	13.23	18.53	2,284.71	285.76	38.71	18.83
Total General Operations							
total cost (\$ 000)	35.6	29.9	29.5	760.7	125.1	58.5	79.1
per capita (dollars)	114.84	96.45	94.25	2,422.61	404.85	188.71	256.82
Enterprises							
total cost (\$ 000)	0.0	0.0	0.0	7.9	77.8	76.6	73.0
per capita (dollars)	0.00	0.00	0.00	25.16	251.78	247.10	237.01
 <u>CAPITAL PROJECTS</u>							
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Non-Departmental/General (\$ 000)	0.0	0.0	0.0	0.0	0.0	38.2	0.0

(continued)

(Table 2.10A-3, continued)

THREE LAKES TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	27.6	41.5	50.6	61.8	48.7	78.0	140.1
per capita (dollars)	18.23	25.99	30.83	36.98	28.13	44.47	80.38
Public Safety							
total cost (\$ 000)	35.8	110.8	61.5	53.8	42.1	70.4	60.4
per capita (dollars)	23.65	69.38	37.48	32.12	24.61	40.14	34.65
Health and Social Services							
total cost (\$ 000)	6.5	1.3	1.0	1.0	0.9	0.8	1.2
per capita (dollars)	4.29	0.81	0.61	0.60	0.52	0.46	0.69
Transportation							
total cost (\$ 000)	147.0	115.0	104.0	170.3	131.0	52.8	214.2
per capita (dollars)	97.09	72.01	63.38	101.67	75.94	44.13	122.89
Sanitation							
total cost (\$ 000)	6.6	7.8	13.5	11.9	12.9	3.6	11.8
per capita (dollars)	4.36	4.88	8.23	7.10	7.48	3.45	6.77
Conservation and Leisure							
total cost (\$ 000)	28.1	23.6	25.5	32.1	23.5	15.7	44.6
per capita (dollars)	18.56	14.78	15.54	19.16	13.62	11.55	25.59
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	.00	0.00
Principal and Interest							
total cost (\$ 000)	23.7	9.4	9.0	1.6	0.0	.5	0.0
per capita (dollars)	15.65	5.89	5.48	0.96	0.00	0.36	0.00
Other							
total cost (\$ 000)	23.8	30.0	26.5	26.1	14.3	18.0	32.5
per capita (dollars)	15.72	18.79	16.15	15.58	8.29	10.66	18.65
Total General Operations							
total cost (\$ 000)	299.1	339.4	291.6	358.6	273.8	821.0	504.8
per capita (dollars)	197.56	212.52	177.70	214.00	158.72	472.00	289.62
Enterprises							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

(continued)

(Table 2.10A-3, continued)

CAPITAL PROJECTS

<u>YEAR</u>						
<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
0.0	0.0	0.0	0.0	0.0	0.0	0.0

SOURCES

Wisconsin Department of Revenue, Bureau of Local Financial Assistance. 1975-1980. Municipal Resources Provided and Expended. 1973-1978. Bulletins 51, 53, 55, 57, 59 and 61. Madison.

Wisconsin Department of Revenue. 1973-1979. Annual Financial Report Form. 1973-1979. Prepared for Bureau of Local Fiscal Information and Analysis.

Table 2.10A-4

CITY AND SECONDARY SERVICE CENTER
POLICE SERVICE
CITY OF CRANDON

FACILITIES

The Crandon Police Department operates out of a central station containing approximately 1,200 square feet. Prior to 1978 the department utilized a 750 square feet facility. No detention facilities are included and the city uses the Forest County Jail, which is located in Crandon. The condition of the 50 year-old remodeled facility is considered to be good. The communication equipment for the department also is considered adequate and is in good operating condition.

Crandon Police Department presently uses two squad cars for law enforcement purposes. Both squad cars are used for day and night shifts operated by the department. Squad cars are replaced after 1-2 years use. The number of squad cars appears adequate for the number of police officers in the department.

<u>PERSONNEL</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Number of Full-Time Officers	2	2	2	2	3	3	3
Number of Part-time Officers	0	0	0	0	2	2	2
Total Full-time Equivalents	2	2	2	2	4	4	4
Per 1,000 Population	1.1	1.2	1.2	1.1	2.3	2.2	2.2
Civilian Support Staff	1	1	1	1	1	1	1
Per Officer	0.5	0.5	0.5	0.5	0.25	0.25	0.25
Total Law Enforcement Personnel	3	3	3	3	5	5	5
Per 1,000 Population	1.7	1.7	1.8	1.7	2.8	2.8	2.7

The above table shows trends in Crandon law enforcement personnel over the last seven years. The number of certified officers has fluctuated somewhat but overall the trend has been toward improved police protection measured by the number of law enforcement personnel per 1,000 population.

SERVICE AREA

The Crandon Police Department serves only the city of Crandon. However, the city has verbal mutual aid agreements with surrounding jurisdictions.

(continued)

(Table 2.10A-4, continued)

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	17.5	21.5	28.0	36.5	38.2	55.8	48.8
Other Expenditures (\$ 000)	3.0	12.4	9.7	10.4	12.0	30.0	14.7
Total Expenditures (\$ 000)	20.5	33.9	37.7	46.9	50.2	85.8	63.5
Per Capita (dollars)	11.63	19.76	22.14	26.36	28.31	47.19	34.34
Per Officer (\$ 000)	10.25	16.95	18.85	23.45	12.55	21.45	15.88

The figures presented above show a generally steady increase in the cost of police service in Crandon. Inflation accounts for a portion of the increase in expenditures; however, the city has been improving the quality of police protection in recent years, as indicated by the increase in police officers and their expanded facility. The cost figures above include all salaries, operating, and equipment and vehicle purchases for the department for the reporting period.

PLANNED MODIFICATIONS

The city intends to add another full-time officer by 1983.

(continued)

(Table 2.10A-4. continued)

CITY OF ANTIGO

FACILITIES

The Antigo Police Department operates out of the Langlade County Sheriff's Department. The city shares the space on an annual rental basis (currently \$3,600 per year). Under the agreement the Antigo police chief is provided a private office and the department has exclusive use of one vehicle stall in the garage. Radio dispatching facilities and all other space, including the jail, are shared between the two law enforcement departments. Another aspect of the arrangement provides that city officers will perform all communication duties, i.e., dispatching, and the sheriff's office will provide necessary jail personnel. There is interdepartmental support in these two functional areas on an as-needed basis.

The Antigo Police Department uses four vehicles for law enforcement purposes, which have remained constant over the last ten years. The department has two squad cars, one pickup truck, and one unmarked vehicle. The squad cars are replaced annually because they are used 24 hours a day; the other vehicles are normally used 8-12 hours per day and are therefore replaced approximately every 4-5 years.

PERSONNEL

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total officers	16	16	16	16	16	16	16
Per 1,000 population	1.8	1.8	1.8	1.8	1.8	1.9	1.9
Civilian support staff	0	0	0	0	0	0	0
Per officer	0	0	0	0	0	0	0
Total Personnel	16	16	16	16	16	16	16
Per 1,000 population	1.8	1.8	1.8	1.8	1.8	1.9	1.9

The Antigo Police Department has been staffed by 16 full-time officers for the last 10 years. No civilian support staff are utilized and office duties, including radio dispatching, are shared among on-duty officers.

SERVICE AREA

The Antigo Police Department serves only the city of Antigo. However, the city participates in mutual aid agreements with surrounding jurisdictions.

(continued)

(Table 2.10A-4, continued)

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	176.8	225.2	196.8	264.0	241.0	331.6	323.5
Other Expenditures (\$ 000)	25.0	30.7	33.0	32.3	33.1	34.1	37.1
Total Expenditures (\$ 000)	201.8	255.9	229.8	296.3	274.1	365.7	360.6
Per Capita (dollars)	22.97	29.16	25.93	33.28	31.48	42.77	42.10
Per Patrolman (\$ 000)	12.6	16.0	14.4	18.5	17.1	22.9	22.5

The figures presented above show that the cost of police service in the City of Antigo has increased by 78.7 percent in the seven-year reporting period. Operating expenses other than salaries include purchase and maintenance of vehicles, radio and other equipment, rental payments to the county and all other operating expenses of the department.

PLANNED MODIFICATIONS

Other than changes in manpower levels for the three shifts operated by the department, which will not entail adding any new officers, no changes in the near future are planned.

(continued)

(Table 2.10A-4, continued)

CITY OF RHINELANDER

FACILITIES

Central Station: The Rhinelander Police Department is housed in an 8,000 square feet central station located in downtown Rhinelander. The building is two years old and considered to be in good condition. The facility contains a central dispatch area which serves the police and fire departments, along with emergency rescue service provided through the fire department. Although the city uses the Oneida County jail for detention purposes, the city facility does provide two temporary holding cells for juveniles only. The city does not utilize substations in providing police protection.

Police Vehicles: The Rhinelander Police Department presently uses three squad cars and one unmarked vehicle for law enforcement purposes. Police vehicles are used for one to two years which is a typical life for patrol cars. The general standard is one to three patrolmen per car; however, that is a function of a city's particular needs and the number of shifts.

PERSONNEL

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total officers	19	19	20	20	20	20	20
Per 1,000 population	2.2	2.2	2.3	2.3	2.3	2.3	2.4
Civilian support staff	3	3	3	3	3	4	4
Per officer	.16	.16	.15	.15	.15	.20	.20
Total personnel	22	22	23	23	23	24	24
Per 1,000 population	2.6	2.5	2.6	2.7	2.7	2.8	2.9

The number of officers increased between 1970 and 1979 by 11.1 percent, and the use of civilian support staff was introduced during this period. The increase in the number of law enforcement personnel per 1,000 population, however, suggests that the increase was attributable to a higher level of service quality and not in response to population increases. The civilian personnel in the Rhinelander department include a secretary, two radio dispatchers, and a metermaid. The police department also has responsibility for animal control activities; however, that function and its costs are not included in this report.

SERVICE AREA

The Rhinelander Police Department serves only the City of Rhinelander. However, the city has executed mutual aid agreements with surrounding jurisdictions.

(continued)

(Table 2.10A-4, continued)

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	226.9	264.5	309.3	331.7	369.8	418.7	446.8
Other Expenditures (\$ 000)	18.4	37.3	31.3	37.4	26.1	44.4	40.4
Total Expenditures (\$ 000)	245.3	301.8	340.6	369.1	395.9	463.1	487.2
Per Capita (dollars)	28.59	34.81	39.14	42.71	46.36	54.31	57.95
Per Patrolman (\$ 000)	12.9	15.9	17.0	18.5	19.8	23.2	24.4

The police service cost figures above show that the cost of providing law enforcement service in the community has nearly doubled in the seven year reporting period. However, a very large proportion of that increase can be attributed to inflation as the increase in service quality, measured by the increase in police officers, has been a much lower 11.1 percent. The operating expenses other than salaries and fringe benefits include purchase and maintenance of vehicles, radio and other equipment, and all other current expenditures necessary for the provision of police services.

PLANNED MODIFICATIONS

The Rhinelander Police Department plans to add one full-time traffic safety officer in 1981.

(continued)

(Table 4.10A-4, continued)

WABENO TOWN

FACILITIES

The Wabeno Police Department uses approximately 300 square feet of office space in the town hall, which is 64 years old and is reported to be in fair condition. The space available to the department is adequate. No detention facilities are provided; the Forest County jail is used. One squad car is utilized.

PERSONNEL

The department employs one officer who staffs a single-shift plus 24-hour call patrol for the town. The current police staff rate is 0.9 officers per 1,000 population.

SERVICE AREA

The department provides regular patrol service to Wabeno town, which augments intermittent patrols by the Forest County Sheriff's Department. The department has a mutual aid agreement with the Laona Town Police Department on a shared-cost basis.

EXPENDITURES

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	7.4	10.0	5.3	9.7	17.7
Other Expenditures (\$ 000)	3.8	2.0	5.4	5.9	11.2
Total Expenditures (\$ 000)	11.2	12.0	10.7	15.6	28.9
Per Capita (dollars)	10.38	11.06	9.73	13.81	25.37
Per Patrolman (\$ 000)	11.2	12.0	10.7	15.6	28.9

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-4, continued)

LAONA TOWN

FACILITIES

1,200 square feet, old jailhouse considered to be in fair condition; department uses one patrol vehicle which is replaced every couple of years.

PERSONNEL

One full-time officer which has served Laona for the last ten years except for a brief period in 1974 when the town had two full-time police officers; current rate is 0.7 officers per 1,000 population; Forest County Sheriff's Department also provides police service in the township.

SERVICE AREA

Laona township.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries Including Fringe Benefits (\$ 000)	8.4	8.4	9.8	7.2	10.5	7.2	11.4
Other Expenditures (\$ 000)	4.3	4.3	6.3	2.8	2.4	4.9	2.7
Total Expenditures (\$ 000)	12.7	12.7	16.1	10.0	12.9	12.1	14.1
Per Capita (dollars)	8.73	8.65	11.08	6.90	8.83	8.16	9.61
Per Patrolman (\$ 000)	12.7	12.7	16.1	10.0	12.9	12.1	14.1

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-4, continued)

ELCHO TOWN

FACILITIES

The town constable is on call from his residence and he uses his own vehicle with reimbursement by the town for mileage expenses. His car is equipped with a radio for communication with the sheriff's department in Antigo.

PERSONNEL

One elected part-time constable who augments patrols by the Langlade County Sheriff's Department and is available for local disturbances. Current police staff rate is 0.9 per 1,000 population.

SERVICE AREA

The constable provides service to Elcho town, which augments intermittent patrols by the Langlade County Sheriff's Department.

EXPENDITURES

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	5.5	5.7	6.2	4.3	4.3	5.0
Other Expenditures (\$ 000)	0.0	1.0	0.9	0.8	0.3	0.0
Total Expenditures (\$ 000)	5.5	6.7	7.1	5.1	4.6	5.0
Per Capita (dollars)	5.97	7.23	7.39	5.02	4.24	4.52
Per Patrolman (\$ 000)	5.5	6.7	7.1	5.1	4.6	5.0

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-4, continued)

WHITE LAKE VILLAGE

FACILITIES

The village marshall utilizes a portion of the 20 year old village hall for office space. The space is reported to be in fair condition and is considered to be fairly adequate. The marshall uses his personal vehicle, which is equipped with a CB radio. He is reimbursed by the village for mileage expenses.

PERSONNEL

Local law enforcement is provided by the village marshall and a deputy, both of which are part-time, on-call positions. No regular schedule is maintained. The Langlade County Sheriff's Department provides intermittent service to the village and surrounding area. Current police staff rate is 3.2 per 1,000 population.

SERVICE AREA

The village marshall provides service only within the corporate limits of White Lake Village.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.5	0.4	0.6	0.5	0.9	0.7	0.5
Other Expenditures (\$ 000)	0.1	0.1	0.0	0.3	0.0	0.0	0.1
Total Expenditures (\$ 000)	0.6	0.5	0.6	0.8	0.9	0.7	0.6
Per Capita (dollars)	1.94	1.61	1.92	2.55	2.91	2.26	1.95
Per Patrolman (\$ 000)	.6	.5	.6	.8	.9	.7	.6

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-4, continued)

THREE LAKES TOWN

FACILITIES

200 square feet of office space in Three Lakes community building which is two years old and in excellent condition; department uses two patrol vehicles which are replaced every 2-3 years.

PERSONNEL

Three full-time officers for the last ten years; current 1.7 officers per 1,000 population.

SERVICE AREA

Three Lakes township; mutual aid agreements with surrounding jurisdictions.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	17.6	17.3	27.1	34.8	28.3	41.2	39.5
Other Expenditures (\$ 000)	11.1	12.2	16.2	11.6	6.9	8.7	8.8
Total Expenditures (\$ 000)	28.7	29.5	43.3	46.4	35.2	49.9	48.3
Per Capita (dollars)	18.96	18.47	26.39	27.70	20.41	28.45	27.71
Per Patrolman (\$ 000)	9.6	9.8	14.4	15.5	11.7	16.6	16.1

PLANNED MODIFICATIONS

None planned, but need for additional personnel during summer months was cited by the chief.

(continued)

(Table 2.10A-4, continued)

SOURCES

City of Antigo. August 15, 1980. Personal Communication, Bob Baraniak, Police Chief.

City of Crandon. August 13, 1980. Personal Communication, Ron Larson, Police Chief.

City of Rhinelander. August 14, 1980. Personal Communication, Tony Paris, Police Chief.

Elcho Town. August 13, 1980. Personal Communication, Delores Froland, Town Clerk.

Laona Town. August 12, 1980. Personal Communication, Gail Lemerande, Town Clerk.

Three Lakes Town. August 14, 1980. Personal Communication, Bill Slizewski, Constable.

Wabeno Town. August 13, 1980. Personal Communication, Bob Jarvis, Constable.

White Lake Village. August 14, 1980. Personal Communication, Lawrence Luther, Village Marshall.

Wisconsin Department of Revenue. 1973-1979. Annual Financial Report Form 1973-1979. Prepared for Bureau of Local Financial Assistance by individual jurisdiction. Madison.

Wisconsin Department of Revenue, Bureau of Local Financial Assistance. 1975-1980. Municipal Resources Provided and Expended. 1973-1978. Bulletins 51, 53, 55, 57, 59 and 61. Madison.

Table 2.10A-5

CITY AND SECONDARY SERVICE CENTER
FIRE PROTECTION

CITY OF CRANDON

FACILITIES

The Crandon Fire Department operates out of an approximately 3,600 square feet facility which is part of the city hall building. The age of the facility is 45 years and is considered to be in good condition. Because the department is almost exclusively staffed by volunteers, the facility is comprised mainly of equipment and vehicle storage space and does not include living quarters.

EQUIPMENT

The department has maintained the same number of firefighting vehicles over the last ten years. The vehicles include a 750 gallon pumper, a 500 gallon pumper, and a 1,000 gallon pumper. In addition, the department has at its disposal an equipment van and a staff car.

SERVICE AREA

The Crandon Fire Department serves primarily the city of Crandon. The department does, however, provide service to the townships of Crandon, Lincoln, and part of Nashville on a contractual basis. These jurisdictions pay lump sum per year plus hourly rates for equipment and personnel per call for fire protection services. In addition, the Crandon Fire Department participates in mutual aid agreements with other surrounding jurisdictions.

PERSONNEL

The department is staffed by approximately 28 volunteers, which has remained constant over the last ten years. The city does, however, employ a part-time chief and assistant chief. These positions are less than one-half time and related salary and benefit costs are typically less than 25 percent of the total public cost of fire protection to local residents. The firemen staff per 1,000 population is 15.1.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	3.2	4.8	5.0	5.1	4.5	8.9	6.2
Other Expenditures (\$ 000)	9.9	10.0	11.4	14.1	13.8	16.1	30.6
Total Expenditures (\$ 000)	13.1	14.8	16.4	19.2	18.3	25.0	36.8
Per Capita (dollars)	7.43	8.62	9.63	10.79	10.32	13.75	19.90

(continued)

(Table 2.10A-5, continued)

The fire department costs set out above show increasing municipal support for the volunteer department. These figures include only city contributions to its operation. The fluctuations in other operating expenses are due largely to periodic equipment purchases.

INSURANCE RATING

The Insurance Services Office of Wisconsin rates Crandon fire protection a seven on an ascending scale of 1-10. This rating is better than most volunteer departments because the city has a centralized water supply system which includes hydrants for fire protection purposes.

PLANNED MODIFICATIONS

None reported.

CITY OF ANTIGO

FACILITIES

Antigo Fire Department personnel and equipment are housed in a central station in downtown Antigo; there are no substations. The building contains approximately 4,000 square feet and is 80 years old.

EQUIPMENT

The Antigo Fire Department is equipped with one pumper truck, one aerial ladder truck and one pickup truck. The city plans to add a 1,000 gallon pumper truck in 1981. The department does not have a rescue vehicle, but it does have resuscitation equipment and personnel trained for emergency rescue situations. Supplies and equipment for industrial accidents and chemical spills are not provided.

The adequacy of the department's equipment is enhanced by the aerial ladder truck. The department does provide rescue services with department firefighting equipment; however, emergency medical services are rendered by a private ambulance company located in Antigo.

SERVICE AREA

The department serves primarily the city of Antigo. Mutual aid agreements are in effect with surrounding jurisdictions.

PERSONNEL

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Number of firefighters	18	18	18	17	17	17	17
Per 1,000 population	2.0	2.1	2.0	1.9	2.0	2.0	2.0

(continued)

(Table 2.10A-5, continued)

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	163.7	203.6	226.8	253.5	261.2	294.1	324.3
Other Expenditures (\$ 000)	50.4	46.1	52.8	54.3	52.6	54.0	90.2
Total Expenditures (\$ 000)	214.1	249.7	279.6	307.8	313.8	348.1	414.5
Per Capita (dollars)	24.37	28.45	31.55	34.57	36.04	40.71	48.39
Per Firefighter (\$ 000)	11.9	13.9	15.5	18.1	18.5	20.5	24.4

The cost figures in the above table show Antigo Fire Department expenditures for the seven-year reporting period. The expenditures reported represent total annual expenditures, including, in addition to salaries and fringe benefits, hydrant rental, purchase and maintenance of vehicles and other equipment, and all other operating expenses of the department. Salaries and fringe benefits reflect a steady rise in costs while other current expenditures show more fluctuation, due primarily to vehicle and equipment purchases which are made only periodically.

INSURANCE RATING

Insurance Services Office of Wisconsin has assigned a rating of five to the city.

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-5, continued)

CITY OF RHINELANDER

FACILITIES

Rhineland Fire Department personnel and equipment are housed in a central station in downtown Rhineland; there are no substations. The building is 20 years old but was remodeled for fire department use in 1973 and is considered in excellent condition. The structure is approximately 9,000 square feet in size with five vehicle stalls and living quarters for on-duty firefighters. Radio dispatch facilities through 911 are located in the police department. There is a fire department number and auto-alarms installed in the department.

EQUIPMENT

The Rhineland Fire Department is presently equipped with two 1,000 gallon pumpers, one of which is a 4-wheel drive vehicle, one 750 gallon pumper, one 85 foot aerial ladder truck which also has a 1,000 gallon capacity, a rescue van and one staff car.

The department's rescue van is equipped with oxygen and other emergency medical supplies. Ten firefighters are cross-trained as emergency medical technicians. The department also has extraction equipment for automobile and other similar accidents, and a boat for water rescue. Supplies for reacting to oil and chemical spills are maintained and an industrial brigade has been trained for such emergencies.

The department's rescue capabilities augment the Oneida County ambulance service, which maintains three fully equipped and staffed ambulances at St. Mary's Hospital in Rhineland. The city bears approximately 15 percent of the ambulance cost with patient billing and assistance from Oneida County accounting for the rest.

SERVICE AREA

The Fire Department serves the city of Rhineland and has mutual aid agreements with surrounding jurisdictions. Rhineland's station, which is centrally located in the city, serves a radius of less than three miles, but through mutual aid agreements will cover a six mile radius. The Fire Department will also respond to other cities if the need arises.

(continued)

(Table 2.10A-5, continued)

PERSONNEL

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Number of Firefighters Per 1,000 population	14 1.6	14 1.6	17 2.0	16 1.9	16 1.9	15 1.8	14 1.7
Number of Support Staff Per firefighter	3 .21	3 .21	3 .18	3 .19	3 .19	3 .20	4 .29
Total Personnel Per 1,000 population	17 2.0	17 2.0	20 2.3	19 2.2	19 2.2	18 2.1	18 2.1

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	224.9	254.8	281.6	317.4	329.8	347.6	383.2
Other Expenditures (\$ 000)	62.7	54.5	54.3	71.9	82.6	87.9	84.2
Total Expenditures (\$ 000)	287.6	309.3	335.9	389.3	412.4	435.5	467.4
Per Capita (dollars)	33.52	35.67	38.60	45.04	48.29	51.07	55.60
Per Firefighter (\$ 000)	20.5	22.1	19.8	24.3	25.8	29.0	33.4

The fire protection service cost figures set out above show an increase in total current expenditures of 70 percent for the seven-year reporting period. Inflation accounts for most of the increase because the level of service measured by the number of firefighters has increased only slightly during this period. Total operating expenses include, in addition to salaries and fringe benefits, hydrant rental, purchase and maintenance of vehicles and other equipment, and all other operating expenses for the department.

INSURANCE RATING

Insurance Services Office of Wisconsin has assigned a rating of five to the city.

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-5, continued)

LAONA TOWN

FACILITIES

All volunteer department operates out of an approximately 4,600 square foot two-year-old facility considered to be in very good condition.

EQUIPMENT

Two pumpers, one pumper/tanker combination, and one equipment van; provisions for gas and chemical spills.

SERVICE AREA

Serves primarily Laona Town; mutual aid agreements with surrounding jurisdictions; Blackwell Town and Caswell Town contract with Laona Town for fire protection services. The department responds to approximately 16 calls in an average year.

PERSONNEL

Approximately 24 volunteer firefighters on call. The firemen staff per 1,000 population is 16.4.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.9	0.9	0.0	1.0	4.8	6.5	5.6
Other Expenditures (\$ 000)	4.8	4.8	7.2	13.6	3.8	10.8	7.5
Total Expenditures (\$ 000)	5.7	5.7	7.2	14.6	8.6	17.3	13.1
Per Capita (dollars)	3.92	3.88	4.96	10.07	5.89	11.67	8.93

Note: Salary expenditures reflect nominal fees paid to fire chiefs, assistant chief, and secretary/treasurer; hourly rates paid to volunteer per call.

INSURANCE RATING

Insurance Services Office of Wisconsin has assigned a rating of seven for that portion of the town located within the Laona sanitary district because of the availability of fire hydrants; a rating of nine has been assigned to the balance of the town.

(continued)

(Table 2.10A-5, continued)

LAONA TOWN

PLANNED MODIFICATIONS

None reported.

WABENO TOWN

FACILITIES

The Wabeno Volunteer Fire Department operates out of a 12-year-old 4,000 square feet facility located in the village of Wabeno. The condition of the facility is reported to be good.

EQUIPMENT

The department is equipped with two pumpers that are ten years old and reportedly in excellent condition, and a six-year-old equipment van which is in good condition. The department's capabilities are limited to fire fighting.

SERVICE AREA

In addition to servicing Wabeno Town, the department also provides fire protection services to Freedom Town and Blackwell Town on a contractual basis. Wabeno Town also has mutual aid agreements with the towns of Crandon, Laona, Lakewood, and Townsend. The department responds to an average of 20 calls per year total.

PERSONNEL

Approximately 30 volunteers are on call. The firemen staff per 1,000 population is 26.3.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	4.1	4.1	2.9	3.2	1.5	2.0	2.1
Other Expenditures (\$ 000)	7.5	7.5	0.0	15.9	5.2	3.4	3.3
Total Expenditures (\$ 000)	11.6	11.6	2.9	19.1	6.7	5.4	5.4
Per Capita (dollars)	10.56	10.74	2.69	17.60	6.09	4.78	4.74

Expenditures include all operating and equipment purchases and maintenance expenses incurred by the township; figures do not include fire department expenditures made using other funds raised by the volunteer department.

(continued)

(Table 2.10A-5, continued)

WABENO TOWN

INSURANCE RATING

Insurance Services Office of Wisconsin has assigned a rating of seven to Wabeno Town.

PLANNED MODIFICATIONS

Addition of volunteers

ELCHO TOWN

FACILITIES

The Elcho Volunteer Fire Department utilizes approximately 2,000 square feet of the town hall, which is about 25 years old and reported to be in good condition.

EQUIPMENT

The department is equipped with one new 750 gallon pumper, a 25-year-old 500 gallon pumper, a 15-year-old 1,500 gallon tanker, and an emergency van which serves as a first-response medical aid vehicle. Additional equipment includes oxygen, pneumatic tools for accident extraction, and smoke ejectors.

SERVICE AREA

The department provides service to Elcho Town and to Upham Town on a contract basis (presently \$3,000 per year plus \$150 per call). Elcho also has an informal agreement with the Department of Natural Resources to assist in fighting rural brush fires, particularly when a structure is threatened.

PERSONNEL

Approximately 25 volunteers are on call. The firemen staff per 1,000 population is 22.6.

(continued)

(Table 2.10A-5, continued)

ELCHO TOWN

<u>EXPENDITURES</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	5.5	1.6	0.2	0.0	0.2	0.1	0.2
Other Expenditures (\$ 000)	0.0	0.0	0.0	2.0	0.7	3.3	14.1
Total Expenditures (\$ 000)	5.5	1.6	0.2	2.0	0.9	3.4	14.3
Per Capita (dollars)	6.21	1.74	0.22	2.08	0.89	3.13	12.94

INSURANCE RATING

Insurance Services Office of Wisconsin has assigned a rating of eight to Elcho Town.

PLANNED MODIFICATIONS

Addition of firefighter sets (coats, helmets, and boots).

(continued)

(Table 2.10A-5, continued)

WHITE LAKE VILLAGE

FACILITIES

The White Lake Volunteer Fire Department operates out of a 3,200 square feet facility which is two years old and reported to be in excellent condition. The facility also serves as the village's maintenance shop.

EQUIPMENT

The village fire department is equipped with one 500 gallon pumper, one 750 gallon pumper, one 1,500 gallon tanker, and a 3/4-ton truck used for transporting firefighters. The department has no radio communication equipment or specialized equipment for other than fire emergencies.

SERVICE AREA

The department serves Evergreen Town on an annual contract basis in addition to White Lake Village. The department also has mutual aid agreements with Wolf River Town and the Department of Natural Resources for responding to brush fires.

PERSONNEL

Approximately 35 volunteers are on call. The firemen staff per 1,000 population is 35.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.2	0.2	0.2	0.2	0.6	0.3	0.3
Other Expenditures (\$ 000)	1.2	2.5	0.3	2.8	10.6	11.1	24.3
Total Expenditures (\$ 000)	1.4	2.7	0.5	3.0	11.2*	11.4	24.6
Per Capita (dollars)	4.52	8.71	1.60	9.55	36.25	36.77	79.87

* Public water system was operationalized in 1977 and fire service costs increased due to hydrant rental payments to the water utility.

INSURANCE RATING

Insurance Services Office of Wisconsin has assigned a rating of eight to the village.

PLANNED MODIFICATIONS

None Reported.

(continued)

(Table 2.10A-5, continued)

THREE LAKES TOWN

FACILITIES

All-volunteer department utilizes 3,000 square feet in two-year-old Three Lakes community building.

EQUIPMENT

One 750 gallon pumper, one tanker and one very old pumper (used only as back-up); metal saws for accident extractions; foam for oil and chemical spills.

SERVICE AREA

Three Lakes Town.

PERSONNEL

Approximately 25 volunteers on call. The firemen staff per 1,000 population is 14.3.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits*(\$ 000)	1.5	1.5	2.5	3.0	3.1	3.6	4.3
Other Expenditures (\$ 000)	4.6	4.6	4.2	12.0	4.2	9.4	4.2
Total Expenditures(\$ 000)	6.1	6.1	6.7	15.0	7.3	13.0	8.5
Per Capita (dollars)	4.03	3.82	4.08	8.96	4.23	7.41	4.88

*Salary expenditures are for a part-time maintenance man.

INSURANCE RATING

Insurance Services Office of Wisconsin has assigned a rating of seven for that portion of the town located within the Three Lakes Sanitary District because of the availability of fire hydrants; a rating of nine has been assigned to the balance of the town.

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-5, continued)

SOURCES

City of Antigo. August 15, 1980. Personal Communication, Ray Schroeder, Assistant Fire Chief.

City of Crandon. August 13, 1980. Personal Communication, Bob Jackson, Fire Chief.

City of Rhinelander. August 13, 1980. Personal Communication, Wallace Ritchie, Fire Chief.

Elcho Town. August 13, 1980. Personal Communication, Bill Kelly, Fire Department.

Insurance Services Office of Wisconsin. 1980. Municipalities and Fire Department Ratings.

Laona Town. August 12, 1980. Personal Communication, Jack Carter, Fire Chief.

Three Lakes Town. August 12, 1980. Personal Communication, Gene Step, Fire Chief.

Wabeno Town. August 13, 1980. Personal Communication, Ed Korbas, Assistant Fire Chief.

White Lake Village. August 14, 1980. Personal Communication, Robert Gorka, Fire Chief.

Wisconsin Department of Revenue, Bureau of Local Financial Assistance. 1975-1980. Municipal Resources Provided and Expended 1973-1978. Bulletins 51, 53, 55, 57, 59 and 61. Madison.

Table 2.10A-6

CITY AND SECONDARY SERVICE CENTER

STREETS AND ROADS
CITY OF CRANDONFACILITIES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Miles of Streets/Road	22.8	22.8	22.8	22.85	23.05	24.13	24.75
Miles per 1,000 Population	12.9	13.3	13.4	12.8	13.0	13.3	13.4

The figures above show that over the last six years the streets and roads for which the city has maintenance responsibility have increased by approximately two miles, or 8.6 percent. The overall condition of the street and road system is regarded locally as poor. City staff indicate that upwards of 65 percent of the streets need resurfacing and that the entire street drainage system needs to be revamped. The city does not have maintenance responsibility for any bridges.

EQUIPMENT AND PERSONNEL

The city of Crandon performs a large portion of its street maintenance needs with a small city staff and several pieces of equipment. Private contractors are used for major improvements such as street resurfacing.

The city has had three full-time maintenance personnel since 1970. Since 1977, a CETA grant has augmented the maintenance crew with three part-time workers. The city's major equipment includes an endloader, two dump trucks, a street sweeper and a pickup truck. The city uses the same equipment and personnel for snow and ice removal during the winter months.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	30.7	32.1	34.3	27.8	57.2	51.3	61.2
Other Expenditures (\$ 000)	53.3	64.1	74.7	93.0	46.4	61.1	49.2
Total Expenditures (\$ 000)	84.0	96.2	109.0	120.8	103.6	112.4	110.4
Per Capita (dollars)	47.67	56.06	64.00	67.90	58.43	61.83	59.71
Per Mile (\$ 000)	3.68	4.22	4.78	5.29	4.49	4.66	4.46

(continued)

(Table 2.10A-6, continued)

These figures include, in addition to salaries, all equipment purchases and other operating costs for this municipal function, including contracts for street improvements.

PLANNED MODIFICATIONS

Resurface several roads.

CITY OF ANTIGO

FACILITIES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Miles of Streets/Roads	49.03	49.91	50.18	50.38	50.63	53.18	53.60
Miles per 1,000 Population	5.6	5.7	5.7	5.7	5.8	6.2	6.3

The figures show that over the past eight years the streets and roads for which the city has maintenance responsibility has increased 6.24 miles or approximately 11.6 percent. The overall condition of the street and road system is regarded locally as in the fair to good range. Indications are 30 percent of the network needs resurfacing. The city maintains 15 bridges, all in fair to good condition with general maintenance needs.

EQUIPMENT AND PERSONNEL

The city currently employs 23 full-time and four part-time maintenance personnel. This staff size has been fairly constant over the past ten years. The city's major equipment includes five trucks, four dump trucks, one compressor, one mixer, two graders, one loader and one roller. The equipment is shared with park and cemetery maintenance.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Incl. Fringe	136.5	136.4	144.3	209.0	203.4	212.7	245.8
Other Expenditures (\$ 000)	134.5	155.4	197.4	168.2	207.0	190.0	419.1
Total Expenditures (\$ 000)	271.0	291.8	341.7	377.2	410.4	402.7	664.9
Per Capita (dollars)	30.85	33.25	38.56	42.37	47.14	47.09	77.63
Per Mile (\$ 000)	5.5	5.8	6.8	7.5	8.1	7.6	12.4

(Table 2.10A-6, continued)

PLANNED MODIFICATIONS

Resurface some streets.

CITY OF RHINELANDER

FACILITIES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Miles of Streets Maintained	40.20	40.20	40.69	40.70	40.70	42.36	43.76
Total Miles Per 1,000 Pop.	4.7	4.6	4.7	4.7	4.8	5.0	5.2

The 4.72 miles increase for this reporting period represents an increase of 11.8 percent. Of the nearly 44 miles maintained by the city, the classification breakdown is approximately 14 percent arterials, 10 percent collectors, and 76 percent local or neighborhood streets. The general condition of the street system is good. Approximately 15 percent of the streets need resurfacing, of which approximately 10 percent would require curb and gutter replacement. The city also maintains five bridges, three of which are in good condition and two need replacing due to their deteriorated condition.

EQUIPMENT AND PERSONNEL

The city has a full array of street maintenance equipment, including 26 wheeled vehicles ranging from pickup trucks to graders and endloaders. All maintenance is performed by a staff of 18-19 full-time and 3-5 part-time employees. Major street improvements are contracted with private companies. The city crews, in addition to streets and bridges, maintain curbs and gutters, storm sewer facilities, sidewalks and perform street cleaning and snow and ice removal functions.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	161.3	193.7	217.3	233.0	286.9	270.4	299.2
Other Expenditures (\$ 000)	233.4	311.0	273.7	328.0	402.1	254.4	190.4
Total Expenditures (\$ 000)	394.7	504.7	491.0	561.0	689.0	524.8	489.6
Per Capita (dollars)	46.00	58.21	56.42	64.91	80.68	61.55	58.24
Per Mile (\$ 000)	9.8	12.6	12.1	13.8	16.9	12.4	11.2

(continued)

(Table 2.10A-6, continued)

The above cost figures show a steady rise in salary costs, which is largely attributable to inflation since the number of employees has remained constant for the reporting period. The severity of winters affects salary costs to some degree because of overtime required for snow and ice removal. The fluctuations in other operating expenses are due largely to periodic equipment purchases and resurfacing contracts with private contractors.

PLANNED MODIFICATIONS

None reported.

LAONA TOWN

FACILITIES

Laona Town maintains 56.4 miles of streets and roads, of which 35.0 miles are blacktop and the balance are gravel. Road mileage within the township has remained constant over the last ten years. The total miles per 1,000 population is 38.4.

EQUIPMENT AND PERSONNEL

The township performs all road maintenance functions, including snow and ice removal during winter months. The township employs two full-time and three part-time persons for road maintenance purposes, which has remained constant over the last ten years. Heavy equipment includes several trucks, three end loaders and a grader.

EXPENDITURES

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries Including Fringe Benefits (\$ 000)	14.7	15.4	19.0	16.5	21.9	16.4
Other Expenditures (\$ 000)	56.7	30.7	42.7	20.6	59.9	62.9
Total Expenditures (\$ 000)	71.4	46.1	61.7	37.1	81.8	79.3
Per Capita (dollars)	48.60	31.73	42.55	25.39	55.16	54.06
Per Mile (\$ 000)	1.3	0.8	1.1	0.7	1.5	1.4

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-6, continued)

WABENO TOWN

FACILITIES

The township maintains 99 miles of streets and roads, of which approximately 33 miles are asphalt and 66 miles are gravel. It is reported that some of the asphalt roads need resurfacing and maintenance of gravel roads is constant. Of the 99 miles of township roads, 70.5 meet qualification standards for state road maintenance assistance. The township also maintains three concrete and five wood bridges, two of which are reported to be in poor condition and six in good condition. The total miles per 1,000 population is 87.

EQUIPMENT AND PERSONNEL

The township presently employs four full-time maintenance personnel, which has varied from two in 1970 to six in 1979. No part-time personnel are employed. Major road maintenance equipment includes two dumptrucks, one grader, one tractor and one bulldozer.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.0	0.0	22.5	16.5	12.0	40.9	42.4
Other Expenditures (\$ 000)	29.2	29.3	21.9	46.1	33.5	96.4	55.8
Total Expenditures (\$ 000)	29.2	29.3	44.4	62.6	45.5	137.3	98.2
Per Capita (dollars)	26.59	27.13	41.15	57.70	41.36	121.50	86.22
Per Mile (\$ 000)	0.3	0.3	0.4	0.6	0.5	1.4	1.0

PLANNED MODIFICATIONS

None reported.

ELCHO TOWN

FACILITIES

Elcho Town maintains 76.9 miles of streets and roads, all of which qualify for state road maintenance assistance. Ten miles of road have been added since 1970. The town roads are reported to be in generally good condition although some roads need asphalt resurfacing. Elcho Town is not responsible for any bridge maintenance. The total miles per 1,000 population is 69.6 miles.

(continued)

(Table 2.10A-6, continued)

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.0	5.4	0.0	6.9	0.0	0.0	4.7
Other Expenditures (\$ 000)	5.0	3.3	3.0	18.2	11.4	9.4	12.7
Total Expenditures (\$ 000)	5.0	8.7	3.0	25.1	11.4	9.4	17.4
Per Capita (dollars)	16.13	28.06	9.58	79.94	36.89	30.32	56.49
Per Mile (\$ 000)	0.8	1.4	0.5	4.0	1.8	1.5	2.7

PLANNED MODIFICATIONS

None reported.

THREE LAKES TOWN

FACILITIES

Three Lakes Town maintains approximately 122 miles of streets and roads, which has remained constant over the last ten years. The total miles per 1,000 population is 70 miles.

EQUIPMENT AND PERSONNEL

The township performs all road maintenance functions except road re-surfacing, which it contracts out to private firms. The township employs seven full-time maintenance employees, who also operate snow and ice removal equipment during the winter months. Major pieces of maintenance equipment include five trucks, one backhoe and two endloaders.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	30.8	30.8	33.8	50.5	37.4	58.5	64.0
Other Expenditures (\$ 000)	101.9	101.9	72.5	47.6	88.1	188.3	146.2
Total Expenditures (\$ 000)	132.7	132.7	106.3	98.1	125.5	246.8	210.2
Per Capita (dollars)	87.65	83.09	64.78	58.57	72.75	140.71	120.60
Per mile (\$ 000)	1.1	1.1	0.9	0.8	1.0	2.0	1.7

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-6, continued)

PERSONNEL AND EQUIPMENT

The township presently employs two full-time and two part-time road maintenance personnel, which has remained constant over the last ten years. Major road maintenance equipment includes a grader, two trucks with plows, one endloader, one bulldozer and one mower. Elcho Town contracts with Langlade County for road resurfacing projects.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	8.1	20.2	15.1	17.0	12.2	18.3	12.1
Other Expenditures (\$ 000)	0.0	31.5	52.6	33.8	68.7	58.7	67.7
Total Expenditures (\$ 000)	8.1	51.7	67.7	50.8	80.9	77.0	79.8
Per Capita (dollars)	9.15	56.07	73.03	52.86	79.70	70.90	72.22
Per Mile (\$ 000)	0.1	0.7	0.9	0.7	1.1	1.0	1.0

PLANNED MODIFICATIONS

None reported.

WHITE LAKE VILLAGE

FACILITIES

White Lake Village maintains 6.34 miles of streets, of which 5.09 are asphalt surfaced and 1.25 are gravel. All of the streets qualify for state maintenance assistance. The main streets in the village have been resurfaced recently, but it is reported that other village streets are in need of similar improvement. There are no bridges in White Lake. The total miles per 1,000 population is 20.6 miles.

EQUIPMENT AND PERSONNEL

The village employed one full-time maintenance person through 1979, which was expanded to two in 1980 through the CETA program. No part-time personnel are presently employed. The village owns one truck for street maintenance purposes which is also equipped with a snow plow. The village contracts with the Langlade County Highway Department for street resurfacing projects.

(continued)

(Table 2.10A-6, continued)

SOURCES

City of Antigo. August 15, 1980. Personal Communication, Gordon Fondow, Street Department.

City of Crandon. August 13, 1980. Personal Communication, Gwinn Johnson, Mayor.

City of Rhinelander. January 12, 1981. Personal Communication, Claribel Prosser, Mayor.

Elcho Town. August 13, 1980. Personal Communication, Delores Froland, Town Clerk.

Laona Town. August 12, 1980. Personal Communication, Jim Baltus, Town Chairman.

Three Lakes Town. August 12, 1980. Personal Communication, Richard T. Van Kirk, Town Chairman.

Wabeno Town. August 13, 1980. Personal Communication, Donna Mischo, Town Clerk.

White Lake Village. August 14, 1980. Personal Communication, Mrs. James Owen, Village Clerk.

Wisconsin Department of Natural Resources. 1979. Forest County Municipal Waste Site Inventory. Madison.

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Wisconsin Department of Transportation. Rhinelander District Office. September 22, 1980. Personal Communication, G. W. Crossen, Planning and Design Engineer.

Table 2.10A-7

CITY AND SECONDARY SERVICE CENTER

SOLID WASTE DISPOSAL

CITY OF CRANDON

FACILITIES

Crandon presently operates a 12.7-acre landfill site. However, the city is under a Department of Natural Resources order to close the site for environmental reasons. Thus, the city is currently developing a new 7.7 acre site which is scheduled to be operational by Spring 1981. The city does not provide garbage collection service, although it is being considered as a possible city function. Garbage pick-up is provided by private collectors.

OPERATION

The city employs one worker at the landfill site. One employee from the road maintenance department is assigned to run heavy equipment three times a week at the landfill site.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
DISPOSAL							
Salaries, Including Fringe Benefits (\$ 000)	6.0	6.9	6.3	6.4	3.4	5.2	8.1
Other Expenditures (\$ 000)	0.2	5.2	4.7	1.8	6.8	15.0	8.9
Total Expenditures (\$ 000)	6.2	12.1	11.0	8.2	10.2	20.2	17.0
Per Capita (dollars)	3.52	7.05	6.46	4.61	5.75	11.11	9.19

PLANNED MODIFICATIONS

Opening of new site in Spring 1981. Will be lined, 10,000 cubic yard facility equipped with lysimeters, located in Lincoln town on county forest cropland. Estimated cost: \$31,000 per cell.

CITY OF ANTIGO

FACILITIES

Antigo presently operates a 120 acre landfill site with 20 acres in usage located in Rolling town. However, the city is under order from Department of Natural Resources to terminate the operation, to properly close and to abandon the facility by September 30, 1981. Hydrogeologic investigation deems the site unacceptable. The site services the City of Antigo and towns of Rolling, Antigo, Ackley, and Neva. Garbage collection is a weekly service.

(continued)

(Table 2.10A-7, continued)

OPERATION

The city employs two operation and service personnel at the landfill site. The maintenance equipment includes a loader and 20 yard packer, both new and in good condition. There is one collection vehicle. Occasionally private contractors have been employed to augment the excavation and backfilling capacities of the full-time employees.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
<u>COLLECTION</u>							
Salaries Including Fringe Benefits (\$ 000)	40.2	42.0	40.5	41.2	42.0	49.2	63.5
Other Expenditures (\$ 000)	1.9	2.9	1.5	1.7	1.7	1.8	2.0
Total Expenditures (\$ 000)	42.1	44.9	42.0	42.9	43.7	51.0	65.5
Per Capita (dollars)	4.79	5.12	4.74	4.82	5.02	5.96	7.65
<u>DISPOSAL</u>							
Salaries Including Fringe Benefits (\$ 000)	20.1	24.1	28.5	27.0	27.7	33.8	31.5
Other Expenditures	27.4	37.5	48.8	48.7	46.7	50.2	28.2
Total Expenditures	47.5	61.6	77.3	75.7	74.4	84.0	59.7
Per Capita (dollars)	5.41	7.02	8.72	8.50	8.55	9.82	6.97

PLANNED MODIFICATIONS

Close site by September 30, 1981 and abandon with final cover, topsoil, seed, and fertilizer by October 15, 1981. Currently Antigo is conducting feasibility studies on utilizing the 40 acres directly to the east of the current site. The current site will be clay lined, but other specifics have not been determined.

CITY OF RHINELANDER

FACILITIES

Rhinelanders closed their city operated waste disposal facilities in late 1978 due to environmental problems. Since that time, the city uses the Oneida County landfill located approximately seven miles from Rhinelanders in Newbold town.

(continued)

(Table 2.10A-7, continued)

OPERATION

The city uses contract garbage pickup, Rhinelander Disposal Company, who transports the waste to the landfill site.

EXPENDITURES

The disposal cost at the landfill site is \$15.00 per ton. The disposal cost averages to \$7.44 annually per person. The per capita pickup rate is approximated at \$6.62 annually.

PLANNED MODIFICATIONS

None reported.

LAONA TOWN

FACILITIES

Laona Town presently utilizes a landfill site located in and owned by Blackwell Town. However, Laona is presently developing a new site which it will own and operate. The new site has approximately 40 acres usable for landfill purposes. The town also provides garbage collection service to its residents.

OPERATION

The township employs one part-time person for site maintenance and three part-time employees for garbage collection. One end-loader is used for site maintenance purposes and one garbage truck is used for waste collection.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
COLLECTION							
Salaries Including Fringe Benefits (\$ 000)	6.0	6.0	8.0	4.4	2.1	6.1	4.9
Other Expenditures (\$ 000)	0.0	0.0	8.6	2.4	0.7	11.4	1.2
Total Expenditures (\$ 000)	6.0	6.0	16.6	6.8	2.8	17.5	6.1
Per Capita (dollars)	4.13	4.08	11.42	4.69	1.92	11.80	4.16

(continued)

(Table 2.10A-7, continued)

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
<u>DISPOSAL</u>							
Salaries Including Fringe Benefits (\$ 000)	0.0	0.0	0.0	0.0	3.6	7.0	5.3
Other Expenditures (\$ 000)	0.0	0.0	0.0	1.9	0.8	4.7	3.9
Total Expenditures (\$ 000)	0.0	0.0	0.0	1.9	4.4	11.7	9.2
Per Capita (dollars)	0.00	0.00	0.00	1.31	3.01	7.89	6.27

PLANNED MODIFICATIONS

Presently developing a new landfill site. The new landfill will serve primarily Laona Town; however, the U.S. Forest Service in Blackwell Town will probably use the site on a part-time basis.

WABENO TOWN

FACILITIES

The town operates a 3.8-acre disposal site which has a reported remaining life of ten years. The site is in compliance with Department of Natural Resources waste disposal standards. The town does not provide waste collection services; private haulers contract with individual households.

OPERATION

The town employs one part-time person for site maintenance and operation. A bulldozer assigned primarily to road maintenance is also used for disposal site maintenance. The disposal site serves, in addition to Wabeno Town, Freedom Town on a monthly fee basis.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
<u>DISPOSAL</u>							
Salaries, Including Fringe Benefits (\$ 000)	3.7	3.7	2.3	3.1	2.1	3.7	3.1
Other Expenditures (\$ 000)	0.4	0.4	0.0	0.5	0.2	0.4	0.1
Total Expenditures (\$ 000)	4.1	4.1	2.3	3.6	2.3	4.1	3.2
Per Capita (dollars)	3.73	3.80	2.13	3.32	2.09	3.63	2.81

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-7, continued)

ELCHO TOWN

FACILITIES

Elcho operates two solid waste disposal sites. One is a 40-acre site with 3.5 acres in current use. The total site is reported to have an expected remaining life of 100 years. The second site is four acres with anticipated closure in 1984. It has a ground water and covering problem.

OPERATION

The town employs two part-time operation and maintenance personnel. Road maintenance vehicles are used for site maintenance. The disposal sites serve only Elcho Town.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
DISPOSAL							
Salaries, Including Fringe Benefits (\$ 000)	2.3	2.4	5.1	7.2	7.0	9.2	9.2
Other Expenditures (\$ 000)	0.0	0.0	0.0	0.0	0.3	0.5	0.4
Total Expenditures (\$ 000)	2.3	2.4	5.1	7.2	7.3	9.7	9.6
Per Capita (dollars)	2.60	2.60	5.50	7.49	7.19	8.93	8.69

PLANNED MODIFICATIONS

None reported.

WHITE LAKE VILLAGE

FACILITIES

The village operates a five-acre solid waste disposal site, of which 2.5 acres are currently in use. The site has an expected remaining life of 20 years. The site is in compliance with Department of Natural Resources solid waste disposal standards. The village also provides waste collection service on a weekly basis.

OPERATION

The village employs one part-time person for site operation and one part-time person for waste collection. The village owns one collection vehicle, but contracts with a private individual for site maintenance. The disposal site serves only White Lake Village.

(continued)

(Table 2.10A-7, continued)

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
COLLECTION							
Salaries, Including Fringe Benefits (\$ 000)	1.0	1.2	1.3	0.6	1.0	0.5	1.2
Other Expenditures (\$ 000)	0.1	0.1	0.0	4.2	0.0	0.1	0.2
Total Expenditures (\$ 000)	1.1	1.3	1.3	4.8	1.0	0.6	1.4
Per Capita (dollars)	3.55	4.19	4.15	15.29	3.24	1.94	4.55
DISPOSAL							
Salaries, Including Fringe Benefits (\$ 000)	0.7	0.6	0.0	0.9	1.3	0.9	3.1
Other Expenditures (\$ 000)	0.4	0.0	0.4	0.3	0.0	0.2	0.4
Total Expenditures (\$ 000)	1.1	0.6	0.4	1.2	1.3	1.1	3.5
Per Capita (dollars)	3.55	1.94	1.28	3.82	4.21	3.55	11.36

PLANNED MODIFICATIONS

None reported.

THREE LAKES TOWN

FACILITIES

The town is presently developing a new 20 acre disposal site which is scheduled to be operational by Spring 1981; the current site is under a closure order by the Department of Natural Resources for environmental reasons. The town does not provide refuse collection service; private haulers are utilized by individual households.

OPERATION

The town employs one full-time person and provides a bulldozer for site maintenance purposes. The landfill serves only Three Lakes Town.

(continued)

(Table 2.10A-7, continued)

<u>EXPENDITURES</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
DISPOSAL							
Salaries, Including Fringe Benefits (\$ 000)	6.5	6.5	7.2	6.1	9.1	10.4	9.9
Other Expenditures (\$ 000)	0.1	1.3	6.7	7.5	3.8	13.3	1.9
Total Expenditures (\$ 000)	6.6	7.8	14.0	13.6	12.9	23.7	11.8
Per Capita (dollars)	4.36	4.88	8.53	8.12	7.48	13.51	6.77

PLANNED MODIFICATIONS

Presently developing a new landfill site.

(continued)

(Table 2.10A-7, continued)

SOURCES

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Three Lakes Town. August 12, 1980. Personal Communication, Richard T. Van Kirk, Town Chairman.

Wabeno Town. August 13, 1980. Personal Communication, Donna Mischo, Town Clerk.

White Lake Village. August 14, 1980. Personal Communication, Jerome Nixon, Service Department.

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Table 2.10A-8

CITY AND SECONDARY SERVICE CENTER

WATER SERVICE

CITY OF CRANDON

FACILITIES

The Crandon Water Utility operates two active wells, constructed in 1946 and 1969, and one standby well constructed in 1941. The current maximum pumping capacity is 240,000 GPD. Water supply capabilities exceed the current average daily demand of 176,186 GPD. The city storage reservoir constructed in 1941 has a storage capacity of 75,000 gallons and the elevated tank built in 1941 has a capacity of 55,000 gallons. Connections and service are paid by user fees.

SERVICE AREA

City of Crandon.

PERSONNEL

Two maintenance and operating employees shared with wastewater operation; one part-time bookkeeper.

EXPENDITURES AND REVENUES

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Operating Revenues (\$ 000)	25.2	26.9	26.8	29.4	30.9	30.2	32.6	34.9	37.5	37.6
Total Sales of Water (\$ 000)	24.3	26.1	26.8	28.2	29.6	30.2	32.6	34.9	37.5	37.5
Total Operating Expenses (\$ 000)	38.0	31.9	32.2	30.2	32.1	33.4	43.7	37.7	41.3	40.8
Depreciation (\$ 000)	9.4	9.4	9.5	9.5	9.6	9.7	10.0	6.8	6.8	6.9
Cost per 10,000 Gallons (dollars)	10.13	8.81	8.52	6.38	6.46	6.64	7.95	7.28	7.99	7.98

PLANNED MODIFICATIONS

New water supply system opened in Spring, 1981 with an increased effective capacity of 300,000 gallons per day. The new system combined with the old system gives the total capacity of 480,000 gallons per day. Testing has begun for a backup well. The cost for the new system was paid from accrued funds designated for the improvement.

(continued)

(Table 2.10A-8, continued)

WATER PRODUCTION AND CONSUMPTION BY TYPE OF USER

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Water Pumped (MG)	44.4	43.2	47.2	49.1	53.1	57.5	64.3	67.2	64.2	64.3
Maximum Pumped/Day (000 gallons)	207.0	187.0	165.0	184.0	197.0	263.0	275.0	252.0	280.0	240.0
Total Production Capacity/Day (000 gallons)	180.0	180.0	180.0	NR ^a	NR	NR	NR	NR	NR	NR
Total Storage Capacity (000 gallons)	130	130	130	130	130	130	130	130	130	130
Total Number of Customers	488	499	504	541	577	590	608	617	618	626
Total Water Purchased (MG)	37.5	36.2	37.8	47.3	49.7	50.3	55.0	51.8	51.7	51.1
RESIDENTIAL USERS										
Number of Customers	388	398	403	442	474	486	502	505	506	509
Water Purchased (MG)	19.5	20.2	20.5	21.9	22.9	23.4	25.4	22.8	26.3	22.7
% of Total Purchased	52.0	55.8	54.2	46.3	46.1	46.5	46.2	44.0	50.9	44.4
COMMERCIAL USERS										
Number of Customers	91	91	91	89	93	92	93	98	97	101
Water Purchased (MG)	13.7	11.7	12.3	17.5	19.2	19.8	20.0	18.1	16.1	18.6
% of Total Purchased	36.5	32.3	32.5	37.0	38.6	39.4	36.4	34.9	31.1	36.4
INDUSTRIAL USERS										
Number of Customers	1	1	1	1	1	1	1	1	1	1
Water Purchased (MG)	1.3	1.3	2.0	2.6	1.8	3.0	3.5	4.3	4.0	4.0
% of Total Purchased	3.5	3.6	5.3	5.5	3.6	5.9	6.4	8.3	7.7	7.8
PUBLIC SALES										
Number of Customers	8	9	9	9	9	11	12	13	14	15
Water Purchased (MG)	3.0	3.0	3.0	5.3	5.8	4.1	6.1	6.6	5.3	5.8
% of Total Purchased	8.0	8.3	8.0	11.2	11.7	8.2	11.0	12.8	10.3	11.4

(continued)

(Table 2.10A-8, continued)

CITY OF ANTIGO

FACILITIES

The Antigo Water Utility operates six active wells, constructed from 1947 to 1979, and one standby well constructed in 1936. The maximum pumping capacity was 1,481,000 gallons in 1979. The water supply capabilities exceed the current average daily demand of 929,910 gallons. The city has a total water storage capacity of 650,000 gallons, serviced by a reservoir and elevated storage. The water treatment methods are filtration, chlorination, and flouridation. Connections and utility extensions are financed by user fees, with monthly rates 25 percent higher outside of the city limits.

SERVICE AREA

City of Antigo and vicinity.

PERSONNEL

Eight operation and maintenance employees; one administrator.

EXPENDITURES AND REVENUES

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Operating Revenues (\$ 000)	149.0	144.3	181.5	189.1	206.3	237.0	250.0	248.8	239.2	251.0
Total Sales of Water (\$ 000)	140.0	135.9	177.9	183.8	201.7	233.3	245.7	245.1	237.7	247.9
Total Operating Expenses (\$ 000)	164.5	170.1	176.1	189.5	218.0	229.9	245.6	274.5	281.8	283.1
Depreciation (\$ 000)	28.3	28.9	30.2	32.6	34.1	34.9	36.2	36.7	38.6	39.3
Cost per 10,000 Gallons (dollars)	6.25	7.15	6.27	6.67	7.28	8.16	8.53	8.34	10.01	9.18

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-8, continued)

WATER PRODUCTION AND CONSUMPTION BY TYPE OF USER

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Water Pumped (MG)	275.3	254.2	335.4	347.6	367.2	340.5	341.7	395.2	345.2	339.8
Maximum Pumped/Day (000 gallons)	1253.0	1034.0	1445.0	1488.0	1329.0	1383.0	1280.0	1374.0	1560.0	1481.0
Total Production Capacity/Day (000 gallons)	2082.0	2658.0	2658.0	3456.0	3168.0	2844.0	2844.0	2844.0	1566.0	1554.0
Total Storage Capacity (000 gallons)	950	950	950	950	950	950	950	950	650	650
Total Number of Customers	2773	2794	2822	2880	2920	2954	2990	3028	3050	3085
Total Water Purchased (MG)	263.4	237.8	280.9	284.6	299.6	281.6	287.9	329.0	281.5	308.5
RESIDENTIAL USERS										
Number of Customers	2400	2420	2442	2499	2535	2556	2599	2628	2648	2678
Water Purchased (MG)	123.0	123.7	134.7	126.2	133.1	130.8	149.3	150.2	136.2	137.7
% of Total Purchased	46.7	52.0	47.9	44.4	44.4	46.4	51.9	45.7	48.4	44.6
COMMERCIAL USERS										
Number of Customers	303	304	308	309	312	314	316	324	326	329
Water Purchased (MG)	55.7	54.2	61.1	63.8	67.1	61.6	65.1	61.8	58.7	58.5
% of Total Purchased	21.1	22.8	21.8	22.4	22.4	21.9	22.6	18.8	20.8	19.0
INDUSTRIAL USERS										
Number of Customers	30	30	33	32	31	31	31	32	32	32
Water Purchased (MG)	70.1	47.1	71.9	79.8	83.6	74.7	60.0	105.6	75.7	101.5
% of Total Purchased	26.6	19.8	25.6	28.0	27.9	26.5	20.8	32.0	26.9	32.9
PUBLIC SALES										
Number of Customers	40	40	39	40	42	43	44	44	44	46
Water Purchased (MG)	14.6	12.8	13.2	14.8	15.8	14.5	13.5	11.4	10.9	10.8
% of Total Purchased	5.6	5.4	4.7	5.2	5.3	5.2	4.7	3.5	3.9	3.5

(continued)

(Table 2.10A-8, continued)

CITY OF RHINELANDER

FACILITIES

The city of Rhinelanders operates three active wells capable of yielding 6.8 MGD and one standby well. The one active well built in 1935 has an expected five-year remaining life, while the other two active wells have an anticipated life of 20 more years. Two elevated storage towers have a combined storage capacity of 800,000 gallons. However, the tower built in 1938 which stores 300,000 gallons has an expected remaining life of five years. The groundwater supply and quality in the Rhinelanders area is quite good, with flouridation being the only treatment. Funds are primarily provided by user fees.

SERVICE AREA

City of Rhinelanders.

PERSONNEL

Five operation and maintenance employees; one administrator.

EXPENDITURES AND REVENUES

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Operating Revenues (\$ 000)	110.5	117.9	175.0	176.0	181.9	191.4	238.8	237.4	236.3	236.5
Total Revenues from Water Sales (\$ 000)	109.8	117.1	173.5	174.7	180.8	190.5	237.6	237.0	236.0	236.3
Total Operating Expenses (\$ 000)	99.1	119.8	142.4	143.3	173.3	196.7	220.7	264.9	252.4	257.7
Depreciation (\$ 000)	17.9	21.9	22.7	23.5	24.7	25.7	26.1	26.7	27.3	35.3
Cost per 10,000 Gallons (dollars)	2.45	2.55	2.76	3.00	3.30	3.64	4.22	2.95	4.42	4.72

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-8, continued)

WATER PRODUCTION AND CONSUMPTION BY TYPE OF USER

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Water Pumped (MG)	610.8	694.3	661.3	638.8	684.0	697.4	748.9	799.1	733.1	752.5
Maximum Pumped/Day (000 gallons)	3161.0	3661.0	1876.3	3457.0	2992.0	3653.0	3443.0	4335.0	3556.0	3958.0
Total Production Capacity/Day (000 gallons)	6760.0	6760.0	6760.0	6760.0	6760.0	6760.0	6760.0	5760.0	5760.0	6760.0
Total Storage Capacity (000 gallons)	300	300	300	300	NR	NR	NR	NR	NR	800
Total Number of Customers	2753	2856	2779	2826	2785	2805	2853	2900	3812	2880
Total Water Purchased (MG)	404.1	469.2	515.4	478.2	524.5	540.8	522.4	897.7	571.2	546.1
RESIDENTIAL USERS	2445	2459	2453	2490	2422	2435	2478	2512	3315	2497
Number of Customers	140.5	142.0	176.7	144.4	145.8	154.8	149.9	171.8	140.7	144.8
Water Purchased (MG)	34.8	30.3	34.3	30.2	27.8	28.6	28.7	19.1	24.6	26.5
% of Total Purchased										
COMMERCIAL USERS	262	346	280	289	302	308	311	323	395	295
Number of Customers	104.9	120.4	132.8	115.0	133.6	134.6	134.4	235.3	121.1	120.1
Water Purchased (MG)	25.9	25.6	25.8	24.0	25.5	24.9	25.7	26.2	21.2	22.0
% of Total Purchased										
INDUSTRIAL USERS	20	21	24	24	24	24	24	25	36	22
Number of Customers	128.0	176.0	173.4	178.2	202.9	221.8	238.1	225.1	264.3	189.9
Water Purchased (MG)	31.7	37.5	33.6	37.3	38.7	41.0	45.6	25.1	46.3	34.8
% of Total Purchased										
PUBLIC SALES	26	30	22	23	37	38	40	40	66	66
Number of Customers	30.7	30.8	32.5	40.6	42.2	29.6	NR	265.5	45.1	91.3
Water Purchased (MG)	7.6	6.6	6.3	8.5	8.0	5.5	NR	29.6	7.9	16.7
% of Total Purchased										

(continued)

(Table 2.10A-8, continued)

LAONA TOWN

FACILITIES

The Laona Sanitary District #1 operates one active well constructed in 1969 and two standby wells. The maximum pumped capacity in 1979 was 314,000 GPD. The district has one elevated storage tank with a capacity of 200,000 gallons. The well's remaining life expectancy is approximately 30 years. The treatment methods utilized are chlorination and fluorination. Hookup fee is \$25.00. Service has extended 1,200 feet outside the district.

SERVICE AREA

Laona Town.

PERSONNEL

One operation and maintenance employee; three member administrative board - shared with wastewater system.

EXPENDITURES AND REVENUES

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Operating Revenues (\$ 000)	18.6	27.8	30.1	30.6	31.3	32.2	34.3	34.0	33.1	34.0
Total Revenue from Water Sales (\$ 000)	18.6	27.8	30.1	30.6	30.0	30.7	31.4	31.7	31.7	32.6
Total Operating Expenses (\$ 000)	20.0	19.6	18.2	17.9	19.3	23.7	20.6	22.1	22.1	21.6
Depreciation (\$ 000)	8.1	8.1	8.0	8.0	8.0	8.3	8.4	8.5	8.6	8.6
Cost per 10,000 Gallons (dollars)	NR	NR	NR	9.13	9.95	11.85	9.00	9.44	10.94	8.64

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-8, continued)

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Water Pumped (MG)	NR	20.2	23.9	27.1	26.4	29.2	34.1	36.5	32.7	39.8
Maximum Pumped/Day (000 gallons)	NR	NR	NR	NR	NR	329.0	499.0	621.0	182.0	314.0
Total Production Capacity/Day (000 gallons)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Total Storage Capacity (000 gallons)	200	200	200	200	200	200	200	200	200	200
Total Number of Customers	417	426	426	372	381	371	374	379	380	385
Total Water Purchased (MG)	NR	NR	NR	19.6	19.4	20.0	22.9	23.4	20.2	25.0
RESIDENTIAL USERS										
Number of Customers	383	386	387	333	340	330	333	338	338	344
Water Purchased (MG)	NR	NR	NR	10.6	11.7	11.6	13.7	13.8	11.6	13.4
% of Total Purchased	NR	NR	NR	54.1	60.3	58.0	59.8	59.0	57.4	53.6
COMMERCIAL USERS										
Number of Customers	34	34	33	32	34	35	28	28	28	27
Water Purchased (MG)	NR	NR	NR	8.8	7.5	8.2	5.1	4.8	4.5	5.9
% of Total Purchased	NR	NR	NR	44.9	38.7	41.0	22.3	20.5	22.3	23.6
INDUSTRIAL USERS										
Number of Customers	0	0	0	0	0	0	5	4	4	4
Water Purchased (MG)	NR	NR	NR	0	0	0	0.9	1.6	0.9	1.8
% of Total Purchased	0	0	0	0	0	0	3.9	6.8	4.5	7.2
PUBLIC SALES										
Number of Customers	0	6	6	7	7	6	8	9	10	10
Water Purchased (MG)	0	NR	NR	0.2	0.2	0.2	3.2	3.2	3.2	3.9
% of Total Purchased	NR	NR	NR	1	1	1	14	13.7	15.8	15.6

(continued)

(Table 2.10A-8, continued)

WABENO TOWN

FACILITIES

The Wabeno Sanitary District provides centralized water service to the village of Wabeno; the balance of the township relies on individual wells for water supply. The Wabeno Sanitary District operates one well. Current pumping capabilities are approximately 550,000 gallons per day at maximum capacity. All facilities were developed in 1973. No treatment of the well water is required. The current hook-up charge is \$400.00 for sewer and water, full cost of the hookup. Water and sewer service charge is \$100.00/year/household.

SERVICE AREA

Village of Wabeno.

PERSONNEL

The water system is operated and maintained by one employee.

EXPENDITURES AND REVENUES

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Operating Revenues (\$ 000)	19.4	22.3	25.2	27.9	27.4	27.9
Total Revenue from Water Sales (\$ 000)	19.3	21.8	25.0	25.3	25.4	25.8
Total Operating Expenses (\$ 000)	15.6	15.1	15.8	17.3	15.6	20.3
Depreciation (\$ 000)	6.9	7.2	7.3	7.3	7.3	7.3
Cost per 10,000 Gallons (dollars)	14.18	10.00	9.75	8.83	8.57	11.67

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-8, continued)

WATER PRODUCTION AND CONSUMPTION BY TYPE OF USER

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Water Pumped (MG)	14.5	16.0	17.3	19.6	19.8	22.6
Maximum Pumped/Day (000 gallons)	534.0	280.0	334.0	350.0	405.0	550.0
Total Production Capacity/Day (000 gallons)	480.0	480.0	480.0	480.0	480.0	480.0
Total Storage Capacity (000 gallons)	120	120	120	120	120	120
Total Number of Customers	228	260	274	312	312	293
Total Water Purchased (MG)	11.0	15.1	16.2	19.6	18.2	17.4
RESIDENTIAL USERS						
Number of Customers	194	208	224	257	257	248
Water Purchased (MG)	6.2	10.1	11.5	12.5	11.8	11.7
% of Total Purchased	56.4	66.9	71	63.8	64.8	67.2
COMMERCIAL USERS						
Number of Customers	22	41	39	42	42	36
Water Purchased (MG)	2.5	3.1	2.9	3.5	3.4	3.7
% of Total Purchased	22.7	20.5	17.9	17.9	18.7	21.3
INDUSTRIAL USERS						
Number of Customers	2	2	2	1	1	1
Water Purchased (MG)	0.1	0.1	0.1	1.0	1.0	0.1
% of Total Purchased	0.9	0.7	0.6	5.1	5.5	0.6
PUBLIC SALES						
Number of Customers	10	9	9	12	12	8
Water Purchased (MG)	2.2	1.8	1.7	2.6	2.0	1.9
% of Total Purchased	20.0	11.9	10.5	13.2	11.0	10.9

(continued)

(Table 2.10A-8, continued)

ELCHO TOWN

FACILITIES

The Elcho Sanitary District operates one well with a maximum production yield of approximately 576,000 GPD. Water is pumped into a 100,000 gallon "wet well" storage facility under the pump house, from which water is pumped as needed to keep the town's 170,000 gallon elevated storage tower sufficiently full. The storage facility far exceeds average daily consumption of 40,000 GPD with a high of approximately 53,000 GPD during summer months. Total water storage capacity is 300,000 gallons. No treatment plant is required; however, chlorine is pumped in the system to eliminate odors. The entire water system was operationalized in 1971. Residential hookup fees are \$500, while industrial and commercial are \$1,000 or the actual installation cost.

SERVICE AREA

The utility district serves the village of Elcho while residents of the balance of the township rely on individual wells for water supply.

PERSONNEL

One part-time maintenance employee; one part-time certified operator to perform testing and monthly reports; three sanitary board members - personnel shared with wastewater service.

EXPENDITURES AND REVENUES

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Operating Revenues (\$ 000)	5.6	8.4	9.7	10.0	11.0	14.5	15.3	15.2	16.2
Total Revenues from Water Sales (\$ 000)	5.6	8.4	9.5	9.9	10.8	14.2	15.2	15.0	15.8
Total Operating Expenses (\$ 000)	3.6	7.0	7.0	7.6	7.5	8.0	9.1	13.5	13.6
Depreciation (\$ 000)	2.2	3.5	3.6	3.6	3.7	3.7	3.6	3.6	3.8
Cost per 10,000 Gallons (dollars)	NR	10.14	7.87	9.74	8.15	7.55	9.29	13.64	12.83

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-8, continued)

WATER PRODUCTION AND CONSUMPTION BY TYPE OF USER

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Water Pumped (MG)	4.2	9.2	10.2	9.2	11.0	11.8	15.9	16.8	14.1
Maximum Pumped/Day (000 gallons)	NR	67.6	91.0	98.5	67.0	94.6	115.9	110.9	94.5
Total Production Capacity/Day (000 gallons)	576.0	576.0	576.0	576	576.0	576.0	576.0	576.0	576.0
Total Storage Capacity (000 gallons)	300	300	300	300	300	190	300	190	300
Total Number of Customers	87	104	122	137	152	166	177	172	180
Total Water Purchased (MG)	NR	6.9	8.9	7.8	9.2	10.6	9.8	9.9	10.6
RESIDENTIAL USERS									
Number of Customers	74	87	100	114	127	140	149	146	151
Water Purchased (MG)	NR	2.7	3.9	3.9	4.8	6.1	5.0	5.2	5.0
% of Total Purchased	NR	39.1	43.8	50.0	52.2	57.6	51.0	52.5	47.2
COMMERCIAL USERS									
Number of Customers	11	14	18	19	20	20	21	20	21
Water Purchased (MG)	NR	2.3	2.9	1.9	2.2	2.4	2.5	2.4	3.2
% of Total Purchased	NR	33.3	32.6	24.4	23.9	22.6	25.5	24.3	30.2
INDUSTRIAL USERS									
Number of Customers	1	2	3	3	4	5	5	5	5
Water Purchased (MG)	NR	0.1	0.1	0.2	0.1	0.2	0.3	0.2	0.3
% of Total Purchased	NR	1.5	1.1	2.6	1.1	1.9	3.1	2.0	2.8
PUBLIC SALES									
Number of Customers	1	1	1	1	1	1	2	1	3
Water Purchased (MG)	NR	1.8	2.0	1.8	2.1	1.9	2.0	2.1	2.1
% of Total Purchased	NR	26.1	22.5	23.0	22.8	17.9	20.4	21.2	19.8

(continued)

(Table 2.10A-8, continued)

WHITE LAKE VILLAGE

FACILITIES

The village water utility operates one well with a current production capacity of 100,000 GPD. Water supply capabilities are reported to far exceed the current average daily demand of approximately 17,000 gallons. The village also has a 100,000 gallon elevated storage facility, from which the public water supply is drawn. Thus on average, the well pump only operates long enough daily to replenish the approximate 17,000 gallons used per day. The system was fully operationalized in 1977. The treatment method is chlorination.

SERVICE AREA

White Lake Village.

PERSONNEL

The water and sewer utilities are operated by one full-time superintendent. Additional maintenance manpower is provided by employees whose main function is street maintenance.

EXPENDITURES AND REVENUES

	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Operating Revenues (\$ 000)	20.9	24.9	26.2
Total Revenue from Water Sales (\$ 000)	20.8	24.6	25.7
Total Operating Expenses (\$ 000)	30.0	27.6	25.1
Depreciation (\$ 000)	7.4	7.5	7.6
Cost per 10,000 Gallons (dollars)	78.95	65.71	44.31

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-8, continued)

WATER PRODUCTION AND CONSUMPTION BY TYPE OF USER

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Water Pumped (MG)	1.0	10.7	7.1	10.5
Maximum Pumped/Day (000 gallons)	33.0	112.0	92.0	91.0
Total Production Capacity/Day (000 gallons)	100.0	100.0	100.0	100.0
Total Storage Capacity (000 gallons)	100	100	100	100
Total Number of Customers	66	139	139	139
Total Water Purchased (MG)	NR	3.8	4.2	5.8
RESIDENTIAL USERS				
Number of Customers	63	127	129	129
Water Purchased (MG)	NR	2.6	3.7	5.0
% of Total Purchased	NR	68.4	88.1	86.2
COMMERCIAL USERS				
Number of Customers	1	9	9	9
Water Purchased (MG)	NR	0.4	0.5	0.8
% of Total Purchased	NR	10.5	11.9	13.8
INDUSTRIAL USERS				
Number of Customers	1	1	1	1
Water Purchased (MG)	NR	0.1	0.0	0.0
% of Total Purchased	NR	2.6	NR	NR
PUBLIC SALES				
Number of Customers	1	2	0	0
Water Purchased (MG)	NR	0.7	0.0	0.0
% of Total Purchased	NR	18.5	NR	NR

(continued)

(Table 2.10A-8, continued)

THREE LAKES TOWN

FACILITIES

The Three Lakes Sanitary District provides centralized water service to the village of Three Lakes; the balance of the township relies on individual wells. The district developed its first well in 1954 and it is now used as a backup to the primary well, which was developed in 1974. Current pumping capacity of the primary well is approximately 432,000 GPD. Water supply capabilities are reported to far exceed the average daily demand of approximately 60,000 GPD (85,000 during summer months). The district has one elevated storage facility with a capacity of 55,000 gallons. No treatment other than adding caustic soda to avoid pipe corrosion is required.

SERVICE AREA

Village of Three Lakes.

PERSONNEL

The district employs two full-time operation and maintenance personnel, one of whom is paid through a CETA grant. These employees also service the district's wastewater treatment system.

EXPENDITURES AND REVENUES

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Operating Revenues (\$ 000)	10.7	12.5	12.6	13.3	12.9	13.9	13.9	17.0	20.8	22.8
Total Revenues from Water Sales (\$ 000)	10.6	12.0	12.1	12.8	12.5	13.5	13.5	14.9	18.7	22.2
Total Operating Expenses (\$ 000)	6.5	8.3	8.1	6.7	8.3	10.4	12.6	15.9	15.0	15.9
Depreciation (\$ 000)	1.9	1.9	2.0	2.0	2.8	2.9	2.9	3.3	3.4	3.5
Cost per 10,000 Gallons (dollars)	5.08	5.35	5.55	4.50	5.76	6.93	8.03	9.30	9.09	9.41

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-8, continued)

WATER PRODUCTION AND CONSUMPTION BY TYPE OF USER

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Water Pumped (MG)	21.4	26.5	25.9	25.1	27.8	26.7	32.9	33.6	26.6	33.7
Maximum Pumped/Day (000 gallons)	133.0	185.0	195.0	172.0	174.0	235.0	326.0	197.0	164.0	294.6
Total Production Capacity/Day (000 gallons)	58.0	70.3	70.3	70.3	70.3	NR	NR	NR	NR	432
Total Storage Capacity (000 gallons)	50	50	50	50	50	50	50	50	50	50
Total Number of Customers	175	183	186	192	196	202	211	213	214	220
Total Water Purchased (MG)	12.8	15.5	14.6	14.9	14.4	15.0	15.7	17.1	16.5	16.9
RESIDENTIAL USERS										
Number of Customers	122	128	129	131	135	142	150	151	154	154
Water Purchased (MG)	5.6	5.8	6.7	7.0	7.3	7.5	7.4	8.0	6.7	7.0
% of Total Purchased	43.8	37.4	45.9	47.0	50.7	50.0	47.1	46.8	40.6	41.4
COMMERCIAL USERS										
Number of Customers	50	49	51	54	54	53	54	55	53	58
Water Purchased (MG)	5.8	7.2	6.2	6.1	5.6	6.2	6.3	6.2	5.9	5.5
% of Total Purchased	45.3	46.5	42.5	40.9	38.9	41.3	40.1	36.3	35.8	32.6
INDUSTRIAL USERS										
Number of Customers	0	0	0	0	0	0	0	0	0	0
Water Purchased (MG)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% of Total Purchased	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PUBLIC SALES										
Number of Customers	3	6	6	7	7	7	7	7	7	8
Water Purchased (MG)	1.4	2.5	1.7	1.8	1.5	1.3	2.0	2.9	3.9	4.4
% of Total Purchased	10.9	16.1	11.6	12.1	10.4	8.7	12.8	16.9	23.6	26.0

(continued)

(Table 2.10A-8, continued)

NOTE

^aNot reported on Municipal Utility Reports by local service.

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Table 2.10A-9

CITY AND SECONDARY SERVICE CENTER

WASTEWATER TREATMENT

CITY OF CRANDON

FACILITIES

The Crandon sewer utility currently operates a trickling filter/stabilization pond system, constructed in 1939 with a capacity of 200,000 GPD. Its closure is scheduled for 1981 upon the opening operation of two new aerated lagoons with seepage cells. This new facility is scheduled on-line for June, 1981, at a cost of \$1.9 million. Eighty-five percent of the funds are from EPA. The current system has a history of problems in meeting the Department of Natural Resources discharge standards. Connections and services are paid by user fees.

SERVICE AREA

City of Crandon.

PERSONNEL

Two maintenance and operation employees are shared with water services; one part-time bookkeeper.

EXPENDITURES AND REVENUES

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Operating Revenue (\$ 000)	20.9	22.4	22.6	24.8	26.3	25.2	26.7	33.3	35.7	35.0
Operating Revenues from User Sales (\$ 000)	16.0	17.5	17.8	18.8	20.3	25.2	21.7	33.3	30.9	30.1
Residential Sales (\$ 000)	8.9	9.9	9.9	11.6	12.6	12.6	13.3	15.5	16.1	16.1
Commercial Sales (\$ 000)	4.9	4.9	5.1	5.4	5.8	6.0	6.4	8.5	10.0	9.2
Industrial Sales (\$ 000)	0.5	0.5	0.5	0.4	0.4	0.6	0.5	2.8	1.9	1.9
Public Sales (\$ 000)	1.7	2.2	2.2	1.3	1.6	6.1	1.5	1.7	2.9	2.8
Operating Expenses (\$ 000)	22.6	20.6	22.0	22.0	23.3	24.4	30.7	31.0	35.2	37.9
Depreciation (\$ 000)	7.9	7.9	7.9	7.9	8.0	8.0	8.2	8.5	8.6	8.6
Cost per 10,000 Gallons (dollars)	NR ^a	NR	NR	NR	NR	NR	NR	6.74	7.15	7.46

PLANNED MODIFICATIONS

A new wastewater treatment facility was opened in Spring, 1981. The old facility was closed and demolished. The effective capacity of the new system is 260,000 gallons/day. The total cost to be bond financed is \$360,000.

(continued)

(Table 2.10A-9, continued)

WASTEWATER FLOW BY TYPE OF USER

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Wastewater Flow (MG)	NR ^a	NR	NR	NR	NR	NR	NR	46.0	49.2	50.8
Gallons Sold (MG)	NR	NR	NR	NR	NR	NR	NR	NR	NR	51.1
Maximum Daily Inflow (000 gallons)	NR	NR	NR	NR	NR	NR	NR	152	152	153
Daily Plant Capacity (000 gallons)	200	200	200	200	200	200	200	200	200	200
Total Number of Customers	485	NR	501	538	575	588	607	616	617	627
RESIDENTIAL USERS										
Number of Customers	386	NR	401	439	472	484	501	505	506	509
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
% of Total Flow Purchased	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
COMMERCIAL USERS										
Number of Customers	90	NR	90	89	93	92	93	97	96	101
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
% of Total Flow	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
INDUSTRIAL USERS										
Number of Customers	1	NR	1	1	1	1	1	1	1	1
Wastewater Flow (MG)	2.2	1.3	1.5	1.5	1.5	1.5	NR	NR	NR	NR
% of Total Flow	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
PUBLIC SALES										
Number of Customers	8	NR	9	9	9	11	12	13	14	15
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
% of Total Flow	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

(continued)

(Table 2.10A-9, continued)

CITY OF ANTIGO

FACILITIES

The Antigo Water Utility operates a centralized wastewater treatment facility with a new design capacity of 2.5 MGD as of 1979. The original plant capacity was 1.3 MGD until 1979. The tertiary treatment is activated sludge. Connections and utility extensions are financed by user fees, with monthly rates 100 percent higher outside of the city limits.

SERVICE AREA

City of Antigo and vicinity.

PERSONNEL

Two operation and maintenance employees; one administrator.

EXPENDITURES AND REVENUES

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Operating Revenue (\$ 000)	NR	NR	NR	97.7	91.6	116.2	164.0	180.4	438.7	508.1
Operating Revenues from User Sales (\$ 000) ^a										508.1
Residential Sales (\$ 000) ^a										
Commercial Sales (\$ 000) ^a										
Industrial Sales (\$ 000) ^a										
Public Sales (\$ 000) ^a										
Operating Expenses (\$ 000)	NR	NR	NR	110.1	110.9	149.9	98.8	151.4	253.1	300.7
Depreciation (\$ 000)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Cost per 10,000 Gallons (dollars)	NR	NR	NR	2.41	2.50	3.23	2.08	3.55	5.40	11.53

PLANNED MODIFICATIONS

None reported.

NOTE

^aThe information for these categories was not reported for 1970-1978 by either local utility officials or Public Utility Commission officials.

(continued)

(Table 2.10A-9, continued)

WASTEWATER FLOW BY TYPE OF USER

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Wastewater Flow (MG)	359.8	347.8	410.7	457.4	443.1	463.7	474.1	425.9	469.0	440.6
Gallons Sold (MG)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Maximum Daily Inflow (MG)	NR	NR	NR	NR	NR	NR	NR	1.6	1.9	2.4
Daily Plant Capacity (MG)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	2.5
Total Number of Customers	NR	NR	NR	NR	NR	NR	NR	3,556	3,556	3,556
RESIDENTIAL USERS										
Number of Customers ^a										
Wastewater Flow (MG) ^a										
% of Total Flow Purchased ^a										
COMMERCIAL USERS										
Number of Customers ^a										
Wastewater Flow (MG) ^a										
% of Total Flow ^a										
INDUSTRIAL USERS										
Number of Customers ^a										
Wastewater Flow (MG) ^a										
% of Total Flow ^a										
PUBLIC SALES										
Number of Customers ^a										
Wastewater Flow (MG) ^a										
% of Total Flow ^a										

^aThe information for these categories was not reported for any year by either local utility officials or Public Utility Commission officials.

(continued)

(Table 2.10A-9, continued)

CITY OF RHINELANDER

FACILITIES

The city of Rhinelanders operates a biological disk wastewater treatment facility which discharges into the Pelican River. The facility design capacity is 4.0 MDG with the current demand level at 1.6 MGD. The original plant was constructed in 1938 with an expansion in 1977. User fees are the primary source of funds. The plant is designed to service 12,000 people.

SERVICE AREA

City of Rhinelanders and vicinity.

PERSONNEL

Ten operation and maintenance employees; one administrator.

EXPENDITURES AND REVENUES

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Operating Revenues (\$ 000)	71.6	73.0	112.2	110.6	111.5	126.6	194.2	NR	NR	NR
Operating Revenues from User Sales (\$ 000)	71.2	72.5	111.2	109.7	110.8	126.0	193.2	NR	NR	NR
Residential Sales (\$ 000)	42.9	42.4	63.2	63.0	66.1	75.3	119.5	NR	NR	NR
Commercial Sales (\$ 000)	15.8	17.1	28.2	28.8	27.2	30.4	43.5	NR	NR	NR
Industrial Sales (\$ 000)	8.8	9.0	13.7	11.4	10.0	13.6	20.4	NR	NR	NR
Public Sales (\$ 000)	3.7	4.0	6.1	6.4	7.5	6.7	9.8	NR	NR	NR
Operating Expenses (\$ 000)	98.9	91.2	124.7	131.2	157.5	191.3	188.1	NR	NR	NR
Depreciation (\$ 000)	34.1	29.1	29.3	29.6	30.7	31.7	31.7	NR	NR	NR
Cost per 10,000 Gallons (dollars)	2.29	2.01	4.14	4.82	2.45	3.65	3.61	NR	NR	NR

PLANNED MODIFICATIONS

The planned addition of five regenerative air blowers and 40 diffuser manifolds.

(continued)

(Table 2.10A-9, continued)

WASTEWATER FLOW BY TYPE OF USER

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Wastewater Flow (MG)	431.5	454.4	301.3	272.3	642.2	524.2	597.7	NR	NR	NR
Gallons Sold (MG)	NR	NR	NR	NR	NR	NR	521.3	NR	NR	NR
Maximum Daily Inflow (MG)	1.5	1.8	1.9	1.7	2.4	2.3	2.7	NR	NR	1.6
Daily Plant Capacity (MG)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Number of Customers	2,711	2,791	2,779	2,787	2,861	2,731	2,752	NR	NR	NR
RESIDENTIAL USERS										
Number of Customers	2,396	2,406	2,453	2,458	2,430	2,380	2,377	NR	NR	NR
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	119.3	NR	NR	NR
% of Total Flow Purchased	NR	NR	NR	NR	NR	NR	22.9	NR	NR	NR
COMMERCIAL USERS										
Number of Customers	274	335	280	283	376	293	311	NR	NR	NR
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	134.4	NR	NR	NR
% of Total Flow	NR	NR	NR	NR	NR	NR	25.8	NR	NR	NR
INDUSTRIAL USERS										
Number of Customers	24	20	24	23	24	22	24	NR	NR	NR
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	238.1	NR	NR	NR
% of Total Flow	NR	NR	NR	NR	NR	NR	45.7	NR	NR	NR
PUBLIC SALES										
Number of Customers	17	30	22	23	31	36	40	NR	NR	NR
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	29.5	NR	NR	NR
% of Total Flow	NR	NR	NR	NR	NR	NR	5.6	NR	NR	NR

(continued)

(Table 2.10A-9, continued)

LAONA TOWN

FACILITIES

The Laona Sanitary District #1 operates a stabilization plant utilizing an evaporation pond to treat wastewater with discharge into a swamp. The system is nine years old, the peak daily demand is 181,000 GPD, and the remaining life expectancy is 100 years. The design capacity is for 3,000 users. Hookup fee is \$25.00. Service has extended 1,200 feet outside the district.

SERVICE AREA

Town of Laona.

PERSONNEL

One operation and maintenance employee; three member administrative board - shared with water system.

EXPENDITURES AND REVENUES

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Operating Revenues (\$ 000)	27.9	29.0	30.1	30.8	31.3	32.0	33.4	33.3	32.4	32.6
Operating Revenues from User Sales (\$ 000)	27.9	29.0	30.0	30.8	28.2	24.5	25.0	25.0	25.2	25.3
Residential Sales (\$ 000)	15.3	19.1	20.2	20.8	18.8	18.8	19.1	19.4	19.3	19.4
Commercial Sales (\$ 000)	4.5	5.9	5.8	5.9	4.7	5.2	3.5	3.4	3.6	3.6
Industrial Sales (\$ 000)	0	0	0	0	0	0	0.5	0.4	0.4	0.4
Public Sales (\$ 000)	8.0	4.0	4.0	4.0	4.7	0.5	1.9	1.9	2.0	1.9
Operating Expenses (\$ 000)	19.6	16.3	18.0	17.0	19.8	19.1	19.4	20.3	23.2	19.2
Depreciation (\$ 000)	9.9	9.9	9.8	9.7	9.8	9.7	9.8	9.8	9.8	9.8
Cost per 10,000 Gallons (dollars)	NR	NR	NR	NR	NR	4.55	8.47	8.68	11.49	NR

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-9, continued)

WASTEWATER FLOW BY TYPE OF USER

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Wastewater Flow (MG)	NR	NR	NR	NR	NR	42.0	36.2	44.4	40.0	47.8
Gallons Sold (MG)	NR	NR	NR	NR	NR	NR	22.9	23.4	20.2	NR
Maximum Daily Inflow (000 gallons)	NR	NR	NR	NR	NR	NR	127.6	190.5	132.2	181.0
Daily Plant Capacity (000 gallons)	NR	NR	NR	NR	NR	NR	792	792	792	792
Total Number of Customers	420	386	387	373	392	356	373	379	368	385
RESIDENTIAL USERS										
Number of Customers	380	346	347	333	350	316	333	338	336	344
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	13.7	13.8	11.6	NR
% of Total Flow Purchased	NR	NR	NR	NR	NR	NR	59.7	59.0	57.4	NR
COMMERCIAL USERS										
Number of Customers	40	40	40	39	41	35	28	28	28	27
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	5.1	4.8	4.5	NR
% of Total Flow	NR	NR	NR	NR	NR	NR	22.3	20.5	22.3	NR
INDUSTRIAL USERS										
Number of Customers	0	0	0	0	0	0	4	4	4	4
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	0.9	1.6	0.9	NR
% of Total Flow	NR	NR	NR	NR	NR	NR	4.0	6.8	4.5	NR
PUBLIC SALES										
Number of Customers	0	0	0	1	1	5	8	9	NR	10
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	3.2	3.2	3.2	NR
% of Total Flow	NR	NR	NR	NR	NR	NR	14.0	13.7	15.8	NR

(continued)

(Table 2.10A-9, continued)

WABENO TOWN

FACILITIES

The Wabeno Sanitary District provides centralized sewerage treatment to the village of Wabeno. The plant was constructed in 1972 and utilizes the aerated lagoon treatment method. Its design capacity is 130,000 GPD with the average demand level 55,000 GPD. The current hookup charge is \$400.00 for sewer and water, or full cost of the hookup. Water and sewer service charge is \$100.00/year/household. The design capacity is for 20,000 people.

SERVICE AREA

Village of Wabeno.

PERSONNEL

One employee.

EXPENDITURES AND REVENUES

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Operating Revenues (\$ 000)	23.6	21.1	32.4	34.8
Operating Revenues from User Sales (\$ 000)	18.6	18.6	18.6	19.0
Residential Sales (\$ 000)	13.3	13.1	13.8	14.0
Commercial Sales (\$ 000)	3.3	3.5	3.0	3.3
Industrial Sales (\$ 000)	0.3	0.3	0.2	0.2
Public Sales (\$ 000)	1.6	1.7	1.5	1.4
Operating Expenses (\$ 000)	25.5	23.1	26.0	32.5
Depreciation (\$ 000)	11.6	11.5	11.8	11.8
Cost per 10,000 Gallons (dollars)	15.84	10.36	11.35	18.68

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-9, continued)

WASTEWATER FLOW BY TYPE OF USER

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Wastewater Flow (MG)	26.6	22.3	22.9	24.0
Gallons Sold (MG)	16.1	NR	22.9	17.4
Maximum Daily Inflow (000 gallons)	91.7	86.0	71.9	88.0
Daily Plant Capacity (000 gallons)	65.0	65.0	65.0	130.0
Total Number of Customers	308	312	312	293
RESIDENTIAL USERS				
Number of Customers	252	257	257	248
Wastewater Flow (MG)	11.4	NR	18.9	11.7
% of Total Flow Purchased	70.8	NR	82.5	67.2
COMMERCIAL USERS				
Number of Customers	42	42	42	36
Wastewater Flow (MG)	2.9	NR	3.1	3.7
% of Total Flow	18.0	NR	13.5	21.3
INDUSTRIAL USERS				
Number of Customers	2	1	1	1
Wastewater Flow (MG)	0.1	NR	0.1	0.1
% of Total Flow	0.6	NR	0.4	0.6
PUBLIC SALES				
Number of Customers	12	12	12	8
Wastewater Flow (MG)	1.7	NR	0.8	1.9
% of Total Flow	10.6	NR	3.6	10.9

(continued)

(Table 2.10A-9, continued)

ELCHO TOWN

FACILITIES

The Elcho Sanitary District operates a two-cell stabilization pond wastewater treatment facility with a design capacity of 60,000 GPD. The plant was constructed in 1970 and discharges into the Hunting River. The district reports the average daily demand for waste water treatment is 45,000 gallons, with a summer peak of approximately 54,000 GPD. Residential hookup fees are \$500.00, while industrial and commercial are \$1,000.00 or the actual installation cost. The design capacity is to service 600 people.

SERVICE AREA

The treatment plant serves the village of Elcho while the balance of the township relies on individual septic systems for wastewater disposal.

PERSONNEL

One part-time maintenance employee; one part-time certified operator to perform testing and monthly reports; three sanitary board members - personnel shared with water services.

EXPENDITURES AND REVENUES

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Operating Revenue (\$ 000)	5.3	7.3	8.4	8.7	9.5	11.6	12.4	12.6	13.1
Operating Revenues from User Sales (\$ 000)	5.3	7.2	8.3	8.7	9.5	9.1	9.9	10.0	10.5
Residential Sales (\$ 000)	1.5	2.8	3.6	4.1	4.7	6.3	6.9	7.0	7.1
Commercial Sales (\$ 000)	1.2	1.2	1.5	1.3	1.4	1.7	1.8	1.8	2.1
Industrial Sales (\$ 000)	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3
Public Sales (\$ 000)	2.5	3.1	3.1	3.1	3.2	0.8	0.9	0.9	1.0
Operating Expenses (\$ 000)	6.4	9.5	11.0	10.0	12.2	11.7	13.3	18.4	15.8
Depreciation (\$ 000)	4.0	6.6	6.6	6.6	6.6	6.6	6.6	6.7	6.9
Cost per 10,000 Gallons (dollars)	NR	NR	6.15	12.99	NR	11.04	13.57	NR	NR

PLANNED MODIFICATIONS

The sanitary district is working on the treatment lagoons to reduce groundwater infiltration.

(continued)

(Table 2.10A-9, continued)

WASTEWATER FLOW BY TYPE OF USER

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Wastewater Flow (MG)	NR	NR	17.9	7.7	NR	13.8	18.8	11.6	25.4
Gallons Sold (MG)	NR	NR	NR	NR	NR	10.6	9.8	NR	NR
Maximum Daily Inflow (000 gallons)	NR	NR	288.0	45.0	NR	189.0	198.0	54.0	243.0
Daily Plant Capacity (000 gallons)	NR	NR	NR	NR	NR	60.0	60.0	60.0	60.0
Total Number of Customers	88	105	123	142	146	167	173	177	180
RESIDENTIAL USERS									
Number of Customers	74	87	100	119	122	142	148	149	151
Wastewater Flow (MG)	NR	NR	NR	NR	NR	6.1	5.1	NR	NR
% of Total Flow Purchased	NR	NR	NR	NR	NR	57.6	52	NR	NR
COMMERCIAL USERS									
Number of Customers	12	14	18	18	18	20	20	21	21
Wastewater Flow (MG)	NR	NR	NR	NR	NR	2.4	2.4	NR	NR
% of Total Flow	NR	NR	NR	NR	NR	22.6	24.5	NR	NR
INDUSTRIAL USERS									
Number of Customers	2	2	3	3	4	4	4	5	5
Wastewater Flow (MG)	NR	NR	NR	NR	NR	0.2	0.2	NR	NR
% of Total Flow	NR	NR	NR	NR	NR	1.9	2.0	NR	NR
PUBLIC SALES									
Number of Customers	0	2	2	2	2	1	1	2	3
Wastewater Flow (MG)	NR	NR	NR	NR	NR	1.9	2.1	NR	NR
% of Total Flow	NR	NR	NR	NR	NR	17.9	21.4	NR	NR

(continued)

(Table 2.10A-9, continued)

WHITE LAKE VILLAGE

FACILITIES

The White Lake Village sewer utility operates a stabilization pond wastewater treatment facility with a design capacity of 50,000 GPD. Treated effluent is discharged into ground water in the Wolf River Basin. It was developed in 1976 and fully operationalized in 1977. The current average demand is 19,000 GPD. Service is offered up to the lot lines with no hookup fee. The system is designed to service 500 people.

SERVICE AREA

Village of White Lake.

PERSONNEL

The sewer and water utilities are operated by one full-time superintendent. Additional maintenance manpower is provided by employees whose function is street maintenance.

EXPENDITURES AND REVENUES

	<u>1977</u>	<u>1978</u>	<u>1979</u>
Operating Revenue (\$ 000)	18.3	21.7	22.5
Operating Revenues from User Sales (\$ 000)	18.3	20.9	21.9
Residential Sales (\$ 000)	8.3	10.1	10.0
Commercial Sales (\$ 000)	1.1	1.7	1.8
Industrial Sales (\$ 000)	0.6	0.6	0.6
Public Sales (\$ 000)	8.3	8.4	9.6
Operating Expenses (\$ 000)	21.0	22.1	22.2
Depreciation (\$ 000)	13.1	13.2	13.3
Cost per 10,000 Gallons (dollars)	NR	NR	NR

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-9, continued)

WASTEWATER FLOW BY TYPE OF USER

	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Wastewater Flow (MG)	NR	NR	NR
Gallons Sold (MG)	NR	NR	NR
Maximum Daily Inflow (000 gallons)	25.0	39.6	50.1
Daily Plant Capacity (000 gallons)	50.0	50.0	50.0
Total Number of Customers	139	141	145
RESIDENTIAL USERS			
Number of Customers	127	129	129
Wastewater Flow (MG)	NR	NR	NR
% of Total Flow Purchased	NR	NR	NR
COMMERCIAL USERS			
Number of Customers	9	9	9
Wastewater Flow (MG)	NR	NR	NR
% of Total Flow	NR	NR	NR
INDUSTRIAL USERS			
Number of Customers	1	1	1
Wastewater Flow (MG)	NR	NR	NR
% of Total Flow	NR	NR	NR
PUBLIC SALES			
Number of Customers	2	2	6
Wastewater Flow (MG)	NR	NR	NR
% of Total Flow	NR	NR	NR

(continued)

(Table 2.10A-9, continued)

THREE LAKES TOWN

FACILITIES

The Three Lakes Sanitary District sewerage treatment plant was first constructed in 1953-54 for primary treatment with chlorination for a design capacity of 730 people. A second plant was constructed in 1978 for secondary treatment utilizing biodiscs with a design capacity of 1,130 people. The plant design capacity is 140,000 GPD with current demand at 80,000 GPD. The present hookup fee is \$300.00 and service is offered only where there are existing main lines.

SERVICE AREA

Village of Three Lakes.

PERSONNEL

The district employs two full-time operation and maintenance personnel, one of whom is paid through a CETA grant. These employees also service the district's water supply system.

EXPENDITURES AND REVENUES

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Operating Revenue (\$ 000)	11.0	12.7	12.8	12.7	13.1	13.1	13.5	18.1	39.9	42.9
Operating Revenues from User Sales (\$ 000)	10.8	12.2	12.3	12.3	12.6	12.8	9.7	9.8	31.6	30.9
Residential Sales (\$ 000)	4.1	4.8	4.9	5.0	5.3	5.5	5.6	5.7	14.9	13.8
Commercial Sales (\$ 000)	2.5	3.1	3.0	3.0	3.0	3.0	2.9	3.0	9.3	8.9
Industrial Sales (\$ 000)	0	0	0	0	0	0	0	0	0	0
Public Sales (\$ 000)	4.2	4.3	4.3	4.3	4.4	4.3	1.1	1.1	7.4	8.3
Operating Expenses (\$ 000)	7.5	8.1	9.8	9.3	9.2	11.2	13.4	17.1	23.6	44.8
Depreciation (\$ 000)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.6	2.7	12.4
Cost per 10,000 Gallons (dollars)	NR	NR	NR	NR	NR	NR	9.18	10.56	16.50	32.0

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-9, continued)

WASTEWATER FLOW BY TYPE OF USER

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	22.7	28.6	20.1	21.3
Gallons Sold (MG)	NR	NR	NR	NR	NR	NR	14.6	16.2	14.3	14.0
Maximum Daily Inflow (000 gallons)	NR	NR	NR	NR	NR	NR	94.7	116.7	104.4	102.5
Daily Plant Capacity (000 gallons)	140	140	140	140	140	140	140	140	140	140
Total Number of Customers	168	176	179	183	186	191	197	199	200	206
RESIDENTIAL USERS										
Number of Customers	117	123	124	125	128	134	139	140	143	143
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	6.9	7.6	6.3	6.0
% of Total Flow Purchased	NR	NR	NR	NR	NR	NR	47.3	46.9	44.1	42.9
COMMERCIAL USERS										
Number of Customers	48	48	50	53	53	52	53	54	52	57
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	5.8	5.8	4.2	3.8
% of Total Flow	NR	NR	NR	NR	NR	NR	39.7	35.8	29.4	27.1
INDUSTRIAL USERS										
Number of Customers	0	0	0	0	0	0	0	0	0	0
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	0	0	0	0
% of Total Flow	NR	NR	NR	NR	NR	NR	0	0	0	0
PUBLIC SALES										
Number of Customers	3	5	5	5	5	5	5	5	5	6
Wastewater Flow (MG)	NR	NR	NR	NR	NR	NR	1.9	2.8	3.8	4.2
% of Total Flow	NR	NR	NR	NR	NR	NR	13.0	17.3	26.5	30

(continued)

(Table 2.10A-9, continued)

NOTE

^aNot reported on Municipal Utility Report by local service.

SOURCES

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- Crandon Water and Sewer. May 20, 1981. August 11, 1980. Personal Communication, Frank Sturzl, Utility Worker.
- Elcho Sanitary District #1. August 13, 1980. Personal Communication, A. J. Brandon, Utility Worker.
- Laona Sanitary District #1. August 12, 1980. Personal Communication, Leonard Hess, District Operator.
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- Wabeno Sanitary District. August 13, 1980. Personal Communication, John Tallier, Utility Operator.
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- Wisconsin Public Service Commission. 1970-1979. Laona Sanitary District #1. Municipal Utility Reports.
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- Wisconsin Public Service Commission. 1974-1979. Wabeno Sanitary District. Municipal Utility Reports.
- Wisconsin Public Service Commission. 1977-1979. White Lake Water and Sewer Utility. Municipal Utility Reports.

Table 2.10A-10

CITY AND SECONDARY SERVICE CENTER

LIBRARY FACILITIES

CITY OF CRANDON

FACILITIES

The Crandon Public Library is housed in an old building in downtown Crandon. The facility contains approximately 1,100 square feet. The library presently contains approximately 10,000 volumes, which has been increasing at an annual rate of approximately 700 volumes. The facility is one of only three libraries in Forest County. Thus, more than Crandon residents utilize the service, as indicated by the fact that there were 2,530 cardholders in 1979 while the city population was about 1,800.

OPERATIONS

The Crandon library employs only one full-time employee, which has been the case for a number of years. The library is open for public use for approximately 26 hours per week in the summer and 22 hours per week for the balance of the year. The Crandon library also is a member of the Wisconsin Valley Library System which promotes interlibrary loans among its members and facilitates library planning.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	3.8	4.0	4.3	4.8	5.6	5.5	6.0
Other Expenditures (\$ 000)	1.1	0.9	2.0	1.5	3.5	2.7	3.3
Total Expenditures (\$ 000)	4.9	4.9	6.3	6.3	9.1	8.2	9.3

The figures above show recent trends in library expenditures by the city of Crandon. The operating costs have remained fairly constant, and the rise in costs that is discernable is probably in large part due to effects of inflation. It should be noted that the library receives some county and state support, which means the costs set out above are not borne completely by city residents.

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-10, continued)

CITY OF ANTIGO

FACILITIES

The Antigo Public Library is located in an 8,200 square feet facility, of which approximately 1,400 square feet are used for museum purposes by the Langlade County Historical Society. The building is approximately 70 years old and is considered a local historic landmark. The library's 59,070 volumes are contained in the main library in Antigo and in five branch libraries in Langlade County.

OPERATIONS

The Antigo Public Library employs eight full-time staff members; four government-funded positions are also placed with the library. The library receives county assistance to offset the costs of providing service to county residents who reside outside the city of Antigo. The townships in which the branches are located provide the facility, which is either space in the town hall or a private residence. The library also provides mobile service to homebound residents of the county.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	62.8	60.3	68.6	89.1	96.5	100.6	105.7
Other Expenditures (\$ 000)	31.9	33.5	28.4	35.5	31.8	34.9	47.3
Total Expenditures (\$ 000)	94.7	93.8	97.0	124.6	128.3	135.5	153.0
County Contribution (\$ 000)	0.0	0.0	31.7	14.9	14.9	51.9	62.7

PLANNED MODIFICATIONS

None reported.

CITY OF RHINELANDER

FACILITIES

The Rhinelander Public Library is located in an approximately 3,500 square feet facility in the downtown area. The building is very old and has not been improved in recent years. There are no bookmobiles or branch libraries as part of the system.

(continued)

(Table 2.10A-10, continued)

Reading Material:

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total Volumes (000)	36.4	38.6	40.7	43.0	44.8	46.8	48.6	50.1	51.2	52.5
Periodicals	167	187	185	225	250	251	256	252	240	200

The Rhinelander library has steadily increased its reading material over the last ten years at a rate of 1,500-2,000 volumes per year. Periodical subscriptions have fluctuated somewhat but have nonetheless increased by approximately 22 percent in the last ten years. The library serves the surrounding towns and is the only major public library facility in Oneida County. The Rhinelander facility contains approximately two-thirds of the total public library volumes in Oneida County.

OPERATIONS

The Rhinelander Public Library is currently staffed by the equivalent of eight full-time employees. The staff has increased gradually over the years as services and usage increased. The library is open to the public for approximately 47 hours per week during summer months and approximately 59 hours during the balance of the year. The library also participates in the Wisconsin Valley Library Service which is a multi-county interlibrary loan system. Books, periodicals, and films may be borrowed from other libraries within this nine-county organization. The organization also facilitates library service planning for member jurisdictions.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	42.7	57.4	65.2	74.8	85.8	91.9	105.4
Other Expenditures (\$ 000)	24.5	29.9	30.1	26.1	29.0	36.6	30.0
Total Expenditures (\$ 000)	67.2	87.3	95.3	100.9	114.8	128.5	135.4
County Contribution (\$ 000)	6.7	14.5	20.0	15.9	19.2	30.7	42.6
Total Direct City Cost (\$ 000)	60.5	72.8	75.3	85.0	95.6	97.8	92.8

(continued)

(Table 2.10A-10, continued)

Salary costs reflect the effects of inflation and account for most of the annual increase in operating expenses. Other operating expenses, which include reading material purchases and all other operating expenses, show annual fluctuations; however, the seven-year average appears to be relatively constant. County contributions to the library to compensate for out-of-city resident use is also presented in order to show actual cost to the city in total and on a per capita basis.

PLANNED MODIFICATIONS

There is local interest in forming a library district which would encompass, in addition to Rhinelander, the surrounding towns which are the most frequent out-of-city users (Pine Lake Town, Pelican Town, Newbold Town, and Crescent Town). Currently, the Board of Trustees of the Rhinelander Public Library is working with the town boards of these communities to form a library district.

LAONA TOWN

FACILITIES

The Laona High School Library serves as both a school library and public library for Laona Town; approximately 2,000 square feet of library area; the library contains approximately 12,000 volumes, of which 5,400 are for adult readers; 104 periodicals and subscriptions.

OPERATIONS

The library is staffed by two full-time librarians, one of whom is provided by Laona Town for service to the general public.

EXPENDITURES

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	4.5	4.9	4.7	4.4	6.1	6.6
Other Expenditures (\$ 000)	1.7	2.2	3.1	2.0	2.5	2.8
Total Expenditures (\$ 000)	6.2	7.1	7.8	6.4	8.6	9.4

Expenditures include only those proportioned to the township for public use.

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-10, continued)

WABENO TOWN

FACILITIES

The Wabeno Public Library is housed in an approximately 700 square feet building which is about 75 years old. The facility contains approximately 13,000 volumes, which is expanded on the average of 400 volumes per year.

OPERATIONS

The library is staffed by one full-time employee, plus two part-time, and is open 25 hours per week for public use. The facility serves primarily Wabeno town, but is also utilized by residents of surrounding towns which do not have libraries.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.0	0.0	1.5	3.6	2.0	3.9	4.2
Other Expenditures (\$ 000)	2.7	2.7	2.6	1.5	1.5	4.2	2.2
Total Expenditures (\$ 000)	2.7	2.7	4.1	5.1	3.5	8.1	6.4

PLANNED MODIFICATIONS

None reported.

ELCHO TOWN

FACILITIES

The Antigo library, with funding from Langlade County, operates a branch station in Elcho. All books, except those which are donated locally, and the librarian's salary are provided by the county.

OPERATIONS

Elcho provides library space in the town hall. The facility is open eight hours per week on Tuesdays.

EXPENDITURES

No direct costs are incurred by the township.

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-10, continued)

WHITE LAKE VILLAGE

FACILITIES

The White Lake branch of the Antigo library utilizes approximately 600 square feet of the village hall. The library contains about 10,000 volumes, most of which are owned by the Antigo library. Some of the volumes are from the original village library. New volumes are rotated in from the Antigo library on an exchange basis at a rate of approximately 80 per month. No periodicals are available.

OPERATIONS

The White Lake branch is operated jointly by the village and the county. The county provides the volumes, directly pays the salary of the librarian for eight hours per week, and residents of outlying areas are able to use the facility. Under the agreement, the village provides and maintains the facility. The village pays the salary of the librarian for four additional hours of operation (two evenings) per week.

EXPENDITURES^a

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.3	0.3	0.4	0.3	0.3	0.7	1.0
Other Expenditures (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Expenditures (\$ 000)	0.3	0.3	0.4	0.3	0.3	0.7	1.2

^aCost figures only reflect library costs incurred by the village.

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-10, continued)

THREE LAKES TOWN

FACILITIES

The Edward Denimer Memorial Library was constructed in 1971 with a grant from the Milwaukee-based Denimer Foundation; the two-level structure contains approximately 6,500 square feet; the facility contains approximately 13,000 volumes and 40-50 periodical subscriptions.

OPERATIONS

The library is staffed by 2.7 full-time employee equivalents. The library is open to the public 47 hours per week in summer and winter months. It serves primarily Three Lakes Town; however, all Oneida County residents may use the facility because of aid provided by the County. The library is a member of the Wisconsin Valley Library Service.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	9.9	9.9	11.5	14.1	12.7	19.5	21.7
Other Expenditures (\$ 000)	4.5	4.5	6.3	5.6	5.1	6.3	6.3
Total Expenditures (\$ 000)	14.4	14.4	17.8	19.7	17.8	25.8	28.0

Note: The State of Wisconsin and Oneida County provide some of the operating revenues for the library.

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-10, continued)

SOURCES

- City of Antigo. August 15, 1980. Personal Communication, Shirley Barta, Librarian.
- City of Crandon. August 14, 1980. Personal Communication, Elaine Statezny, Librarian.
- City of Rhinelander. August 16, 1980. Personal Communication, Gladys M. Lorenz, Librarian.
- Elcho Town. August 13, 1980. Personal Communication, Delores Froland, Town Clerk.
- Laona Town. August 12, 1980. Personal Communication, Elizabeth Mason, Librarian.
- Three Lakes Town. August 12, 1980. Personal Communication, Ann Gerlach, Librarian.
- Wabeno Town. August 13, 1980. Personal Communication, Mrs. John Niermann, Librarian.
- White Lake Village. August 14, 1980. Personal Communication, Mrs. Oatman, Librarian.
- Wisconsin Department of Revenue. 1973-1979. Financial Report Forms. 1973-1979. Prepared for Bureau of Local Financial Assistance by each jurisdiction.
- Wisconsin Department of Revenue, Bureau of Local Financial Assistance. 1973-1979. Municipal Resources Provided and Expended. 1973-1979. Bulletins 51, 53, 55, 57, 59, and 61. Madison.

Table 2.10A-11

CITY AND SECONDARY SERVICE CENTER

RECREATION FACILITIES

CITY OF CRANDON

FACILITIES

The principal recreation facility funded and operated by the city of Crandon is a public beach on Lake Metonga. The facility consists of a swimming area, picnic area, and a bath house. The facility was developed in 1975-76 and is in excellent condition. The city also provides some financial support to youth organizations such as little league baseball. The city maintains an outdoor ice rink for winter recreation. The general area offers other recreational opportunities for Crandon residents. The total acreage for recreational use is 11.5 (estimated) with 6.2 acres per 1,000 population.

PERSONNEL

The only recreation personnel for the city are lifeguards employed during operation of the public beach during the summer months.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, including fringe benefits (\$ 000)	1.1	1.6	2.3	1.9	1.1	2.5	1.9
Other Expenditures (\$ 000)	2.9	3.7	13.1	47.1	3.8	2.3	2.2
Total Expenditures (\$ 000)	4.0	5.3	15.4	49.0	4.9	4.8	4.1
Per capita (dollars)	2.27	3.09	9.04	27.54	2.76	2.64	2.22

With the exception of 1975-76 when the city's public beach was developed, expenditures have been very low the last seven years.

PLANNED MODIFICATIONS

The non-profit organization has initiated planning for a new facility in which to house equipment, vehicles, etc. Current planning is very preliminary and, if successful, would not occur for two to three years.

(continued)

(Table 2.10A-II, continued)

CITY OF ANTIGO

FACILITIES

The Antigo Recreation Department operates and maintains 12 parks, which for the most part are considered to be in good condition. The highlights of the City's recreation facilities are described below.

	<u>Size</u>	<u>Facilities</u>
Antigo Lake Park	9.5 acres	Lighted baseball fields, playground and picnic areas, indoor shelters, ice skating rink, lighted hockey rink, and public restroom facilities
City Park	9.0 acres	Picnic and play areas, two lighted shelters, wading pool, ice skating rink, and public restroom facilities
Athletic Park	4.0 acres	Lighted stadium with locker rooms for team sports, bleachers, four tennis courts, concession stand, and public restroom facilities
Cherry St. Park	1.0 acre	Softball practice field
Deleglise Park	2.5 acres	Softball field and playground equipment
Langlade Road Park	5.5 acres	Little League field, swimming pool, restroom facilities, and open area
Mendlick Park	2.5 acres	Playground equipment, two tennis courts, basketball court, open area, and ice skating rink
Saratoga Park	2.0 acres	Softball field
Seventh Avenue Park	1.0 acre	Open area and ice skating rink
Tradewell Park	4.0 acres	Softball field, playground equipment, and basketball court
Water Tower Park	1.0 acre	Wading pool and open area
Hunters Park	<u>0.5 acre</u>	Open area
Total acreage	42.5	
per 1,000 pop.	5	

(continued)

(Table 2.10A-11, continued)

In addition to park acreage, Antigo's recreation facilities are very well equipped. The relatively high level of recreational opportunities financially supported by the city reflects the vigorous recreation improvement program of the city over the last ten years; four of the parks, many of the facilities, and nearly half of the park acreage have been added to the city's inventory in the last eight years.

Antigo residents also are served by a county-operated community center in the city, as well as the numerous other outdoor recreation opportunities in the general area.

PERSONNEL

The Antigo Recreation Department has increased its full-time employees from four in 1971 to six 1979, probably due to the City's emphasis on expansion of recreation facilities noted above. The department also employs four part-time employees during the summer months.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	32.0	90.5	88.5	87.4	92.9	106.0	96.0
Other Expenditures (\$ 000)	25.2	25.2	40.3	37.8	41.1	55.2	75.7
Total Expenditures (\$000)	57.2	115.7	128.8	125.2	134.0	161.2	171.7
Per Capita (dollars)	6.51	13.18	14.53	14.06	15.39	18.85	20.05

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-11, continued)

CITY OF RHINELANDER

FACILITIES

The Rhinelander Parks and Recreation Department operates and maintains four parks and an enclosed recreation center, all of which are considered to be in good condition.

	<u>Size</u>	<u>Facilities</u>
Pioneer Park	17.0 acres	Picnic and playground areas, ball diamonds, logging museum, skating and hockey areas, tennis courts, and public restroom facilities.
Shepard Park	5.0 acres	Picnic and playground facilities, and public restroom facilities.
HODAG Park	39.0 acres	Picnic and playground areas, ball diamonds, public beach and boat landing, and public restroom facilities.
West Park	14.0 acres	Picnic and playground areas, ball diamonds, skating area, and public restroom facilities.
Memorial Building	city lot	Gymnasium, meeting rooms, and shower/restroom facilities.
Total acreage	75.0	
per 1,000 pop.	8.9	

PERSONNEL

The Rhinelander Parks and Recreation Department has been staffed by four full-time personnel, or approximately .49 per 1,000 population, for the last ten years. The department also employs a varying number of part-time seasonal personnel.

(continued)

(Table 2.10A-11, continued)

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	69.0	70.6	78.2	79.2	89.2	102.3	102.9
Other Expenditures (\$ 000)	36.6	82.1	77.1	69.5	60.0	104.3	139.9
Total Expenditures (\$ 000)	105.6	152.7	155.3	148.7	149.2	206.6	242.8
Per Capita (dollars)	12.01	17.61	17.84	17.20	17.47	24.23	28.88

The fluctuations in other operating expenses reflect periodic outlays for recreation equipment and facility improvements.

PLANNED MODIFICATIONS

None reported.

LAONA TOWN

FACILITIES

The township provides a public beach and bath house on Silver Lake and a small park with picnic areas in the village of Laona. The total acreage for recreational use is 9.4 (estimated) with 6.4 acres per 1,000 population.

PERSONNEL

There are no permanent full or part-time recreation employees in Laona Town; occasional part-time employees are used for maintenance purposes or as lifeguards at the public beach.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	1.1	1.0	1.4	2.3	0.9	0.5	0.6
Other Expenditures (\$ 000)	0.8	0.8	9.5	6.5	0.7	1.8	0.8
Total Expenditures (\$ 000)	1.9	1.8	10.9	8.8	1.6	2.3	1.4
Per Capita(dollars)	1.31	1.23	7.50	6.07	1.10	1.55	0.95

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-11, continued)

WABENO TOWN

FACILITIES

The township provides and maintains three public parks, all of which are reported to be in good condition. A two-block park located in the village is equipped with tennis courts, a band shell and is the site of the town-operated logging museum. The second town park is also located in the village, but it is undeveloped in terms of facilities. The third recreation facility is a public boating and swimming area on Trump Lake. The total acreage for recreational use is 6.5 (estimated) with 5.7 acres per 1,000 population.

PERSONNEL

Seasonal employees are used in operating the logging museum. Maintenance is performed by other town employees.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.0	0.0	3.9	2.7	2.7	3.5	2.8
Other Expenditures (\$ 000)	1.1	1.1	2.8	3.4	4.5	13.0	15.0
Total Expenditures (\$ 000)	1.1	1.1	6.7	6.1	7.2	16.5	17.8
Per Capita (dollars)	1.00	1.02	6.21	5.62	6.55	14.60	15.63

PLANNED MODIFICATIONS

The township is adding playground equipment to the developed village park.

ELCHO TOWN

FACILITIES

The township provides one five-acre park with baseball and football fields. This township also provides outdoor ice-skating facilities during the winter months. There are 4.5 acres of recreation area per 1,000 population.

PERSONNEL

No personnel are employed for recreation purposes. The park is maintained by other town employees.

(continued)

(Table 2.10A-11, continued)

EXPENDITURES

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.2	0.0	0.0	0.0	0.0	0.0
Other Expenditures (\$ 000)	0.0	0.7	0.0	0.5	0.0	1.0
Total Expenditures (\$ 000)	0.2	0.7	0.0	0.5	0.0	1.0
Per Capita (dollars)	0.22	0.76	0.00	0.49	0.0	0.90

PLANNED MODIFICATIONS

None reported.

WHITE LAKE VILLAGE

FACILITIES

The village provides and maintains three parks. A 1 3/4 acre park on White Lake serves as a public beach and is equipped with bathhouse facilities, a pavillion, horseshoes, and picnic areas. The village also provides a sports field for baseball and other outdoor activities. The third facility is a 1 1/4 acre open area which is presently undeveloped. The total acreage for recreational use approximates 4.5 acres with 4.5 acres per 1,000 population.

PERSONNEL

The village employs a life-guard at the public beach during the summer months. Maintenance is performed by road maintenance employees.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.0	0.1	1.1	1.2	1.2	1.0	1.8
Other Expenditures (\$ 000)	0.2	0.0	0.0	0.8	1.4	0.7	5.9
Total Expenditures (\$ 000)	0.2	0.1	1.1	2.0	2.6	1.7	7.7
Per Capita (dollars)	0.65	0.32	3.51	6.37	8.41	5.48	25.00

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-11, continued)

THREE LAKES TOWN

FACILITIES

The township has developed and operates two parks, one is a one-acre park and the other is 11 acres; facilities include lighted tennis courts, badminton courts, baseball diamonds, sheltered area and public restrooms; both parks are considered to be in excellent condition. The community building, which has kitchen facilities, is also made available for recreation purposes. The total acreage for recreational use is 12 acres with 6.9 acres per 1,000 population.

PERSONNEL

The township employs one part-time person in support of recreation activities.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	3.5	3.2	3.2	3.8	3.0	4.1	5.3
Other Expenditures (\$ 000)	1.2	15.0	2.2	1.8	2.7	186.8	11.4
Total Expenditures (\$ 000)	4.7	18.2	5.4	5.6	5.7	190.9	16.7
Per Capita (dollars)	3.10	11.40	3.29	3.34	3.30	108.84	9.58

The Other Current Expenditures figure reflects the cost of developing the 11 acre park and facilities, which was funded largely by a \$156,000 grant from the Economic Development Administration.

PLANNED MODIFICATIONS

None reported.

SOURCES

City of Antigo. August 15, 1980. Personal Communication. Dave Zwicky, Recreation Department.

City of Crandon. August 13, 1980. Personal Communication, Mike Childers, Tax Assessor.

City of Rhinelander. May 26, 1981. Personal Communication, Claribel Prosser, Mayor.

Elcho Town. August 15, 1980. Personal Communication, Bill Kelly, Town Services.

Laona Town. August 12, 1980. Personal Communication, Jim Baltus, Town Chairman.

(continued)

(Table 2.10A-11, continued)

Three Lakes Town. August 12, 1980. Personal Communication, Doug Koshuta, Recreation Chairman.

Wabeno Town. August 13, 1980. Personal Communication, Donna Mischo, Town Clerk.

White Lake Village. August, 1980. Personal Communication, Jerome Nixon, Service Worker.

Wisconsin Department of Revenue. 1973-1979. Annual Financial Report Forms. Prepared for Bureau of Local Financial Assistance by each jurisdiction.

Wisconsin Department of Revenue. Bureau of Local Financial Assistance. 1973-1978. Municipal Resources Provided and Expended. Bulletins 51, 53, 55, 57, 59, and 61. Madison.

Table 2.10A-12

CITY AND SECONDARY SERVICE CENTER

EMERGENCY MEDICAL SERVICE

CITY OF CRANDON

FACILITIES

Crandon is served by an all-volunteer emergency medical service. The non-profit corporation has two fully equipped ambulances; one is kept at the city fire department and the other is located in the city road maintenance garage. The ambulances are equipped with oxygen, respirators, extraction equipment, and other emergency medical supplies. Radio contact is maintained with St. Mary's Hospital in Rhinelander during emergency runs.

PERSONNEL

There are 20 state-certified EMT personnel comprising the volunteer technical staff. Two 12-hour shifts are operated with at least three personnel on duty per shift.

SERVICE AREA

The local emergency medical service renders service to the townships of Hiles, Argonne, Lincoln, Nashville, and Crandon, as well as the city of Crandon.

FUNDING

The emergency medical service available to Crandon residents receives no direct financial support from the city, but the city does make available equipment storage space, at a direct cost to the city of approximately \$7,800 which is for heat, light, etc. The service is funded by direct monthly support from Forest County, service contracts with outlying townships, users fees, and donations.

PLANNED MODIFICATIONS

The non-profit organization has initiated planning for a new facility in which to house equipment, vehicles, etc. Current planning is very preliminary and, if successful, would not occur for two to three years.

(continued)

(Table 2.10A-12, continued)

CITY OF ANTIGO

FACILITIES

Antigo is serviced by Crawford Ambulance Service in Antigo. Two fully-equipped EMS vans are in service with a third expected to be operating by June 1981.

PERSONNEL

There are 23 emergency medical technicians on call; they are paid on a per-call basis.

SERVICE AREA

Crawford services emergencies throughout Langlade County and performs routine transfers to surrounding counties.

FUNDING

Langlade County pays a subsidy to Crawford Ambulance. A user charge is assessed on calls.

PLANNED MODIFICATIONS

New EMS van is expected to be in use by June 1981.

CITY OF RHINELANDER

FACILITIES

Rhineland is serviced by county-owned EMS vehicles operating out of St. Mary's Hospital in Rhineland. There are 3 ambulances, all fully equipped with radios and emergency equipment.

PERSONNEL

The 23 full and part-time EMTs are paid staff members of St. Mary's Hospital.

SERVICE AREA

The vans based at St. Mary's service areas within a 10-mile radius of Rhineland.

FUNDING

Oneida county pays for vehicles and their maintenance and subsidises EMT salaries. St. Mary's Hospital provides space for the vehicles and personnel. A user fee of \$50 is assessed all patrons.

(continued)

(Table 2.10A-12, continued)

CITY OF RHINELANDER

PLANNED MODIFICATIONS

None reported.

LAONA TOWN

FACILITIES

Laona Town is served by an all-volunteer emergency medical service located in the village of Laona. There are two ambulances in good condition equipped with complete life-support services. The response time is ten minutes or less in the town, with an average one hour travel time required to get to the Rhinelander hospital. Radio contact can be maintained with the police and hospital staff.

PERSONNEL

All volunteer staff: 20 emergency medical technicians; eight drivers.

SERVICE AREA

Town of Laona.

FUNDING

The service is funded by a direct subsidy of \$700 per month from Forest County and local fund raising projects.

PLANNED MODIFICATIONS

Recruit more personnel; purchase a new vehicle.

(continued)

(Table 2.10A-12, continued)

WABENO TOWN

FACILITIES

The town is served by an all-volunteer emergency medical service which operates independently. Two fully equipped ambulances are provided. The Wabeno EMS station is approximately a one-hour drive to hospitals in either Rhinelander or Antigo. Radio contact with hospitals is maintained during an emergency run.

PERSONNEL

The service is staffed by 17 certified emergency medical technicians, eight drivers and eight attendants, all of whom are volunteers.

SERVICE AREA

Wabeno Town.

FUNDING

Forest County, Wabeno Township, patient billing and fund-raising drive.

EXPENDITURES

	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.0	0.0
Other Expenditures (\$ 000)	7.5	0.0
Total Expenditures (\$ 000)	7.5	0.0
Per Capita (dollars)	6.64	0.00

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-12, continued)

ELCHO TOWN

FACILITIES

The township is equipped with an emergency van which is garaged at a new 400 square feet addition to the fire department. The emergency van, purchased in 1979, is a first-response vehicle and is not allowed to transport accident victims to hospitals. Van attendants may render medical aid, but rely on either a private ambulance service in Antigo or the Oneida County EMS station in Pelican Lake for transport of victims. The van is equipped with communication equipment which enables it to maintain contact with both ambulance service and physicians at hospitals in Rhinelander or Antigo. Elcho is equidistant from hospitals in Rhinelander and Antigo, both of which are approximately a 25 minute run from the town.

PERSONNEL

Nine Emergency medical technicians staff Elcho's rescue service. The EMTs also are on the volunteer fire department roster.

SERVICE AREA

Elcho Town

FUNDING

Langlade County, Elcho Town, patient billing and fund-raising drives.

EXPENDITURES

	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.0
Other Expenditures (\$ 000)	19.3
Total Expenditures (\$ 000)	19.3
Per Capita (dollars)	17.47

PLANNED MODIFICATIONS

Training for additional Emergency Medical Technicians.

(continued)

(Table 2.10A-12, continued)

WHITE LAKE VILLAGE

FACILITIES

Ambulance service is provided by a volunteer operation located in the village. One fully equipped ambulance serves the village and Wolf River Township. The service is funded by the village, Wolf River Township, Langlade County, patient billing, and fund raising proceeds. The ambulance is equipped with a radio so contact with a physician can be maintained during emergency runs. Both Antigo and Shawano hospitals are approximately 20 minute runs from the village.

PERSONNEL

Nine volunteer emergency medical technicians are on call.

SERVICE AREA

White Lake Village and Wolf River Township.

FUNDING

White Lake Village, Wolf River Township, Langlade County, patient billing and fund-raising proceeds.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Expenditures (\$ 000)	0.0	0.0	0.2	0.4	0.6	0.7	0.5
Total Expenditures (\$ 000)	0.0	0.0	0.2	0.4	0.6	0.7	0.5
Per Capita (dollars)	0.0	0.0	0.64	1.27	1.94	2.26	1.62

PLANNED MODIFICATIONS

None Reported.

(continued)

(Table 2.10A-12, continued)

THREE LAKES TOWN

FACILITIES

Ambulance with standard life support equipment is stationed at the Three Lakes community building; part of rural EMS system operated by St. Mary's Hospital in Rhinelander with financial support from Oneida County. The service is located 12 miles to Eagle River Hospital and 22 miles to St. Mary's in Rhinelander. Radio contact with physicians is maintained during emergency runs.

PERSONNEL

Nine certified emergency medical technicians on call.

SERVICE AREA

Three Lakes Township.

FUNDING

Operating and equipment costs for service are paid by patient billing, Oneida County, and donations.

PLANNED MODIFICATIONS

None reported.

(Table 2.10A-12, continued)

SOURCES

City of Crandon. August 13, 1980. Personal Communication, Glen Carter, EMS Coordinator.

City of Rhinelander. August 19, 1980. Personal Communication, Dennis Harper, EMS Administrator.

Crawford Ambulance, Ltd., City of Antigo. August 20, 1980. Personal Communication, John Crawford, Operator.

Elcho Town. August 13, 1980. Personal Communication, Phyllis Viselak, EMS Technician.

Laona Town. August 12, 1980. Personal Communication, Floyd Rasmussen, EMS Technician.

Three Lakes Town. August 12, 1980. Personal Communication, Scott Soder, EMS Technician.

Wabeno Town. August 13, 1980. Personal Communication, Lawrence Boney, EMS Technician.

White Lake Village. August 14, 1980. Personal Communication, Joan Mireault, EMS Technician.

Wisconsin Department of Revenue. 1973-1979. Annual Financial Report Forms. 1973-1979. Prepared for Bureau of Local Financial Assistance by each jurisdiction.

Wisconsin Department of Revenue, Bureau of Local Financial Assistance. 1973-1979. Municipal Resources Provided and Expended. 1973-1979. Bulletins 51, 53, 55, 57, 59, and 61. Madison.

Table 2.10A-13

CITY AND SECONDARY SERVICE CENTER

GENERAL GOVERNMENT
CITY OF CRANDON

FACILITIES

Crandon's legislative and general government functions share a 45 year-old building with the fire department. Approximately 600 square feet of floor space is available for these purposes. The space is considered to be in good condition but of increasingly inadequate size. The city office is equipped with standard office equipment, such as typewriters and calculators, and a photocopy machine.

PERSONNEL

General government personnel are limited to six part-time elected and appointed positions which have remained unchanged in recent years. The mayor acts as the chief administrative officer, and a part-time treasurer, city clerk, and assessor are the other elected positions. The part-time appointed positions include a city attorney and a zoning administrator. There are eight elected alderman.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	18.1	13.7	15.8	14.2	18.0	23.9	24.3
Other Expenditures (\$ 000)	7.9	9.0	7.8	13.1	9.2	20.5	13.9
Total Expenditures (\$ 000)	26.0	22.7	23.6	27.3	27.2	44.4	38.2
Per Capita (dollars)	14.76	13.23	13.86	15.35	15.34	24.42	20.66

Salaries include those for elected and appointed part-time employees, as well as salaries paid to city council members. Other operating expenses include contracted services, such as audits, operation of the municipal buildings, periodic equipment and supply purchases, and all other operating expenses.

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-13, continued)

CITY OF ANTIGO

FACILITIES

Antigo's legislative and general government departments are located in an 80 year-old building with 4,520 square feet of space, in good condition. Space allotted within the building is considered to be adequate. The city departments include the mayor, city clerk, welfare, building inspection, engineering, and water and sewer. The offices are equipped with standard office furniture, equipment and supplies. Private vehicles are used on a reimbursement basis.

PERSONNEL

General government personnel currently consists of 11 full-time and five part-time employees.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salary, Incl. Fringe (\$ 000)	87.3	99.1	103.2	107.4	125.5	122.2	134.8
Other Expenditures (\$ 000)	29.0	33.7	47.2	48.6	49.1	67.1	66.2
Total Expenditures (\$ 000)	116.3	132.8	150.4	156.0	174.6	189.3	201.0
Per Capita (dollars)	13.24	15.13	16.97	17.52	20.06	22.14	23.47

PLANNED MODIFICATIONS

None reported.

CITY OF RHINELANDER

FACILITIES

Rhineland general government functions such as financial management, legal, planning, and inspection services are physically located in the 60 year old city hall. The building contains approximately 5,000 square feet and is considered to be in fair condition. The city has a computer facility which it uses for billing, payroll, and other record keeping purposes. The facility is also equipped with a photocopy machine, calculators, and other office equipment typical of cities in this size range. One vehicle is assigned to the municipal building for use by the building inspector.

(continued)

RHINE

(Table 2.10A-13, continued)

PERSONNEL

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Full-time	10	10	10	10	9	9	9
Part-time	3	3	3	3	2	2	2
Total full-time Equivalents	11.5	11.5	11.5	11.5	10.0	10.0	10.0
Per 1,000 Pop.	1.3	1.3	1.3	1.3	1.2	1.2	1.2

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salary Incl. Fringe Benefits (\$ 000)	107.9	123.5	130.1	152.5	141.5	137.6	161.6
Other Expenditures. (\$ 000)	81.8	105.3	48.3	42.0	74.9	365.4	131.9
Total Expenditures (\$ 000)	189.7	228.8	178.4	194.5	216.4	503.0	293.5
Per Capita (dollars)	22.10	26.39	20.49	22.50	24.34	58.99	34.91

The apparent fluctuations in expenditures are due largely to the intermittent expenses characteristic of general government support. Special studies and other professional contract services, along with periodic major capital outlays for equipment, are two examples of factors that help explain the unevenness of general government expenditures.

PLANNED MODIFICATIONS

None reported.

LAONA TOWN

FACILITIES

The town hall is a 1,200 square feet, old jailhouse which is considered to be in fair condition. Administrative equipment is limited to typewriters and other pieces of basic office equipment.

PERSONNEL

General government support functions are performed by elected persons who work on a part-time basis. There are no full-time positions in the general support category.

(continued)

LAONA

(Table 2.10A-13, continued)

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	7.6	7.6	7.8	8.9	7.3	11.9	17.7
Other Expenditures (\$ 000)	3.3	3.3	15.1	8.2	7.1	10.0	12.0
Total Expenditures (\$ 000)	10.9	10.9	22.9	17.1	14.4	21.9	29.7
Per Capita (dollars)	7.50	7.42	15.76	11.79	9.86	14.77	20.25

PLANNED MODIFICATIONS

None reported.

WABENO TOWN

FACILITIES

General government functions are performed in the town hall, which is a 64 year-old structure containing approximately 4,500 square feet. The building is reported to be in poor condition, but good in terms of its adequacy. Office equipment includes a typewriter, calculators, etc. No vehicles are assigned to general government employees.

PERSONNEL

No full-time employees are utilized for general government functions. Part-time elected officials perform general government activities; other professional services are contracted on an as-needed basis.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	6.5	6.6	5.4	6.3	5.5	12.5	12.4
Other Expenditures (\$ 000,	1.4	11.1	5.1	4.6	4.2	4.0	6.9
Total Expenditures (\$ 000)	7.9	17.7	10.5	10.9	9.7	16.5	19.3
Per Capita (dollars)	7.19	16.39	9.73	10.05	8.82	14.60	16.94

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-13, continued)

ELCHO TOWN

FACILITIES

The Elcho town hall is a multiple-use building which houses the fire department, Antigo branch library, and serves as the center of general government functions (town board meetings, etc.) Approximately 2,000 square feet of space is available for general government activities. No vehicles or other administrative equipment are reported.

PERSONNEL

There are no full-time employees for general government functions. Part-time elected officials perform general government services; other professional services are contracted on an as-needed basis.

EXPENDITURES

	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	5.9	6.0	7.0	17.8	8.4	11.1	14.3
Other Expenditures (\$ 000)	1.3	1.2	4.3	2.3	4.2	18.1	6.2
Total Expenditures (\$ 000)	7.2	7.2	11.3	20.1	12.6	29.2	20.5
Per Capita (dollars)	8.13	7.81	12.19	20.92	12.41	26.89	18.55

PLANNED MODIFICATIONS

None reported.

WHITE LAKE VILLAGE

FACILITIES

The village hall is a 20 year-old, 2,100 square feet structure which is reported to be in poor condition and fair in terms of its overall adequacy. Office equipment is limited to a photocopier, typewriter, and calculators. No vehicles are assigned to general government functions.

PERSONNEL

All general government functions are performed by elected officials; all are paid part-time positions (village president, four village board members, treasurer, and village clerk).

(Table 2.10A-13, continued)

EXPENDITURES

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	6.0	11.6	5.1	6.6	5.9	7.2
Other Expenditures (\$ 000)	0.0	1.6	5.0	2.5	9.7	6.7
Total Expenditures (\$ 000)	6.0	13.2	10.1	9.1	15.6	13.9
Per Capita (dollars)	19.35	42.17	32.17	29.45	50.32	45.13

PLANNED MODIFICATIONS

None reported.

THREE LAKES TOWN

FACILITIES

3,000 square feet community building (shared with police and fire departments); 20 years old with major addition in 1978, considered excellent in terms of condition and adequacy; standard office equipment, including a photocopy machine.

PERSONNEL

Two full-time employees (clerk and treasurer) and part-time personnel on an as-needed basis for other general government support functions.

EXPENDITURES

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries, Including Fringe Benefits (\$ 000)	21.8	32.6	44.5	40.5	62.0	60.4
Other Expenditures (\$ 000)	11.1	19.3	13.3	16.3	160.3	81.0
Total Expenditures (\$ 000)	32.9	51.9	57.8	56.8	222.3	141.4
Per Capita (dollars)	20.60	31.63	34.51	32.93	126.74	81.12

The 1978 expenditure figures reflect the cost of the addition to the community building.

PLANNED MODIFICATIONS

None reported.

(continued)

(Table 2.10A-13, continued)

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White Lake Village. August 14, 1980. Personal Communication, Mrs. James Owen, Village Clerk.

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Table 2.10A-14

TOWN EXPENDITURES AND CAPITAL PROJECTS
ARGONNE TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	3.8	4.6	5.0	5.3	4.2	7.0	6.5
per capita (dollars)	9.25	11.05	12.11	13.28	10.40	16.87	15.59
Public Safety							
total cost (\$ 000)	2.7	8.2	7.5	6.2	1.0	3.2	2.7
per capita (dollars)	6.57	19.71	18.16	15.54	2.48	7.71	6.47
Health and Social Services							
total cost (\$ 000)	1.8	0.0	0.0	0.0	0.0	0.0	0.3
per capita (dollars)	4.38	0.0	0.00	0.00	0.00	0.00	0.00
Transportation							
total cost (\$ 000)	12.3	25.9	18.3	39.8	21.6	31.9	61.0
per capita (dollars)	29.93	62.27	44.31	99.75	53.47	76.86	146.28
Sanitation							
total cost (\$ 000)	0.6	1.2	2.9	3.6	2.6	3.8	3.9
per capita (dollars)	1.46	2.88	7.02	9.02	6.44	9.16	9.35
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.1	0.1	0.1
per capita (dollars)	0.0	0.0	0.0	0.00	0.25	0.24	0.23
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	5.6	16.2	5.4	6.7	1.9	38.4	8.5
per capita (dollars)	13.63	38.94	13.08	16.79	4.70	92.53	20.38
Total General Operations							
total cost (\$ 000)	26.8	56.1	39.1	61.6	31.4	84.4	83.0
per capita (dollars)	65.21	134.86	94.67	154.39	77.72	203.37	199.04
<u>CAPITAL PROJECTS</u>							
Highway Building and Equipment (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	35.0

(continued)

(Table 2.10A-14, continued)

BLACKWELL TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	2.6	3.0	3.4	6.1	6.2	5.2	4.7
per capita (dollars)	6.68	8.26	9.42	16.89	17.17	14.29	12.91
Public Safety							
total cost (\$ 000)	1.0	0.9	0.3	0.7	0.3	0.7	0.8
per capita (dollars)	2.57	2.48	0.83	1.94	0.83	1.92	2.20
Health and Social Services							
total cost (\$ 000)	0.1	0.0	0.0	0.0	0.0	1.9	0.0
per capita (dollars)	0.26	0.00	0.00	0.00	0.00	5.22	0.00
Transportation							
total cost (\$ 000)	14.0	52.1	12.6	33.6	8.8	54.9	50.7
per capita (dollars)	35.99	143.53	34.90	93.07	24.38	150.82	139.29
Sanitation							
total cost (\$ 000)	1.1	2.0	2.9	2.7	2.7	3.7	3.9
per capita (dollars)	2.83	5.51	8.03	7.47	7.48	10.16	10.71
Conservation and Leisure							
total cost (\$ 000)	0.6	0.6	0.2	0.1	0.0	0.0	0.0
per capita (dollars)	1.54	1.65	0.55	0.28	0.00	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	27.3	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	75.62	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	6.5	8.2	5.7	2.3	1.4	4.2	6.8
per capita (dollars)	16.71	22.59	15.79	6.37	3.88	11.54	18.68
Total General Operations							
total cost (\$ 000)	25.9	66.8	25.1	45.5	46.7	70.6	66.9
per capita (dollars)	66.58	184.02	69.53	126.04	129.36	193.96	183.79
<u>CAPITAL PROJECTS</u>							
Construction and Reconstruction (\$ 000)	0.0	0.0	0.0	0.0	27.3	0.0	0.0

(continued)

(Table 2.10A-14, continued)

CASWELL TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	2.5	2.6	2.6	3.2	3.4	4.7	4.8
per capita (dollars)	25.00	27.66	25.74	31.07	31.78	43.92	46.15
Public Safety							
total cost (\$ 000)	0.3	0.6	0.3	0.4	0.4	0.4	0.6
per capita (dollars)	3.00	6.38	2.97	3.88	3.74	3.74	5.77
Health and Social Services							
total cost (\$ 000)	0.1	0.1	0.1	0.0	0.0	0.0	0.0
per capita (dollars)	1.00	1.06	0.00	0.00	0.00	0.00	0.00
Transportation							
total cost (\$ 000)	13.4	3.2	2.7	2.9	13.9	4.7	8.9
per capita (dollars)	134.00	34.04	26.73	28.16	129.91	43.93	85.58
Sanitation							
total cost (\$ 000)	0.3	0.2	1.5	1.1	0.7	1.1	1.2
per capita (dollars)	3.00	2.13	14.85	10.68	6.54	10.28	11.54
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	9.8	14.4
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	91.59	138.46
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	12.2
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	117.31
Other							
total cost (\$ 000)	0.5	0.6	0.6	2.9	0.6	0.8	4.2
per capita (dollars)	5.00	6.38	5.94	28.16	5.61	7.48	40.38
Total General Operations							
total cost (\$ 000)	17.1	6.38	7.8	10.5	19.0	21.5	46.3
per capita (dollars)	171.00	77.66	77.23	101.94	186.27	200.93	445.19
<u>CAPITAL PROJECTS</u>							
Non-department and general - town hall (\$ 000)	0.0	0.0	0.0	0.0	0.0	9.8	0.0

(continued)

(Table 2.10A-14, continued)

CRANDON TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	3.9	4.1	21.4	7.5	4.4	9.2	4.8
per capita (dollars)	7.55	7.54	39.27	13.69	7.57	15.03	7.61
Public Safety							
total cost (\$ 000)	0.9	0.0	0.0	1.7	0.1	3.4	1.8
per capita (dollars)	1.74	0.00	0.00	3.10	0.17	5.56	2.85
Health and Social Services							
total cost (\$ 000)	0.0	0.0	0.1	0.0	0.0	1.0	0.0
per capita (dollars)	0.00	0.00	0.18	0.00	0.00	1.63	0.00
Transportation							
total cost (\$ 000)	14.4	16.2	25.1	37.3	18.6	26.8	21.8
per capita (dollars)	27.91	29.78	46.06	68.07	32.01	43.79	34.55
Sanitation							
total cost (\$ 000)	1.7	1.7	2.1	3.3	1.6	2.6	2.0
per capita (dollars)	3.29	3.13	3.85	6.02	2.75	4.25	3.17
Conservation and Leisure							
total cost (\$ 000)	0.1	0.1	0.1	0.1	0.0	0.0	6.0
per capita (dollars)	0.19	0.18	0.18	0.18	0.00	0.00	9.51
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	6.2	5.9	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	10.67	9.64	0.00
Other							
total cost (\$ 000)	2.1	0.6	0.9	1.0	2.4	11.9	2.9
per capita (dollars)	4.07	1.10	1.65	1.82	4.13	19.44	4.60
Total General Operations							
total cost (\$ 000)	23.1	22.7	49.7	50.9	33.3	60.8	39.3
per capita (dollars)	44.77	41.73	91.19	92.88	57.31	99.35	62.28
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

FREEDOM TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	4.6	5.3	5.5	6.4	3.7	9.5	6.7
per capita (dollars)	15.86	17.43	18.64	20.71	12.21	30.94	21.54
Public Safety							
total cost (\$ 000)	0.8	0.8	1.0	0.5	0.4	2.0	1.3
per capita (dollars)	2.76	2.63	3.39	1.62	1.32	6.51	4.18
Health and Social Services							
total cost (\$ 000)	0.1	0.1	0.1	0.0	0.1	0.9	0.1
per capita (dollars)	0.34	0.33	0.34	0.00	0.33	2.95	0.32
Transportation							
total cost (\$ 000)	51.4	53.4	23.6	21.0	11.9	55.6	46.9
per capita (dollars)	177.24	175.66	80.00	67.96	39.27	181.11	150.80
Sanitation							
total cost (\$ 000)	0.9	1.0	0.9	1.1	0.8	1.1	1.1
per capita (dollars)	3.10	3.29	3.05	3.56	2.64	3.58	3.54
Conservation and Leisure							
total cost (\$ 000)	0.2	0.2	0.2	0.2	0.0	0.4	0.2
per capita (dollars)	0.69	0.66	0.68	0.65	0.00	1.30	0.64
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	20.1	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	66.34	0.00	0.00
Principal and Interest							
total cost (\$ 000)	19.3	25.3	24.6	18.5	0.0	10.0	12.5
per capita (dollars)	66.55	83.22	83.39	59.87	0.00	32.57	40.19
Other							
total cost (\$ 000)	5.6	4.0	1.8	3.5	3.4	3.1	3.9
per capita (dollars)	19.31	13.16	6.10	11.33	11.22	10.09	12.54
Total General Operations							
total cost (\$ 000)	82.9	90.1	57.7	51.2	40.4	82.6	72.7
per capita (dollars)	285.86	296.38	195.59	165.70	133.33	269.06	233.76
<u>CAPITAL PROJECTS</u>							
Other Transportation (\$ 000)	25.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction or Reconstruction (\$ 000)	0.0	33.0	15.0	0.0	45.1	0.0	0.0

(continued)

(Table 2.10A-14, continued)

HILES TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	20.1	8.2	7.7	8.2	6.9	10.6	10.8
per capita (dollars)	61.85	26.37	24.68	24.62	19.49	30.03	30.77
Public Safety							
total cost (\$ 000)	1.2	0.6	1.0	0.9	0.0	0.0	2.1
per capita (dollars)	3.69	1.93	3.21	2.70	0.00	0.00	5.98
Health and Social Services							
total cost (\$ 000)	2.7	0.1	0.4	0.1	0.0	0.1	0.1
per capita (dollars)	8.31	0.32	1.28	0.30	0.00	0.00	0.28
Transportation							
total cost (\$ 000)	11.6	24.9	61.1	72.3	39.9	27.8	38.0
per capita (dollars)	35.69	80.06	195.83	217.12	112.71	78.75	108.26
Sanitation							
total cost (\$ 000)	1.8	3.1	3.3	4.5	8.0	6.4	4.4
per capita (dollars)	5.54	9.97	10.58	13.51	22.60	18.13	12.54
Conservation and Leisure							
total cost (\$ 000)	8.3	0.3	0.1	0.2	0.2	0.0	0.0
per capita (dollars)	25.54	0.96	0.32	0.60	0.56	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	36.2	59.9
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	102.57	170.66
Principal and Interest							
total cost (\$ 000)	5.8	11.0	10.5	0.0	0.0	0.0	0.0
per capita (dollars)	17.85	36.37	33.65	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	4.1	5.5	5.5	7.2	4.6	42.1	43.6
per capita (dollars)	12.62	17.68	17.63	21.62	12.99	119.26	124.22
Total General Operations							
total cost (\$ 000)	55.6	53.7	89.6	93.4	59.6	123.2	158.9
per capita (dollars)	171.08	172.67	287.18	280.48	168.36	349.01	452.71
CAPITAL PROJECTS							
Construction or Reconstruction (\$ 000)	0.0	0.0	0.0	0.0	0.0	10.9	33.6
Highway Bed and Equipment (\$ 000)	0.0	0.0	0.0	0.0	0.0	25.3	58.9

(continued)

(Table 2.10A-14, continued)

LINCOLN TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	10.2	11.3	9.2	18.3	11.3	18.9	14.8
per capita (dollars)	23.50	25.57	21.35	43.68	25.51	41.18	31.69
Public Safety							
total cost (\$ 000)	1.3	0.4	0.8	1.8	0.6	5.6	1.7
per capita (dollars)	2.99	0.90	1.86	4.30	1.35	12.20	3.64
Health and Social Services							
total cost (\$ 000)	0.1	0.1	0.1	0.1	0.1	0.1	0.0
per capita (dollars)	0.23	0.23	0.23	0.27	0.23	0.22	0.00
Transportation							
total cost (\$ 000)	50.2	43.8	68.0	83.0	72.0	83.7	112.6
per capita (dollars)	115.67	99.10	157.77	198.09	162.53	182.35	241.11
Sanitation							
total cost (\$ 000)	4.2	4.0	3.5	3.8	5.4	5.8	6.5
per capita (dollars)	9.68	9.05	0.12	9.07	12.19	12.64	13.92
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	4.0	4.0	2.2	15.9	2.1	8.8	5.7
per capita (dollars)	9.22	9.05	5.10	37.95	4.74	19.17	12.21
Total General Operations							
total cost (\$ 000)	70.0	63.6	83.8	122.9	91.5	122.9	141.3
per capita (dollars)	161.29	143.89	194.43	293.31	206.55	267.76	302.57
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

NASHVILLE TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	7.5	7.8	8.2	9.8	9.5	15.5	26.3
per capita (dollars)	12.42	12.54	13.42	15.53	14.82	24.03	39.43
Public Safety							
total cost (\$ 000)	1.0	0.7	0.8	1.1	4.1	4.0	5.3
per capita (dollars)	1.66	1.13	1.31	1.74	6.40	6.20	7.95
Health and Social Services							
total cost (\$ 000)	0.0	0.1	0.1	0.1	0.0	0.0	0.0
per capita (dollars)	0.00	0.16	0.16	0.16	0.00	0.00	0.00
Transportation							
total cost (\$ 000)	51.3	59.0	35.1	43.9	37.1	114.5	75.8
per capita (dollars)	84.93	94.86	57.45	69.57	57.88	177.52	113.64
Sanitation							
total cost (\$ 000)	1.7	2.4	2.2	4.2	3.3	4.7	5.5
per capita (dollars)	2.81	3.86	3.60	6.66	5.15	7.29	8.25
Conservation and Leisure							
total cost (\$ 000)	0.6	0.6	0.7	0.5	0.6	0.6	0.5
per capita (dollars)	0.99	0.96	1.15	0.79	0.94	0.93	0.75
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	29.7	13.9	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	47.07	21.68	0.00	0.00
Principal and Interest							
total cost (\$ 000)	9.5	9.9	9.1	8.6	8.9	8.5	13.2
per capita (dollars)	15.73	15.92	14.89	13.63	13.88	13.18	19.79
Other							
total cost (\$ 000)	8.9	6.6	9.3	8.4	4.0	24.1	15
per capita (dollars)	14.74	10.61	15.22	13.31	6.24	37.36	22.49
Total General Operations							
total cost (\$ 000)	80.5	87.1	65.5	106.3	81.4	171.9	141.6
per capita (dollars)	133.28	140.03	107.20	168.46	126.99	266.51	212.29
<u>CAPITAL PROJECTS</u>							
Other							
Machine and equipment storage bldg. (\$ 000)	16.7	0.0	0.0	0.0	0.0	12.9	83.2
Construction or reconstruction-roads (\$ 000)	0.0	0.0	5.7	45.7	13.9	0.0	0.0

(continued)

(Table 2.10A-14, continued)

POPPLE RIVER TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	2.8	3.3	3.1	3.9	3.6	5.1	4.7
per capita (dollars)	59.57	73.33	83.78	86.67	59.02	82.26	85.45
Public Safety							
total cost (\$ 000)	0.0	0.7	0.3	0.3	1.2	0.8	0.5
per capita (dollars)	0	15.56	8.11	6.67	19.67	12.90	9.09
Health and Social Services							
total cost (\$ 000)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	2.13	2.22	0.00	0.00	0.00	0.00	0.00
Transportation							
total cost (\$ 000)	7.2	5.5	33.3	14.8	3.8	36.3	19.1
per capita (dollars)	153.19	122.22	900.00	328.89	62.30	585.48	347.27
Sanitation							
total cost (\$ 000)	0.0	0.8	0.0	0.3	0.2	0.4	0.4
per capita (dollars)	0.00	17.78	0.00	6.67	3.28	6.45	7.27
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	0.3	0.6	1.3	1.9	1.0	6.1	6.2
per capita (dollars)	6.38	13.33	35.14	42.22	16.39	98.39	112.73
Total General Operations							
total cost (\$ 000)	10.4	11.0	38.0	21.2	9.8	48.7	30.9
per capita (dollars)	221.28	244.44	1,027.03	471.11	160.66	785.48	561.32
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

ROSS TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	2.7	3.4	3.3	4.0	3.1	5.6	4.4
per capita (dollars)	13.78	17.80	17.01	19.70	15.50	27.32	23.66
Public Safety							
total cost (\$ 000)	0.1	0.1	0.6	0.8	0.1	0.5	1.4
per capita (dollars)	0.51	0.52	3.09	3.94	0.50	2.44	7.53
Health and Social Services							
total cost (\$ 000)	0.1	0.1	0.0	0.1	0.0	0.1	3.0
per capita (dollars)	0.51	0.52	0.00	0.49	0.00	0.49	16.13
Transportation							
total cost (\$ 000)	18.1	17.9	11.3	8.6	6.5	21.8	16.1
per capita (dollars)	92.35	93.72	58.25	42.36	32.50	106.34	86.56
Sanitation							
total cost (\$ 000)	1.0	0.9	0.9	1.1	0.9	1.0	1.1
per capita (dollars)	5.10	4.71	4.64	5.42	4.50	4.88	5.91
Conservation and Leisure							
total cost (\$ 000)	0.1	0.0	0.0	0.6	0.0	0.0	0.1
per capita (dollars)	0.51	0.00	0.00	2.96	0.00	0.00	0.54
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	1.0	4.0	2.0	1.6	0.0	0.0
per capita (dollars)	0.00	5.24	20.62	9.85	8.00	0.00	0.00
Other							
total cost (\$ 000)	1.6	11.4	2.7	2.5	2.2	2.1	3.7
per capita (dollars)	8.16	59.69	13.92	12.31	11.00	10.24	19.89
Total General Operations							
total cost (\$ 000)	23.7	34.8	22.8	19.7	14.4	31.1	29.8
per capita (dollars)	120.92	182.20	117.53	97.04	72.00	151.71	160.22
<u>CAPITAL PROJECTS</u>							
Construction and Reconstruction (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	26.4

(continued)

(Table 2.10A-14, continued)

ACKLEY TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	3.5	6.1	6.8	7.1	2.6	7.9	8.1
per capita (dollars)	5.01	8.64	10.30	10.87	3.92	12.97	13.73
Public Safety							
total cost (\$ 000)	0.4	0.9	0.6	8.3	22.2	9.6	8.5
per capita (dollars)	0.57	1.27	0.91	12.71	33.48	15.76	14.41
Health and Social Services							
total cost (\$ 000)	0.1	0.2	0.2	0.9	0.0	0.2	0.5
per capita (dollars)	0.14	0.28	0.30	1.38	0.00	0.33	0.85
Transportation							
total cost (\$ 000)	31.7	43.9	31.9	46.6	24.5	49.4	71.0
per capita (dollars)	45.35	62.18	48.33	71.36	36.95	81.12	120.34
Sanitation							
total cost (\$ 000)	1.8	2.4	2.8	2.8	0.0	2.6	2.8
per capita (dollars)	2.58	3.40	4.24	4.29	0.00	4.27	4.75
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	1.0	0.0	0.0	0.3
per capita (dollars)	0.00	0.00	0.00	1.53	0.00	0.00	0.51
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	4.8	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	7.88	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	0.5	3.4	0.8	3.8	1.9	1.9	5.1
per capita (dollars)	0.72	4.82	1.21	5.82	2.87	3.12	8.64
Total General Operations							
total cost (\$ 000)	38.0	56.9	43.1	70.5	51.2	76.4	96.3
per capita (dollars)	54.36	80.59	65.30	107.96	77.22	125.45	163.22
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

AINSWORTH TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	5.2	5.6	7.3	7.1	3.5	8.2	7.2
per capita (dollars)	13.98	14.36	19.21	17.84	8.50	17.75	15.45
Public Safety							
total cost (\$ 000)	0.4	0.2	1.2	0.6	0.4	2.8	2.8
per capita (dollars)	1.08	0.51	3.16	1.51	0.97	6.06	6.01
Health and Social Services							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.2	0.1	0.5
per capita (dollars)	0.00	0.00	0.00	0.00	0.49	0.22	1.07
Transportation							
total cost (\$ 000)	17.7	24.4	20.1	34.7	18.6	32.8	32.8
per capita (dollars)	47.58	62.56	52.89	87.19	45.15	71.00	70.39
Sanitation							
total cost (\$ 000)	0.0	0.0	1.0	1.0	1.0	1.1	1.1
per capita (dollars)	0.00	0.00	2.63	2.51	2.43	2.38	2.36
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.1	0.2	0.0	1.3	0.1
per capita (dollars)	0.00	0.00	0.26	0.50	0.00	2.81	0.21
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	7.3	6.6	1.6	0.1	0.0	0.0	0.0
per capita (dollars)	19.62	16.92	4.21	0.25	0.00	0.00	0.00
Other							
total cost (\$ 000)	1.7	15.4	8.2	9.4	2.6	8.2	3.4
per capita (dollars)	4.57	39.49	21.58	23.62	6.31	17.75	7.30
Total General Operations							
total cost (\$ 000)	32.3	52.2	39.5	53.1	26.3	54.5	47.9
per capita (dollars)	86.83	133.85	103.95	133.42	68.83	117.97	102.79
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

ANTIGO TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	12.2	13.6	13.6	53.6	23.0	17.3	17.9
per capita (dollars)	6.84	7.81	7.83	30.39	13.01	9.57	9.90
Public Safety							
total cost (\$ 000)	1.9	3.8	3.3	55.7	70.7	19.5	13.8
per capita (dollars)	1.07	2.18	1.90	31.58	40.01	10.79	7.63
Health and Social Services							
total cost (\$ 000)	0.2	0.4	0.2	0.3	0.1	0.2	0.0
per capita (dollars)	0.11	0.23	0.12	0.17	0.06	0.11	0.00
Transportation							
total cost (\$ 000)	21.7	17.6	26.3	26.3	49.0	75.2	131.3
per capita (dollars)	12.16	10.10	15.13	14.91	27.73	41.62	72.62
Sanitation							
total cost (\$ 000)	4.3	4.3	12.4	7.4	0.0	7.4	8.5
per capita (dollars)	2.41	2.47	7.13	4.20	0.00	4.10	4.70
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.1	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.06	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	23.2	32.7	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	13.35	18.54	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.1	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.06	0.00	0.00
Other							
total cost (\$ 000)	1.6	2.2	27.8	2.1	9.8	11.0	8.2
per capita (dollars)	0.90	1.26	16.00	1.19	5.55	6.09	4.54
Total General Operations							
total cost (\$ 000)	41.9	41.9	106.8	178.1	152.7	130.7	179.7
per capita (dollars)	23.48	24.05	61.45	100.96	86.42	72.33	99.39
<u>CAPITAL PROJECTS</u>							
Construction and Reconstruction (\$ 000)	0.0	0.0	0.0	32.0	0.0	0.0	0.0
Sanitation (\$ 000)	0.0	0.0	0.0	0.7	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

EVERGREEN TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	2.2	3.5	3.8	3.7	3.9	4.4	4.1
per capita (dollars)	5.06	8.10	8.66	8.41	8.94	9.28	8.63
Public Safety							
total cost (\$ 000)	0.0	0.1	1.1	0.6	0.0	0.6	1.9
per capita (dollars)	0.00	0.23	2.51	1.36	0.00	1.27	4.00
Health and Social Services							
total cost (\$ 000)	0.0	0.0	0.2	0.0	0.0	0.0	0.2
per capita (dollars)	0.00	0.00	0.46	0.00	0.00	0.00	0.42
Transportation							
total cost (\$ 000)	9.3	14.8	15.3	21.4	30.6	24.4	29.9
per capita (dollars)	21.38	34.26	34.85	48.64	70.18	51.48	62.95
Sanitation							
total cost (\$ 000)	0.8	1.1	0.7	0.7	0.5	0.7	0.8
per capita (dollars)	1.84	2.55	1.59	1.59	1.15	1.48	1.68
Conservation and Leisure							
total cost (\$ 000)	0.0	0.3	0.3	0.4	0.4	0.4	0.5
per capita (dollars)	0.00	0.69	0.68	0.91	0.92	0.84	1.05
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	0.5	0.6	15.9	12.6	0.6	0.3	10.8
per capita (dollars)	1.15	1.39	36.22	28.64	1.38	0.63	22.74
Total General Operations							
total cost (\$ 000)	12.8	20.4	37.3	39.4	36.0	30.8	48.2
per capita (dollars)	29.43	47.22	84.97	89.55	82.57	64.98	101.47
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

LANGLADE TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	6.0	5.7	6.1	12.2	5.1	8.3	7.4
per capita (dollars)	18.99	17.12	17.63	35.89	14.25	21.96	19.22
Public Safety							
total cost (\$ 000)	3.1	2.5	1.3	1.0	0.5	2.4	3.6
per capita (dollars)	9.81	7.51	3.76	2.94	1.40	6.35	9.35
Health and Social Services							
total cost (\$ 000)	0.0	0.7	0.1	0.0	0.0	0.1	0.1
per capita (dollars)	0.00	2.10	0.29	0.00	0.00	0.26	0.26
Transportation							
total cost (\$ 000)	7.8	10.0	10.3	13.8	18.7	23.9	36.4
per capita (dollars)	24.68	30.03	29.77	40.59	52.23	63.23	94.55
Sanitation							
total cost (\$ 000)	1.0	1.8	1.7	1.3	1.2	1.3	1.4
per capita (dollars)	3.16	5.41	4.91	3.82	3.35	3.44	3.64
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.6	4.9	0.0	1.3
per capita (dollars)	0.00	0.00	0.00	1.76	13.69	0.00	3.38
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	9.3	11.2	6.8	8.1	1.9	14.6	8.7
per capita (dollars)	29.43	33.64	19.65	23.82	5.31	38.62	22.60
Total General Operations							
total cost (\$ 000)	27.2	31.9	26.3	37.0	32.3	50.6	58.9
per capita (dollars)	86.08	95.80	76.01	108.82	90.22	133.86	152.99
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

NEVA TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	5.8	5.8	5.9	7.0	3.5	8.7	8.5
per capita (dollars)	6.99	6.78	6.90	8.22	4.06	9.95	9.64
Public Safety							
total cost (\$ 000)	0.6	2.0	0.8	4.9	31.6	11.4	9.6
per capita (dollars)	0.72	2.34	0.94	5.75	36.62	13.04	10.88
Health and Social Services							
total cost (\$ 000)	0.0	0.0	0.1	0.5	0.2	1.2	0.6
per capita (dollars)	0.00	0.00	0.12	0.59	0.23	1.37	0.68
Transportation							
total cost (\$ 000)	19.8	35.2	21.7	39.3	19.0	31.5	30.8
per capita (dollars)	23.86	41.12	25.38	46.13	22.02	36.04	34.92
Sanitation							
total cost (\$ 000)	4.2	1.0	1.6	1.2	1.1	1.5	1.4
per capita (dollars)	5.06	1.17	1.87	1.41	1.27	1.72	1.59
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	19.1	12.7	26.9	17.3	9.0	3.4	3.5
per capita (dollars)	23.01	14.84	31.46	20.31	10.43	3.89	3.97
Total General Operations							
total cost (\$ 000)	49.5	56.7	57.0	70.2	64.4	57.7	54.4
per capita (dollars)	59.64	66.24	66.67	82.39	74.62	66.02	61.68
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

NORWOOD TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	4.4	5.0	4.6	7.6	15.8	7.4	7.3
per capita (dollars)	5.19	5.71	5.39	8.78	17.77	8.23	8.31
Public Safety							
total cost (\$ 000)	0.6	1.5	0.9	4.8	11.2	5.2	4.1
per capita (dollars)	0.71	1.71	1.05	5.54	12.60	5.85	4.67
Health and Social Services							
total cost (\$ 000)	0.0	0.1	0.1	0.1	0.0	0.2	0.0
per capita (dollars)	0.00	0.11	0.12	0.12	0.00	0.22	0.00
Transportation							
total cost (\$ 000)	15.6	35.7	13.1	58.5	13.3	44.2	68.3
per capita (dollars)	18.42	40.75	15.23	67.55	14.96	49.71	77.79
Sanitation							
total cost (\$ 000)	0.7	0.8	0.8	0.9	0.8	1.0	1.1
per capita (dollars)	0.83	0.91	0.93	1.04	0.90	1.12	1.25
Conservation and Leisure							
total cost (\$ 000)	0.0	0.3	0.1	0.5	6.1	16.9	3.2
per capita (dollars)	0.00	0.34	0.11	0.58	6.86	19.01	3.64
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	8.1	47.6	0.0	0.0	17.5	0.0
per capita (dollars)	0.00	9.25	55.35	0.00	0.00	19.69	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	5.8	5.5	6.1	6.2	13.1
per capita (dollars)	0.00	0.00	6.74	6.35	6.86	6.97	14.92
Other							
total cost (\$ 000)	0.8	2.4	1.3	2.8	3.7	6.3	6.8
per capita (dollars)	0.94	2.74	1.51	3.23	4.16	7.09	7.74
Total General Operations							
total cost (\$ 000)	22.1	53.9	74.3	80.7	57.0	104.9	103.9
per capita (dollars)	26.09	61.53	86.40	93.19	64.12	118.00	118.34
<u>CAPITAL PROJECTS</u>							
Public Safety (\$ 000)	0.0	0.0	0.0	19.7	0.0	0.0	0.0
Non-departmental (\$ 000)	0.0	0.0	0.0	0.0	23.5	0.0	0.0
Other - Town Hall and Fire Dept. (\$ 000)	0.0	0.0	0.0	0.0	0.0	17.5	0.0
Street Construction/Reconstruction (\$ 000)	0.0	27.5	40.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

PARRISH TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	3.6	3.5	3.3	4.7	2.7	3.9	3.4
per capita (dollars)	50.70	47.95	45.21	61.84	33.75	50.00	42.50
Public Safety							
total cost (\$ 000)	0.5	0.5	0.5	0.8	0.2	0.6	0.5
per capita (dollars)	7.04	6.85	6.85	10.53	2.50	7.69	6.25
Health and Social Services							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	1.25
Transportation							
total cost (\$ 000)	2.0	2.5	8.6	2.7	3.9	6.1	4.4
per capita (dollars)	28.17	34.25	117.81	35.53	48.75	78.21	55.00
Sanitation							
total cost (\$ 000)	0.5	0.2	0.4	0.4	0.4	0.3	0.5
per capita (dollars)	7.04	2.74	5.48	5.26	5.00	3.85	6.25
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	5.4	5.7	5.3	2.2	0.8	4.9	5.0
per capita (dollars)	76.06	78.08	72.60	28.95	10.00	62.82	62.50
Total General Operations							
total cost (\$ 000)	12.0	12.4	18.1	10.8	8.0	15.8	13.9
per capita (dollars)	169.01	169.86	247.95	142.11	100.00	202.56	173.75
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

PECK TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	3.4	3.6	3.5	10.0	2.7	6.5	5.7
per capita (dollars)	8.56	9.07	8.66	24.45	6.7	16.33	14.84
Public Safety							
total cost (\$ 000)	0.2	0.7	0.6	3.2	0.9	27.5	9.7
per capita (dollars)	0.50	1.76	1.49	7.82	2.24	69.10	25.26
Health and Social Services							
total cost (\$ 000)	0.0	0.1	0.2	0.0	0.0	0.1	0.0
per capita (dollars)	0.00	0.25	0.50	0.00	0.00	0.25	0.00
Transportation							
total cost (\$ 000)	31.1	42.4	35.3	28.5	14.8	29.6	24.1
per capita (dollars)	78.34	106.80	87.38	69.68	36.82	74.37	62.76
Sanitation							
total cost (\$ 000)	0.3	0.4	0.4	0.3	0.3	0.6	0.5
per capita (dollars)	0.76	1.01	0.99	0.73	0.75	1.51	1.30
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	11.6	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	28.86	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	3.7
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	9.64
Other							
total cost (\$ 000)	0.5	0.1	1.0	2.7	1.1	3.2	2.0
per capita (dollars)	1.26	0.25	2.48	6.60	2.7	8.04	5.21
Total General Operations							
total cost (\$ 000)	35.5	47.3	41.1	44.7	31.4	67.5	45.7
per capita (dollars)	89.42	119.14	101.73	109.29	78.11	169.59	119.01
<u>CAPITAL PROJECTS</u>							
Public Safety (\$ 000)	0.0	0.0	0.0	0.0	31.6	0.0	0.0

(continued)

(Table 2.10A-14, continued)

POLAR TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	4.0	4.7	4.6	6.0	4.5	9.5	7.4
per capita (dollars)	5.65	6.32	5.97	7.82	5.80	12.29	9.57
Public Safety							
total cost (\$ 000)	0.8	1.1	1.8	4.5	3.9	0.8	3.5
per capita (dollars)	1.13	1.48	2.34	5.87	5.02	1.03	4.52
Health and Social Services							
total cost (\$ 000)	0.1	0.8	0.4	0.1	0.1	0.4	0.1
per capita (dollars)	0.14	1.08	0.52	0.13	0.13	0.52	0.13
Transportation							
total cost (\$ 000)	14.5	54.8	55.1	69.3	59.7	64.8	68.9
per capita (dollars)	20.48	73.66	71.56	90.35	76.93	83.83	89.13
Sanitation							
total cost (\$ 000)	0.7	0.8	3.9	8.8	4.5	4.0	1.5
per capita (dollars)	0.99	1.08	5.06	11.47	5.80	5.17	1.94
Conservation and Leisure							
total cost (\$ 000)	1.5	1.2	1.2	1.2	1.2	0.3	1.5
per capita (dollars)	2.12	1.61	1.56	1.56	1.55	0.39	1.94
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	0.7	2.3	1.2	13.4	1.7	2.6	1.5
per capita (dollars)	0.99	3.09	1.56	17.47	2.19	3.36	1.94
Total General Operations							
total cost (\$ 000)	22.3	65.7	68.2	103.3	75.6	82.4	84.4
per capita (dollars)	31.50	88.31	88.57	134.68	97.42	106.60	109.13
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

PRICE TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	3.4	4.1	3.6	4.0	4.3	8.1	6.2
per capita (dollars)	13.60	14.54	12.37	14.29	13.96	26.05	19.68
Public Safety							
total cost (\$ 000)	0.1	0.4	0.3	2.6	2.8	0.2	2.1
per capita (dollars)	0.40	1.42	1.03	9.29	9.09	0.64	6.67
Health and Social Services							
total cost (\$ 000)	0.2	0.1	0.0	0.2	0.0	0.9	0.1
per capita (dollars)	0.80	0.35	0.00	0.71	0.00	2.89	0.32
Transportation							
total cost (\$ 000)	6.8	18.7	29.2	24.7	16.1	24.1	16.9
per capita (dollars)	27.20	66.31	100.34	88.21	52.27	77.49	53.66
Sanitation							
total cost (\$ 000)	0.9	0.9	0.9	1.4	0.9	1.6	1.7
per capita (dollars)	3.60	3.19	3.09	5.00	2.92	5.14	5.40
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.32
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	9.0	7.3	7.6	1.9	2.3	3.9	10.6
per capita (dollars)	36.00	25.89	26.12	6.79	7.47	12.54	33.65
Total General Operations							
total cost (\$ 000)	20.4	31.5	41.6	34.8	26.4	38.8	37.7
per capita (dollars)	81.60	111.70	142.96	124.29	85.71	124.76	119.68
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

ROLLING TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	5.7	6.6	8.2	8.6	7.1	11.3	12.0
per capita (dollars)	5.76	6.44	8.11	8.04	6.45	9.91	10.21
Public Safety							
total cost (\$ 000)	1.3	1.4	1.3	13.1	32.6	14.3	11.8
per capita (dollars)	1.31	1.37	1.29	12.25	29.61	12.54	10.04
Health and Social Services							
total cost (\$ 000)	0.5	0.9	1.5	1.3	0.5	1.5	0.3
per capita (dollars)	0.51	0.88	1.48	1.22	0.45	1.31	0.26
Transportation							
total cost (\$ 000)	21.1	22.3	23.4	41.6	11.0	62.9	40.6
per capita (dollars)	21.31	21.76	23.15	38.91	9.99	55.18	34.56
Sanitation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0:00	0.00	0.00	0.00	0.00	0.00	0.00
Conservation and Leisure							
total cost (\$ 000)	0.1	0.0	0.0	0.0	0.0	0.1	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.09	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	33.9	8.6	20.6	0.0	0.0
per capita (dollars)	0.00	0.00	33.53	8.04	18.71	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	0.3	1.5	1.0	0.8	1.8	2.4	3.5
per capita (dollars)	0.30	1.46	0.99	0.75	1.63	2.11	2.98
Total General Operations							
total cost (\$ 000)	29.0	32.7	69.3	74.0	73.6	92.5	68.2
per capita (dollars)	29.29	31.90	68.55	69.22	66.84	81.14	58.04
<u>CAPITAL PROJECTS</u>							
Construction and Reconstruction(\$ 000)	27.3	57.7	33.9	8.8	20.6	0.0	0.0
Right of Way(\$ 000)	.7	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

UPHAM TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	5.4	5.7	6.9	7.4	5.7	7.9	7.4
per capita (dollars)	10.42	11.45	14.26	14.77	11.35	15.34	14.02
Public Safety							
total cost (\$ 000)	2.4	0.8	2.1	0.9	1.0	1.8	3.6
per capita (dollars)	4.63	1.61	4.34	1.80	1.99	3.50	6.82
Health and Social Services							
total cost (\$ 000)	0.1	0.1	0.1	0.1	0.0	0.6	0.4
per capita (dollars)	0.19	0.20	0.21	0.20	0.00	1.17	0.76
Transportation							
total cost (\$ 000)	25.5	16.8	41.2	24.0	63.6	38.2	38.8
per capita (dollars)	49.23	33.73	85.12	47.90	126.69	74.17	73.48
Sanitation							
total cost (\$ 000)	1.1	1.2	1.6	2.0	1.3	2.0	2.0
per capita (dollars)	2.12	2.41	3.31	3.99	2.59	3.88	3.79
Conservation and Leisure							
total cost (\$ 000)	0.0	0.2	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.40	0.00	0.00	0.00	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Other							
total cost (\$ 000)	0.6	2.2	2.8	26.6	1.7	27.0	22.1
per capita (dollars)	1.16	4.42	5.79	53.09	3.39	52.43	41.86
Total General Operations							
total cost (\$ 000)	35.1	27.0	54.7	61.0	73.3	77.5	74.3
per capita (dollars)	67.76	54.22	113.02	121.76	146.02	150.49	140.72
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

WOLF RIVER TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	5.1	30.5	8.4	9.5	7.8	11.6	11.1
per capita (dollars)	9.32	54.95	15.58	17.59	13.88	19.11	17.48
Public Safety							
total cost (\$ 000)	0.0	0.2	2.5	11.7	2.2	4.6	4.7
per capita (dollars)	0.00	0.36	4.64	21.67	3.91	7.58	7.40
Health and Social Services							
total cost (\$ 000)	0.1	0.4	0.7	0.0	0.0	0.2	2.6
per capita (dollars)	0.18	0.72	1.30	0.00	0.00	0.33	4.09
Transportation							
total cost (\$ 000)	31.0	29.1	50.2	62.1	46.7	133.6	52.1
per capita (dollars)	56.67	52.40	93.14	115.00	83.10	220.10	82.05
Sanitation							
total cost (\$ 000)	1.5	1.5	1.6	2.2	1.4	1.8	7.2
per capita (dollars)	2.74	2.70	2.97	4.07	2.49	2.97	11.34
Conservation and Leisure							
total cost (\$ 000)	0.0	0.3	0.3	0.4	0.4	0.0	0.0
per capita (dollars)	0.00	0.54	0.56	0.74	0.71	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	1.6	5.7	10.2	8.1	7.6	4.9	9.7
per capita (dollars)	2.93	10.27	18.92	15.00	13.52	8.07	15.28
Total General Operations							
total cost (\$ 000)	39.3	67.7	73.9	94.0	66.1	156.7	87.44
per capita (dollars)	71.85	121.98	137.11	174.07	117.62	258.15	137.64
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

CRESCENT TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	10.8	9.5	14.9	15.7	10.8	14.7	15.5
per capita (dollars)	6.90	5.54	8.68	8.98	6.03	8.26	8.68
Public Safety							
total cost (\$ 000)	20.5	3.8	2.1	1.4	2.7	17.8	33.6
per capita (dollars)	13.17	2.22	1.22	0.80	1.51	10.01	18.82
Health and Social Services							
total cost (\$ 000)	0.1	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Transportation							
total cost (\$ 000)	63.4	64.5	94.9	74.8	58.6	88.5	121.6
per capita (dollars)	40.72	37.61	55.30	42.79	32.70	49.75	68.12
Sanitation							
total cost (\$ 000)	2.7	4.3	3.8	5.3	3.0	3.5	4.5
per capita (dollars)	1.73	2.51	2.21	3.03	1.67	1.97	2.52
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.1	0.0	0.7
per capita (dollars)	0.00	0.00	0.00	0.00	0.06	0.00	0.39
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	2.3	3.6	5.4	5.0	3.7	4.2	2.1
per capita (dollars)	1.48	2.10	3.15	2.86	2.06	2.36	1.18
Total General Operations							
total cost (\$ 000)	99.8	85.7	121.1	102.2	78.9	128.7	178.0
per capita (dollars)	64.10	49.97	70.57	58.46	44.03	72.34	99.72
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

ENTERPRISE TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	8.4	7.4	7.2	8.6	6.8	9.1	8.9
per capita (dollars)	34.71	31.49	29.63	35.54	26.46	34.87	36.03
Public Safety							
total cost (\$ 000)	1.1	0.7	0.0	3.4	1.1	3.2	1.9
per capita (dollars)	4.55	2.98	0.00	14.05	4.28	12.26	7.69
Health and Social Services							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transportation							
total cost (\$ 000)	14.0	7.5	7.5	5.9	4.6	39.7	13.1
per capita (dollars)	57.85	31.91	30.86	24.38	17.90	152.11	53.04
Sanitation							
total cost (\$ 000)	0.6	0.6	1.3	2.1	1.9	2.4	2.6
per capita (dollars)	2.48	2.55	5.35	8.68	7.39	9.20	10.53
Conservation and Leisure							
total cost (\$ 000)	0.1	0.8	1.0	0.4	0.1	0.3	0.2
per capita (dollars)	0.41	3.40	4.12	1.65	0.39	1.15	0.81
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	3.1	1.3	2.6	2.5	1.1	2.1	2.3
per capita (dollars)	12.81	5.53	10.69	10.33	4.28	8.05	9.31
Total General Operations							
total cost (\$ 000)	27.3	18.3	19.6	22.9	15.6	56.8	29.0
per capita (dollars)	112.81	77.87	80.66	94.63	60.70	217.62	117.41
<u>CAPITAL PROJECTS</u>							
Leisure, property purchased for landing (\$ 000)	0.0	0.0	1.8	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

LAKE TOMAHAWK TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	18.9	18.8	20.4	26.2	26.0	38.0	29.3
per capita (dollars)	41.81	39.33	39.53	48.34	46.76	65.29	49.49
Public Safety							
total cost (\$ 000)	4.6	0.3	1.9	5.2	3.3	5.4	9.1
per capita (dollars)	10.18	0.63	3.68	9.59	5.94	9.28	15.37
Health and Social Services							
total cost (\$ 000)	0.4	0.6	0.3	0.0	0.3	0.3	0.3
per capita (dollars)	0.88	1.26	0.58	0.00	0.54	0.52	0.51
Transportation							
total cost (\$ 000)	59.2	51.5	88.4	81.7	61.4	93.5	112.0
per capita (dollars)	130.97	107.74	171.32	150.74	110.43	160.65	189.19
Sanitation							
total cost (\$ 000)	4.9	6.6	7.8	5.6	5.8	8.3	7.4
per capita (dollars)	10.84	13.81	15.12	10.33	10.43	14.26	12.5
Conservation and Leisure							
total cost (\$ 000)	9.5	4.3	21.0	13.9	6.0	8.1	12.3
per capita (dollars)	21.02	8.99	40.70	26.65	10.79	13.92	20.78
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	19.1	21.8	17.2	19.7	13.0	13.6	14.4
per capita (dollars)	42.26	45.61	33.33	36.35	23.38	23.37	24.32
Other							
total cost (\$ 000)	5.4	15.2	21.9	6.7	8.2	8.0	27.6
per capita (dollars)	11.95	31.80	42.44	12.36	14.75	13.75	46.62
Total General Operations							
total cost (\$ 000)	122.0	119.1	178.9	159.0	124.0	175.2	212.4
per capita (dollars)	269.91	249.16	346.71	293.36	223.02	301.03	358.78
CAPITAL PROJECTS							
Other Transportation (\$ 000)	0.0	0.0	0.0	7.1	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

MONICO TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	5.5	5.0	5.0	6.2	4.5	7.1	11.5
per capita (dollars)	18.71	15.72	16.39	21.53	16.79	25.09	39.25
Public Safety							
total cost (\$ 000)	0.4	0.0	1.8	0.0	0.4	0.0	0.8
per capita (dollars)	1.36	0.00	5.90	0.00	1.49	0.00	2.73
Health and Social Services							
total cost (\$ 000)	0.0	0.0	2.7	0.0	0.0	0.1	0.1
per capita (dollars)	0.00	0.00	8.85	0.00	0.00	0.35	0.34
Transportation							
total cost (\$ 000)	6.8	19.6	11.2	22.1	8.2	11.2	18.3
per capita (dollars)	23.13	61.64	36.72	76.74	30.60	39.58	62.46
Sanitation							
total cost (\$ 000)	12.4	3.0	2.8	2.5	3.8	2.9	2.8
per capita (dollars)	42.18	9.43	9.18	8.68	14.18	10.25	9.56
Conservation and Leisure							
total cost (\$ 000)	1.9	3.1	2.2	0.6	0.5	4.2	1.4
per capita (dollars)	6.46	9.75	7.21	2.08	1.87	14.84	4.78
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	38.7	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	136.75	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	7.6	9.1
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	26.86	31.06
Other							
total cost (\$ 000)	0.3	1.4	0.3	7.3	4.9	3.1	3.1
per capita (dollars)	1.02	4.40	0.98	25.34	18.28	10.95	10.58
Total General Operations							
total cost (\$ 000)	27.3	32.1	26.0	38.7	22.3	74.9	47.1
per capita (dollars)	93.20	100.94	85.25	134.38	83.21	264.66	160.76
<u>CAPITAL PROJECTS</u>							
Public Safety (\$ 000)	0.0	0.0	0.0	0.0	10.5	0.0	0.0
Non-Department and General (\$ 000)	0.0	0.0	0.0	0.0	57.9	0.0	0.0
Other Projects (\$ 000)	0.0	0.0	0.0	0.0	0.0	38.7	0.0

(continued)

(Table 2.10A-14, continued)

NEWBOLD TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	17.6	19.8	19.4	23.4	17.7	25.8	27.9
per capita (dollars)	11.88	12.12	11.52	13.07	9.56	13.55	14.02
Public Safety							
total cost (\$ 000)	6.3	3.6	4.3	18.9	26.6	9.3	13.2
per capita (dollars)	4.25	2.20	2.56	10.55	14.36	4.88	6.63
Health and Social Services							
total cost (\$ 000)	0.1	0.1	0.0	0.1	0.1	0.0	0.6
per capita (dollars)	0.07	0.06	0.00	0.06	0.05	0.00	0.30
Transportation							
total cost (\$ 000)	77.9	86.6	78.5	89.0	44.8	132.7	130.1
per capita (dollars)	52.56	53.00	46.62	49.69	24.18	69.70	65.38
Sanitation							
total cost (\$ 000)	2.9	3.5	3.4	4.5	3.0	3.6	4.7
per capita (dollars)	1.96	2.14	2.02	2.51	1.62	1.89	2.36
Conservation and Leisure							
total cost (\$ 000)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.7	0.6	0.00	0.00	0.00	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	4.8	2.8	2.4	17.2	4.7	8.2	9.6
per capita (dollars)	3.24	1.71	1.43	9.60	2.54	4.31	4.82
Total General Operations							
total cost (\$ 000)	109.7	116.5	108.0	153.1	96.9	179.6	186.1
per capita (dollars)	74.02	71.30	64.13	85.48	52.29	94.33	93.51
CAPITAL PROJECTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

PELICAN TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	16.2	17.6	17.7	17.9	13.8	20.6	22.3
per capita (dollars)	5.47	5.73	5.83	5.69	4.31	6.41	6.92
Public Safety							
total cost (\$ 000)	12.0	5.1	4.4	5.4	3.2	6.7	16.7
per capita (dollars)	4.05	1.66	1.45	1.72	1.00	2.08	5.18
Health and Social Services							
total cost (\$ 000)	0.4	0.3	0.1	0.2	0.2	0.0	0.5
per capita (dollars)	0.14	0.10	0.03	0.06	0.06	0.00	0.16
Transportation							
total cost (\$ 000)	73.6	137.4	108.9	95.6	89.9	80.9	166.4
per capita (dollars)	24.85	44.74	35.89	30.37	28.06	25.16	51.67
Sanitation							
total cost (\$ 000)	8.2	11.3	11.1	8.3	6.1	7.2	12.3
per capita (dollars)	2.77	3.68	3.66	2.64	1.90	2.23	3.82
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.4	0.0	0.2	0.2	0.2
per capita (dollars)	0.00	0.00	0.13	0.00	0.06	0.06	0.06
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	2.4
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.75
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	2.5	3.4	3.8	7.9	2.1	4.6	7.1
per capita (dollars)	0.84	1.11	1.25	2.51	0.66	1.43	2.20
Total General Operations							
total cost (\$ 000)	112.9	175.1	146.4	135.3	115.5	120.2	227.9
per capita (dollars)	38.12	57.02	48.25	42.98	36.05	37.39	70.75
<u>CAPITAL PROJECTS</u>							
Other -- Fire house/town hall (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	77.4

(continued)

(Table 2.10A-14, continued)

PIEHL TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	3.0	3.2	3.2	3.9	3.6	4.0	2.8
per capita (dollars)	41.10	38.10	37.21	41.94	37.89	41.67	29.47
Public Safety							
total cost (\$ 000)	0.0	0.0	0.1	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	1.16	0.00	0.00	0.00	0.00
Health and Social Services							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.1	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	1.04	0.00
Transportation							
total cost (\$ 000)	3.5	10.9	19.0	5.9	2.8	5.8	5.7
per capita (dollars)	47.95	129.76	220.93	63.44	29.47	60.42	60.00
Sanitation							
total cost (\$ 000)	0.5	0.5	0.8	0.8	0.0	1.6	0.8
per capita (dollars)	6.85	5.95	9.30	8.60	0.00	16.67	8.42
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	0.2	0.0	0.1	0.1	1.1	1.0	0.7
per capita (dollars)	2.74	0.00	1.16	1.08	11.58	10.42	7.37
Total General Operations							
total cost (\$ 000)	7.2	14.6	23.2	10.7	7.5	12.5	10
per capita (dollars)	98.63	173.81	269.77	115.05	78.94	130.21	105.26
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

PINE LAKE TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	16.5	18.0	18.8	21.8	30.8	26.1	26.2
per capita (dollars)	8.19	8.61	8.68	9.66	13.62	11.26	10.69
Public Safety							
total cost (\$ 000)	2.6	3.1	2.4	4.7	14.1	11.0	20.9
per capita (dollars)	1.29	1.48	1.11	2.08	6.23	4.75	8.53
Health and Social Services							
total cost (\$ 000)	0.2	0.3	0.0	0.1	0.1	0.3	0.1
per capita (dollars)	0.10	0.14	0.00	0.04	0.04	0.13	0.04
Transportation							
total cost (\$ 000)	88.3	98.9	94.1	101.6	56.0	93.3	139.3
per capita (dollars)	43.84	47.30	43.46	45.02	24.76	40.25	56.86
Sanitation							
total cost (\$ 000)	4.5	8.0	6.9	6.3	5.0	6.1	9.5
per capita (dollars)	2.23	3.83	3.19	2.79	2.21	2.63	3.88
Conservation and Leisure							
total cost (\$ 000)	0.3	0.2	0.1	0.9	0.2	0.4	0.3
per capita (dollars)	0.15	0.10	0.05	0.40	0.04	0.17	0.12
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	4.2	0.0	4.3	6.0	5.0	9.2	9.1
per capita (dollars)	2.09	0.00	1.99	2.66	2.21	3.97	3.71
Total General Operations							
total cost (\$ 000)	116.6	128.5	126.6	141.4	111.2	146.4	205.4
per capita (dollars)	57.89	61.45	58.48	62.65	49.16	63.16	83.84
<u>CAPITAL PROJECTS</u>							
Other - fire house/ town hall (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	68.0

(continued)

(Table 2.10A-14, continued)

SCHOEPEKE TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	6.3	6.4	7.4	7.0	6.8	10.7	11.2
per capita (dollars)	16.58	17.25	19.58	17.77	17.80	28.16	29.47
Public Safety							
total cost (\$ 000)	1.7	1.1	2.9	3.7	15.3	6.0	4.0
per capita (dollars)	4.47	2.96	7.67	9.39	40.05	15.79	10.53
Health and Social Services							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.1	0.1	0.1
per capita (dollars)	0.00	0.00	0.00	0.00	0.26	0.26	0.26
Transportation							
total cost (\$ 000)	19.6	15.7	15.8	11.7	9.9	34.6	35.8
per capita (dollars)	51.58	42.32	41.80	29.70	26.91	91.05	94.21
Sanitation							
total cost (\$ 000)	1.3	2.6	0.7	1.2	2.0	5.0	4.1
per capita (dollars)	3.42	7.01	1.85	3.05	5.23	13.16	10.79
Conservation and Leisure							
total cost (\$ 000)	0.2	0.2	0.3	1.4	1.4	1.1	0.6
per capita (dollars)	0.53	0.54	0.79	3.55	3.66	2.89	1.58
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	33.2	0.0	19.2	0.0	0.0	0.0
per capita (dollars)	0.00	89.48	0.00	48.73	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	37.1	4.4	3.4	3.5	3.1
per capita (dollars)	0.00	0.00	98.15	11.17	8.90	9.21	8.16
Other							
total cost (\$ 000)	4.5	3.5	3.8	2.7	2.8	7.2	6.9
per capita (dollars)	11.84	9.43	10.05	6.85	7.33	18.95	18.16
Total General Operations							
total cost (\$ 000)	33.5	62.7	68.0	51.3	41.7	68.2	65.8
per capita (dollars)	88.42	169.00	179.89	130.20	109.16	179.47	173.16
<u>CAPITAL PROJECTS</u>							
Public Safety (\$ 000)	0.0	23.2	0.0	0.0	0.0	0.0	0.0
Non-department and general (\$ 000)	0.0	10.0	0.0	0.0	0.0	0.0	0.0
Constructon and reconstruction (\$ 000)	0.0	0.0	0.0	19.2	0.0	0.0	0.0

(continued)

(Table 2.10A-14, continued)

STELLA TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	4.3	6.5	6.0	6.9	1.9	7.1	6.6
per capita (dollars)	15.19	22.03	19.05	20.47	5.31	19.19	17.14
Public Safety							
total cost (\$ 000)	0.5	0.5	0.7	0.5	0.2	0.6	0.6
per capita (dollars)	1.77	1.69	2.22	1.48	0.56	1.62	1.56
Health and Social Services							
total cost (\$ 000)	0.1	0.1	0.1	0.1	0.0	0.1	0.1
per capita (dollars)	0.35	0.34	0.32	0.30	0.00	0.27	0.26
Transportation							
total cost (\$ 000)	22.5	2.0	24.8	23.7	15.5	23.7	21.1
per capita (dollars)	79.51	6.78	78.73	70.33	43.30	64.05	54.81
Sanitation							
total cost (\$ 000)	0.7	1.2	2.1	1.3	1.6	1.5	1.5
per capita (dollars)	2.47	4.07	78.73	3.86	4.47	4.05	3.90
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.1	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.27	0.00
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	5.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	12.99
Principal and Interest							
total cost (\$ 000)	8.2	0.0	3.8	3.7	3.5	3.4	3.3
per capita (dollars)	28.98	0.00	12.06	10.98	9.78	9.19	8.57
Other							
total cost (\$ 000)	0.8	4.5	3.1	4.6	3.1	4.9	6.0
per capita (dollars)	2.83	15.25	9.84	13.65	8.66	13.24	15.58
Total General Operations							
total cost (\$ 000)	37.1	14.8	40.6	40.8	25.8	41.4	44.2
per capita (dollars)	131.10	50.17	128.89	121.07	72.07	111.89	114.81
<u>CAPITAL PROJECTS</u>							
Other - new adding machines (\$ 000)	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Construction or reconstruction (\$ 000)	0.0	21.8	0.0	0.0	0.0	0.0	0.0
Public Safety (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	16.2

(continued)

(Table 2.10A-14, continued)

SUGAR CAMP TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	12.5	11.7	15.6	16.7	11.7	18.2	22.2
per capita (dollars)	14.03	12.32	15.93	16.45	10.75	15.98	19.08
Public Safety							
total cost (\$ 000)	4.5	8.4	6.6	7.4	6.3	7.7	9.5
per capita (dollars)	5.05	8.84	6.74	7.29	5.79	6.76	8.16
Health and Social Services							
total cost (\$ 000)	0.2	0.3	0.2	0.2	0.2	0.5	0.2
per capita (dollars)	0.22	0.32	0.20	0.20	0.18	0.44	0.17
Transportation							
total cost (\$ 000)	35.8	59.3	73.4	98.1	67.2	133.7	160.0
per capita (dollars)	40.18	62.42	74.97	96.65	61.76	117.38	137.46
Sanitation							
total cost (\$ 000)	3.4	3.3	4.2	4.2	3.9	5.6	5.8
per capita (dollars)	3.82	3.47	4.29	4.14	3.58	4.92	4.98
Conservation and Leisure							
total cost (\$ 000)	0.5	1.0	0.5	1.5	1.5	1.5	1.0
per capita (dollars)	0.56	1.05	0.51	1.48	1.38	1.32	0.86
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	8.4	3.9	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	9.43	4.11	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	6.0	8.3	6.8	9.2	8.6	7.7	11.0
per capita (dollars)	6.73	8.74	6.95	9.06	7.90	6.76	9.45
Total General Operations							
total cost (\$ 000)	71.3	96.2	107.3	137.3	99.4	174.9	209.7
per capita (dollars)	80.02	101.26	109.60	135.27	91.36	153.56	180.15
<u>CAPITAL PROJECTS</u>							
Construction or reconstruction (\$ 000)	28.4	0.0	0.0	0.0	0.0	0.0	0.0
Engineering (\$ 000)	7.5	0.0	0.0	0.0	0.0	0.0	0.0
Public Safety - Fire Department (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.8

(continued)

(Table 2.10A-14, continued)

WOODBORO TOWN

<u>EXPENDITURES</u>	<u>YEAR</u>						
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
General Administration							
total cost (\$ 000)	7.3	8.1	13.9	6.5	6.6	8.7	8.3
per capita (dollars)	27.04	29.24	48.77	20.31	18.86	21.22	18.69
Public Safety							
total cost (\$ 000)	0.1	0.7	0.7	1.3	1.5	3.3	0.8
per capita (dollars)	0.37	2.53	2.46	4.06	4.29	8.05	1.80
Health and Social Services							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.2	0.1	0.1
per capita (dollars)	0.00	0.00	0.00	0.00	0.57	0.24	0.23
Transportation							
total cost (\$ 000)	24.4	12.1	47.9	18.1	20.2	57.5	61.4
per capita (dollars)	90.37	43.68	168.07	56.56	57.71	140.24	138.29
Sanitation							
total cost (\$ 000)	0.6	1.6	3.5	4.7	3.2	5.0	4.6
per capita (dollars)	2.22	5.78	12.28	14.69	9.14	12.20	10.36
Conservation and Leisure							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.23
Capital Projects/Direct Appropriation							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Principal and Interest							
total cost (\$ 000)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
per capita (dollars)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other							
total cost (\$ 000)	0.7	1.7	0.7	0.9	2.3	0.9	1.4
per capita (dollars)	2.59	6.14	2.46	2.82	6.57	2.20	3.15
Total General Operations							
total cost (\$ 000)	33.1	24.2	66.7	31.5	34.0	75.5	76.7
per capita (dollars)	122.59	87.36	234.04	98.44	97.14	184.15	172.75
<u>CAPITAL PROJECTS</u>	0.0	0.0	0.0	0.0	0.0	0.0	0.0

SOURCES

Wisconsin Department of Revenue. Bureau of Local Financial Assistance. 1975-1980. Municipal Resources Provided and Expended. 1973-1978. Bulletins 51, 53, 55, 57, 59 and 61. Madison.

Wisconsin Department of Revenue. 1973-1969. Annual Financial Report Form. 1973-1979. Prepared for Bureau of Local Financial Assistance by each jurisdiction.

Table 2.10A-15

TOWN FACILITIES AND SERVICES SUMMARY

ARGONNE TOWN

POLICE: Constable part-time; Forest County sheriff

FIRE: Volunteer department; twelve volunteers; one truck; town budget and fund raisers; fire rating of 10

STREETS/ROADS: 52 miles maintained; one full-time, one part-time employee; three pieces heavy equipment, one van

SOLID WASTE: Five acre landfill site; one part-time employee; use equipment from street department listed above; four years remaining life expectancy; groundwater contamination potential

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: City of Crandon

RECREATION: None

SCHOOLS: Argonne Elementary, K-7 Grades; Crandon School District

EMS: Contracts with City of Crandon

GENERAL GOVERNMENT: Ten year-old town hall; five part-time employees

BLACKWELL TOWN

POLICE: Forest County sheriff

FIRE: Contracts with Wabeno and Laona

STREET/ROADS: 46.6 miles maintained; contracts with county for maintenance needs

SOLID WASTE: Five acre federally owned landfill site also used by Job Corps and federal camp grounds in Forest County; pays Laona Town \$100 per month for collection; planning to use Laona landfill; Laona paid to operate landfill; one year remaining life expectancy

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Wabeno and Laona

RECREATION: None

(continued)

(Table 2.10A-15, continued)

SCHOOLS: Laona and Wabeno School Districts
EMS: Contracts with Wabeno and Laona for \$500.00 per year
GENERAL GOVERNMENT: Ten year-old town hall; five part-time employees

CASWELL TOWN

POLICE: Forest County sheriff
FIRE: Contracts with Laona for the cost of \$300.00-\$500.00 per year
STREETS/ROADS: 12.6 miles maintained; contracts with county and private firms for maintenance
SOLID WASTE: Five acre landfill site; county maintains site, state dumps wayside trash on small contract basis (\$250.00 per annum); wetland contamination problem; four year remaining life expectancy
WATER: Individual wells
WASTEWATER: Septic tank systems
LIBRARY: Laona and city of Crandon
RECREATION: None
SCHOOLS: Laona School District
EMS: Contracts with Laona for \$50.00 per year
GENERAL GOVERNMENT: Two year-old town hall; four part-time employees

CRANDON TOWN

POLICE: Forest County sheriff
FIRE: Contracts with city of Crandon for periodic contributions
STREETS/ROADS: 32 miles maintained; two part-time employees; private contracts for major maintenance projects; three pieces of heavy equipment

(continued)

(Table 2.10A-15, continued)

SOLID WASTE: Five acre landfill site; uses front-end loader from street department; serves only town of Crandon; one part-time employee; six to seven years remaining life expectancy; problems with adequate covering of site

WATER: Individual wells

WASTEWATER: Septic tank system

LIBRARY: City of Crandon

RECREATION: None

SCHOOLS: Crandon Elementary and Jr./Sr. High in city of Crandon; Crandon School District

EMS: Contracts with city of Crandon for periodic contributions

GENERAL GOVERNMENT: Town hall (old school); four part-time employees

FREEDOM TOWN

POLICE: Constable part-time using own vehicle; Forest County sheriff

FIRE: Contracts with Wabeno for \$1,000 per year

STREETS/ROADS: 35 miles maintained; one full-time employee; two pieces heavy equipment; contracts for maintenance projects with private firms

SOLID WASTE: Contracts for use of Wabeno landfill; contributes to operation costs

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Wabeno

RECREATION: None

SCHOOLS: Wabeno School District

EMS: Contracts with Wabeno for a user charge and periodic contribution for equipment

GENERAL GOVERNMENT: Forty-five year old town hall; four part-time employees

(continued)

(Table 2.10A-15, continued)

HILES TOWN

POLICE: Forest County sheriff

FIRE: Volunteer department; one truck, one pumper; 35 volunteers, 18 calls per year; station is in town hall; serves Hiles Town only; \$2,000 town budget (1979) and fund raisers; fire rating of 10

STREET/ROADS: 105 miles maintained (1/2 blacktop); two full-time employees; two part-time employees; 5 pieces heavy equipment

SOLID WASTE: One acre landfill site; two full-time employees, one part-time; one piece of heavy equipment, with two more budgeted; 5 years remaining life expectancy; no modification orders

WATER: Individual wells

WASTEWATER: Septic tank system

LIBRARY: Three Lakes and city of Crandon

RECREATION: Swimming beach and tennis court

SCHOOLS: Crandon and Three Lakes School Districts

EMS: Contracts with city of Crandon

GENERAL GOVERNMENT: Eleven year-old town hall; four part-time employees

LINCOLN TOWN

POLICE: Forest County sheriff

FIRE: Contracts with city of Crandon for \$750.00 per year plus hourly rates

STREETS/ROADS: 75 miles maintained; two full-time employees, variable part-time; five pieces heavy equipment; private contracts for major maintenance projects

SOLID WASTE: 15 acre landfill site; one part-time employee; street equipment used for operation; Crandon School District uses site; uses a burning cage but has air quality problem; no modification order

WATER: Individual wells

WASTEWATER: Septic tank system

LIBRARY: City of Crandon

(continued)

(Table 2.10A-15, continued)

RECREATION: None

SCHOOLS: Crandon School District

EMS: Contracts with city of Crandon

GENERAL GOVERNMENT: Twenty-five year-old town hall; four part-time employees

NASHVILLE TOWN

POLICE: Forest County sheriff

FIRE: Nashville Volunteer Department; 27 volunteers; two pumpers, one tank truck, one equipment van; 15 year-old station; 12 calls per year; annual budget includes \$800.00 from Langlade, \$2,500 from Ainsworth, and other donations; serves lower half of Nashville, Ainsworth, and Langlade towns; fire rating is 10

STREETS/ROADS: 69 miles maintained, two full-time employees, one part-time snow plowing; four pieces heavy equipment

SOLID WASTE: Two landfill sites, five acres at Pickerel Lake and 40 acres north; one part-time employee; uses equipment from street department, town of Langlade uses south site; unprotected fire hazard problems

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: City of Crandon and Wabeno

RECREATION: None

SCHOOLS: Mole Lake Elementary; Crandon School District

EMS: Ambulance at fire station; seven certified volunteer personnel; hospitals located in Antigo 20-30 minutes and Rhinelander 45-60 minutes; maintains state standards for emergency equipment

GENERAL GOVERNMENT: New town hall; four part-time employees

POPPLE RIVER TOWN

POLICE: Forest County sheriff

FIRE: Contracts with Long Lake

(continued)

(Table 2.10A-15, continued)

STREETS/ROADS: 27 miles maintained, 15 blacktop; five part-time employees; three pieces heavy equipment; contracts for major maintenance with private firms

SOLID WASTE: Contracts with Ross for \$450.00 per year user fee

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Laona and city of Crandon

RECREATION: None

SCHOOLS: Laona School District

EMS: Contracts with Laona with county subsidy

GENERAL GOVERNMENT: Fifty year-old town hall; four part-time employees

ROSS TOWN

POLICE: Constable, part-time; Forest County sheriff

FIRE: Ross Volunteer Fire Department, 21 volunteers; one pump/tanker, one truck; new station in Newald; serves only Ross Township; town and fund raisers; fire rating is 10

STREETS/ROADS: 17 miles maintained, two blacktop; hire part-time employees as needed; one truck, one grader, major maintenance with private firms

SOLID WASTE: 1.5 acre landfill site; one part-time employee; Popple River, Long Lake, and Tippler contract for use of landfill; Long Lake provides bulldozer for site maintenance; four year remaining life expectancy; watch for wetland encroachment

WATER: Individual wells

WASTEWATER: Septic tank system

LIBRARY: Laona and city of Crandon

RECREATION: None

SCHOOLS: Laona School District

EMS: Contracts with Laona

GENERAL GOVERNMENT: 70 year-old town hall in Newald; four part-time employees

(continued)

(Table 2.10A-15, continued)

ACKLEY TOWN

POLICE: Langlade County sheriff

FIRE: Part of three-town (Ackley, Neva, and Rolling) Volunteer Fire Department; 25 volunteers: two pumpers, one tanker; towns assessed share on basis of equalized valuation; station is in Antigo; three-four personnel always on standby; 20 calls per year; fire rating is 10

STREETS/ROADS: 34 miles maintained; contracts with county for maintenance

SOLID WASTE: Contracts with city of Antigo

WATER: Individual wells

WASTEWATER: Septic tank system

LIBRARY: City of Antigo

RECREATION: None

SCHOOLS: Antigo School District

EMS: Contracts with Crawford service in city of Antigo

GENERAL GOVERNMENT: 78 year-old town hall; four part-time employees

AINSWORTH TOWN

POLICE: Langlade County sheriff

FIRE: Contracts with Langlade located in Pickerel

STREETS/ROADS: 39 miles maintained, all blacktop; two part-time employees; one dump truck with plow; contracts for major maintenance with private firms

SOLID WASTE: One acre landfill site; contracts with private firms for collection and site maintenance; no modification orders; covering confinement problem

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Antigo branch in Pickerel

RECREATION: None

SCHOOLS: Elcho School District

(continued)

(Table 2.10A-15, continued)

EMS: Contracts with Pickerel in Langlade Town

GENERAL GOVERNMENT: 40 year-old school used as town hall; four part-time employees

ANTIGO TOWN

POLICE: Constable, part-time; Langlade County sheriff

FIRE: Volunteer Department; 40 volunteers; three pumpers, one van; 60 calls per year; serves Polar and Price by contract; located in Antigo; four year-old station; town budget and fund raisers; fire rating is 10

STREETS/ROADS: 44 miles maintained (90 percent blacktop); contracts with the county for major maintenance

SOLID WASTE: Contracts with city of Antigo for use of landfill site

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: City of Antigo

RECREATION: None

SCHOOLS: Four Elementary and one Jr./Sr. High; Antigo School District

EMS: Contracts with Crawford service in city of Antigo

GENERAL GOVERNMENT: Four year-old town hall combined with fire station; four part-time employees

EVERGREEN TOWN

POLICE: Langlade County sheriff

FIRE: Contracts with village of White Lake

STREETS/ROADS: 30 miles maintained; contracts with county for maintenance

SOLID WASTE: Ten acre landfill site, one part-time employee; no modification orders

WATER: Individual wells

WASTEWATER: Septic tank system

LIBRARY: City of Antigo Branch in Elton

(continued)

(Table 2.10A-15, continued)

RECREATION: None

SCHOOLS: White Lake School District

EMS: Contracts with Crawford service in city of Antigo

GENERAL GOVERNMENT: 70 year-old school used as town hall; four part-time employees

LANGLADE TOWN

POLICE: Constable, part-time; Langlade County sheriff

FIRE: Volunteer department, 14 volunteers; one pumper with two auxiliary pumps for lakes; 15 calls per year; cooperative agreement with Wolf River; located in Pickerel; town budget and fund raisers; fire rating is 10

STREETS/ROADS: 16 miles maintained; contracts with county for maintenance

SOLID WASTE: Contracts with Nashville town for use of landfill site

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: City of Antigo branch in Pickerel

RECREATION: Lake Harper, picnic/beach area; Pickerel, ball diamond; Turtle Lake, boat landing/picnic area

SCHOOLS: Lily Elementary; Antigo and White Lake School Districts

EMS: Ambulance located in Pickerel; two certified personnel; cooperative agreement with White Lake Village

GENERAL GOVERNMENT: Old town hall in Lily, four part-time employees

NEVA TOWN

POLICE: Langlade County sheriff

FIRE: Volunteer department combined with Rolling and Ackley towns; 38 volunteers; "Rural Fire Control" located in Antigo; one pumper, two hook and ladders with tanks, Six by Six truck with generator; emergency phone in sheriff's department; town budgets and fund raisers; fire rating is 10

(continued)

(Table 2.10A-15, continued)

STREETS/ROADS: 28.4 miles maintained; contracts with county for maintenance

SOLID WASTE: Ten acre landfill site; one part-time employee; serves Neva only; contracts for cover and grading; potential groundwater problem; anticipated closure in 1980

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: City of Antigo

RECREATION: None

SCHOOLS: Antigo School District

EMS: Contracts with Crawford service in city of Antigo

GENERAL GOVERNMENT: 40 year-old town hall; four part-time employees

NORWOOD TOWN

POLICE: Constable, part-time; Langlade County sheriff

FIRE: Volunteer department operationalized in 1978; 40 volunteers; three year-old station in Phlox; 8-10 calls per year; two pumpers, one tanker; town budget and fund raiser; fire rating is 10

STREETS/ROADS: 41.2 miles maintained (75 percent blacktop); one part-time employee; two pieces heavy equipment; contracts with private firms for maintenance

SOLID WASTE: Five acre landfill site; one part-time employee; contracts for covering; no modification orders; used only by Norwood Town

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: City of Antigo

RECREATION: Ball park with concession stand; a swimming and fishing area

SCHOOLS: Crestwood Elementary; Antigo School District; St. Joseph's Parochial in Phlox

EMS: Contracts with Crawford service in city of Antigo; four emergency medical technicians in town

GENERAL GOVERNMENT: Three year-old town hall (combined with fire station); four part-time employees

(continued)

(Table 2.10A-15, continued)

PARRISH TOWN

Police: Langlade County sheriff

FIRE: Contracts with Gleason (out of study area)

STREETS/ROADS: 10.8 miles maintained; contracts with county for maintenance

SOLID WASTE: Five acre landfill site; one part-time employee; one end-loader; contracts for cover work

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Elcho

RECREATION: None

SCHOOLS: Rhinelander School District

EMS: Contracts with Elcho

GENERAL GOVERNMENT: 65 year-old town hall; four part-time employees

PECK TOWN

POLICE: Langlade County sheriff

FIRE: Peck Volunteer Fire Department; 26 volunteers; one pumper, one tanker; three calls per year; located next to town hall on Highway C in two year-old building; town budget and fund-raisers; fire rating is 10

STREETS/ROADS: 34 miles maintained; contracts with county for maintenance

SOLID WASTE: Five acre landfill site; one part-time employee; serves Peck Town only

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: City of Antigo

RECREATION: None

(continued)

(Table 2.10A-15, continued)

SCHOOLS: River Grove Elementary; Antigo School District
EMS: Contracts with Crawford service in city of Antigo
GENERAL GOVERNMENT: 40 year-old town hall; four part-time employees

POLAR TOWN

POLICE: Constable, part-time; Langlade County sheriff
FIRE: Contracts with Antigo town
STREETS/ROADS: 47.5 miles maintained; contracts with county for maintenance
SOLID WASTE: Ten acre landfill site; one part-time attendant; site fill work is contracted to private firm; serves only Polar Town; no modification orders
WATER: Individual wells
WASTEWATER: Septic tank systems
LIBRARY: City of Antigo and Elton Branch
RECREATION: Park beach with beach house, picnic areas (in center of township, off Highway 64), one part-time employee; maintained in summer
SCHOOLS: Antigo School District
EMS: Contracts with Crawford service in city of Antigo
GENERAL GOVERNMENT: Old school for town hall 1½ miles west of village of Polar; four part-time employees

PRICE TOWN

POLICE: Langlade County sheriff
FIRE: Contracts with Antigo township for \$3,700.00 per year
STREETS/ROADS: 27 miles maintained; contracts with county for maintenance
SOLID WASTE: Five acre landfill site, one part-time employee
WATER: Individual wells

(continued)

(Table 2.10A-15, continued)

WASTEWATER: Septic tank systems

LIBRARY: City of Antigo

RECREATION: None

SCHOOLS: Antigo School District

EMS: Contracts with Crawford service in city of Antigo

GENERAL GOVERNMENT: Old church for town hall in Bryant; five part-time employees

ROLLING TOWN

POLICE: Langlade County sheriff

FIRE: Towns of Rolling, Ackley, and Neva have a combined department located in Antigo town; town budgets and fund raisers; fire rating is 10

STREETS/ROADS: 48 miles maintained; contracts with county for maintenance

SOLID WASTE: Uses city of Antigo landfill site free of charge, with its location in Rolling

WATER: Individual wells

WASTEWATER: Septic tank system

LIBRARY: City of Antigo

RECREATION: None

SCHOOLS: Pleasant View Elementary, Grades 1-8; Antigo School District

EMS: Contracts with Crawford service in city of Antigo

GENERAL GOVERNMENT: 50 year-old school for town hall; four part-time employees

UPHAM TOWN

POLICE: Langlade County sheriff

FIRE: Contracts with Elcho

STREETS/ROADS: 48 miles maintained; contracts with county for maintenance

SOLID WASTE: Three acre landfill site; one part-time employee; no modification orders

WATER: Individual wells

(continued)

(Table 2.10A-15, continued)

WASTEWATER: Septic tank systems

LIBRARY: Antigo Branch in Elcho

RECREATION: None

SCHOOLS: Elcho and Antigo School Districts

EMS: Contracts with Elcho and Crawford service in city of Antigo

GENERAL GOVERNMENT: 30 year-old town hall in Deerbrook; four part-time employees

WOLF RIVER TOWN

POLICE: Constable, part-time; Langlade County sheriff

FIRE: Volunteer department; 35 volunteers; three pumpers, one jeep truck, one portable tank; station near White Lake Village; separate garage provided by Wolf River Town; ten calls per year; funds provided by Wolf River Town, fund raisers and hourly rates; fire rating is 10

STREETS/ROADS: 68 miles maintained (36 blacktop); one full-time, one part-time employee; four pieces heavy equipment; contracts for maintenance with private firms

SOLID WASTE: One acre landfill site, 40 additional acres available; one part-time employee; serves Wolf River Town; no modification orders

WATER: Individual wells (except for White Lake Village)

WASTEWATER: Septic tank system (except for White Lake Village)

LIBRARY: Antigo Branch in White Lake Village, Pickerel, and Elton

RECREATION: None

SCHOOLS: White Lake School District

EMS: Wolf River and White Lake Village share cost of EMS equipment; approximate run time of 30 minutes to Antigo Hospital; ten EMT personnel (volunteer); located in White Lake Village

GENERAL GOVERNMENT: Old town hall; four part-time employees

(continued)

(Table 2.10A-15, continued)

CRESCENT TOWN

POLICE: Constable, part-time; Oneida County sheriff

FIRE: Volunteer Fire Department; 25 volunteers; two pumpers, one tanker; seven year-old station; 14 calls per year; serves Crescent Town; town budget and fund raisers; fire rating is 9

STREETS/ROADS: 49 miles maintained, one full-time employee; two trucks with plow blades, end-loader, grader, tractor

SOLID WASTE: Nine acre landfill site; two part-time employees; use road equipment for site maintenance; serves Crescent Town; ground-water monitoring; no modification orders

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Rhinelander

RECREATION: None

SCHOOLS: Crescent Elementary; Rhinelander School District

EMS: Contracts with Oneida County through St. Mary's; Rhinelander station is closest

GENERAL GOVERNMENT: No town offices, work out of homes; four part-time employees

ENTERPRISE TOWN

POLICE: Oneida County sheriff

FIRE: Contracts with Schoepke Town

STREETS/ROADS: 13.5 miles maintained; contracts with county for maintenance

SOLID WASTE: Six acre landfill site; one part-time employee; no modification orders

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Elcho and Rhinelander

RECREATION: Baseball field and playground equipment on grounds of community center; dock for public access to Pelican Lake

SCHOOLS: Elcho Public School, Grades K-12; Elcho School District

(continued)

(Table 2.10A-15, continued)

EMS Contracts with Oneida County through St. Mary's; Pelican Lake and Rhinelander are closest

GENERAL GOVERNMENT: 60 year-old town hall; four part-time employees

LAKE TOMAHAWK TOWN

POLICE: Constable, part-time; Oneida County sheriff

FIRE: Volunteer Fire Department; 33 volunteers; two pumpers, two tankers, rescue van; ten calls per year; 20 year-old station in Lake Tomahawk Town; town budget and fund raisers; fire rating is 9

STREETS/ROADS: 69 miles maintained blacktop and gravel; three full-time employees; contracts for major maintenance with private firms; two trucks, end-loader, grader, mower, bull dozer

SOLID WASTE: Site closed due to surface water problems; uses Oneida County landfill on fee basis

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Minocqua and Rhinelander

RECREATION: Community center

SCHOOLS: Lakeland - Minocqua School District; outside study area

EMS: Contracts with Oneida County; St. Mary's Rhinelander station services southern portion of town; Howard Young Medical Center in Woodroff serves northern portion of town

GENERAL GOVERNMENT: Eight year-old town hall; four part-time employees

MONICO TOWN

POLICE: Oneida County sheriff

FIRE: Monico Volunteer Department; 21 volunteers; one 750 gallon pumper two year-old town hall/fire department in Monico Town; four calls per year; serves Monico Town only; town budget, fund raisers; fire rating is 10

STREETS/ROADS: 22 miles maintained (5 blacktop); contracts with county for maintenance

(continued)

(Table 2.10A-15, continued)

SOLID WASTE: Site closed due to groundwater problem; uses Oneida County landfill; billing based on tonnage

WATER: Individual wells

WASTEWATER: Septic tank system

LIBRARY: Rhinelander and Three Lakes

RECREATION: None

SCHOOLS: Three Lakes School District

EMS: Contracts with Oneida County through St. Mary's; Rhinelander Station is closest

GENERAL GOVERNMENT: Two year-old town hall/fire department; four part-time employees

NEWBOLD TOWN

POLICE: Constable, part-time; Oneida County sheriff

FIRE: Newbold Volunteer Fire Department; 32 volunteers; two stations, one six miles north of Rhinelander, one in Brown Lake, both five years-old; 64 calls per year; two pumpers, one equipment van, one tanker, one tank/pump; town budget and fund raisers; fire rating is 10

STREETS/ROADS: 106 miles (60 percent blacktop); three full-time employees; two dump trucks, front-end loader, grader, tractor, truck

SOLID WASTE: Three acre landfill site; one part-time employee; serves Newbold Town; site maintained with road maintenance equipment; potentially high groundwater in area; no modification orders

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Rhinelander

RECREATION: None

SCHOOLS: Newbold Elementary; Rhinelander and Northland Pines School District

EMS: Contracts with Oneida County; St. Mary's Rhinelander station services southern portion of town; Howard Young Medical Center in Woodruff services northern portion of town

GENERAL GOVERNMENT: 20 year-old town hall; four part-time employees

(continued)

(Table 2.10A-15, continued)

PELICAN TOWN

POLICE: Constable, part-time; Oneida County sheriff

FIRE: Pelican Volunteer Fire Department; 30 volunteers; 30 calls per year; new station; one pumper, two tankers, one equipment van; town budget and fund raisers; fire rating is 9

STREETS/ROADS: 70 miles maintained (75 percent blacktop); three full-time employees; three trucks with plow blades, grader, end-loader

LANDFILL: Site closed in 1979 due to pollution problem; use Oneida County

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Rhinelander

RECREATION: None

SCHOOLS: Pelican Elementary; Rhinelander School District

EMS: Contracts with Oneida County through St. Mary's; Rhinelander station is closest

GENERAL GOVERNMENT: New town hall; four part-time employees

PIEHL TOWN

POLICE: Oneida County sheriff

FIRE: Contracts with Stella Town

STREETS/ROADS: 14.5 miles maintained; contracts with county for maintenance

SOLID WASTE: Contracts with Stella Town

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Rhinelander and Three Lakes Town

RECREATION: None

SCHOOLS: Three Lakes School District

EMS: Contracts with Oneida County through St. Mary's; Three Lakes and Rhinelander stations are closest

GENERAL GOVERNMENT: 60 year-old town hall; four part-time employees

(continued)

(Table 2.10A-15, continued)

PINE LAKE TOWN

POLICE: Constable, part-time; Oneida County sheriff

FIRE: Pine Lake Volunteer Fire Department; new station/town hall; 32 volunteers; 50 calls per year; two tankers, two pumpers, one equipment van; serves Pine Lake Town; town budget and fund raisers; fire rating is 10

STREETS/ROADS: 70 miles maintained (55 blacktop); four full-time and two part-time employees; one grader, one end-loader, four trucks

SOLID WASTE: Landfill closed on Department of Natural Resources order due to groundwater problem; use Oneida County landfill

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: City of Rhinelander

RECREATION: Baseball youth leagues

SCHOOLS: Pine Lake Elementary; Rhinelander School District

EMS: Contracts with Oneida County through St. Mary's; Rhinelander station is closest

GENERAL GOVERNMENT: New town hall/fire department; four part-time employees

SCHOEPKE TOWN

POLICE: Constable, part-time; Oneida County sheriff

FIRE: Schoepke Volunteer Fire Department located in Pelican Lake; 22 volunteers; one pumper, one tanker, one truck; five year-old station services Enterprise Town on contract basis; town budget, fees, fund raisers and contracts

STREETS/ROADS: 32 miles maintained; contracts with county and private firms for maintenance

SOLID WASTE: Two acre landfill site just closed on order by Department of Natural Resources due to groundwater problem; no plans for new site; private collector takes to county or Antigo

WATER: Individual wells

WASTEWATER: Septic tank systems

Library: Elcho and Rhinelander

(continued)

(Table 2.10A-15, continued)

RECREATION: None

SCHOOLS: Elcho School District

EMS: Contracts with Oneida County through St. Mary's Hospital; station in Pelican Lake; 12 EMT volunteer personnel

GENERAL GOVERNMENT: 50 year old-town hall in Pelican Lake; four part-time employees

STELLA TOWN

POLICE: Constable, part-time; Oneida County sheriff.

FIRE: Stella Volunteer Fire Department; 23 volunteers; six calls per year; ten year-old department in Starks; one truck, one van, one tanker with portable pumper; provides service to Piehl Town on contract basis; town budget, contracts and fund raisers; fire rating is 10

STREETS/ROADS: 38.5 miles maintained; contracts with county for maintenance

SOLID WASTE: 40 acre site; one part-time employee; no modification order

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Rhinelander

RECREATION: None

SCHOOLS: Rhinelander School District

EMS: Contracts with County through St. Mary's Hospital; Rhinelander station is closest

GENERAL GOVERNMENT: Ten year-old town hall; four part-time employees

SUGAR CAMP TOWN

POLICE: Constable, part-time; Oneida County sheriff

FIRE: Sugar Camp Volunteer Fire Department; 25 volunteers; two pumpers; 30 calls per year; ten year-old station; town budget and fund raisers; fire rating is 10

STREETS/ROADS: 70 miles maintained; three full-time employees, part-time on call for plowing; one grader, one end-loader, four trucks

(continued)

(Table 2.10A-15, continued)

SOLID WASTE: Two pit type landfill sites of ten acres total; three monitoring wells; one part-time employee; use road equipment for site maintenance; one site is ordered closed due to groundwater problems; second site needs regular covering; a new site is being constructed

WATER: Individual wells

WASTEWATER: Septic tank systems

LIBRARY: Rhinelander and Three Lakes

RECREATION: Contributes to area youth clubs

SCHOOLS: Sugar Camp Elementary; Three Lakes School District

EMS: County ambulance in Sugar Camp Fire Department; nine certified EMS personnel; runs to Rhinelander in 20 minutes, Eagle Park in 20 minutes and Woodruff in 30 minutes

GENERAL GOVERNMENT: 18 year-old town hall; four part-time employees

WOODBORO TOWN

POLICE: Constable, part-time; Oneida County sheriff

FIRE: Contracts with Cassian Town (outside study area)

STREETS/ROADS: 46 miles maintained; county for maintenance

SOLID WASTE: Two five-acre landfill sites; two part-time employees; contract for site maintenance; no modification orders; town budget

WATER: Individual wells

WASTEWATER: Septic tank system

LIBRARY: Rhinelander

RECREATION: None

SCHOOLS Rhinelander School District

EMS: Contracts with county through St. Mary's Hospital; Cassian and Rhinelander stations are closest

GENERAL GOVERNMENT: Old town hall; four part-time employees

(continued)

(Table 2.10A-15, continued)

SOURCES

Ackley Town. August 22, 1980. Personal Communication, Terry Koss, Emergency Medical Technician.

Ackley Town. August 19, 1980. Personal Communication, Dick Rasmussen, Fire Chief.

Ackley Town. August 15, 1980. Personal Communication, Mrs. John Baginski, Town Clerk.

Ainsworth Town. August 15, 1980. Personal Communication, Mrs. Harlen Girtz, Town Clerk.

Antigo Town. August 22, 1980. Personal Communication, Sue Berg, Town Clerk.

Antigo Town. August 22, 1980. Personal Communication, Stephen Koss, Constable.

Antigo Town. August 22, 1980. Personal Communication, Vilas Neigenfind, Supervisor.

Antigo Town. August 22, 1980. Personal Communication, Bill Van Dorf, Fire Chief.

Argonne Town. August 22, 1980. Personal Communication, Joe Gryczkowski, Town Chairman.

Argonne Town. August 19, 1980. Personal Communication. Virginia Brass, Town Clerk.

Blackwell Town. August 21, 1980. Personal Communication, Lavenia Novak, Town Clerk.

Caswell Town. August 20, 1980. Personal Communication, Fred Gast, Town Supervisor.

Crandon Town. August 21, 1980. Personal Communication, Homer Rosa, Town Supervisor.

Crescent Town. August 19, 1980. Personal Communication, Joseph Mahner, Fire Volunteer.

Crescent Town. August 19, 1980. Personal Communication, Harold Walti, Town Clerk.

Enterprise Town. August 18, 1980. Personal Communication, Fred Feller, Town Chairman.

Enterprise Town. August 18, 1980. Personal Communication, Mary Ladwig, Town Clerk.

(continued)

(Table 2.10A-15, continued)

Evergreen Town. August 21, 1980. Personal Communication, Frank Muraski, Town Supervisor.

Freedom Town. August 20, 1980. Personal Communication, John Harter, Town Chairman.

Freedom Town. August 20, 1980. Personal Communication, Bernice Schreiber, Town Clerk.

Hiles Town. August 18, 1980. Personal Communication, William Dixon, Town Chairman.

Lake Tomahawk Town. August 19, 1980. Personal Communication, Bill Kuckkan, Fire Chief.

Lake Tomahawk Town. August 14, 1980. Personal Communication, Beverly Fagan, Town Clerk.

Langlade Town. August 15, 1980. Personal Communication, Charles Ebel, Town Treasurer.

Langlade Town. August 15, 1980. Personal Communication, Julian Tamel, Town Chairman.

Langlade Town. August 15, 1980. Personal Communication, Claude Wells, Fire Chief.

Lincoln Town. August 20, 1980. Personal Communication, Sandra Carter, Town Clerk.

Monico Town. August 18, 1980. Personal Communication, Don Stamphl, Fire Chief.

Monico Town. August 15, 1980. Personal Communication. Rudy Pederson, Town Chairman.

Monico Town. August 15, 1980. Personal Communication. Julia Ruden, Town Clerk.

Nashville Town. August 22, 1980. Personal Communication, John Cook, Fire Chief.

Nashville Town. August 19, 1980. Personal Communication, Carol Marquardt, Town Clerk.

Nashville Town. August 19, 1980. Personal Communication, John Schallock, Town Chairman.

Neva Town. August 20, 1980. Personal Communication, George Schmurtzer, Town Chairman.

Newbold Town. August 21, 1980. Personal Communication, Earl Brown, Fire Chief.

(continued)

(Table 2.10A-15, continued)

Newbold Town. August 21, 1980. Personal Communication, Carl Liebert,
Town Clerk.

Newbold Town. August 21, 1980. Personal Communication, Richard Ludgatis,
Town Chairman.

Norwood Town. August 22, 1980. Personal Communication, Tony Koss, EMS
Technician.

Norwood Town. August 19, 1980. Personal Communication, Eugene Kamps,
Town Chairman.

Norwood Town. August 19, 1980. Personal Communication, Norbert Waldvogel,
Fire Chief.

Norwood Town. August 18, 1980. Personal Communication, Douglas Washatko,
Town Constable.

Norwood Town. August 15, 1980. Personal Communication, Mildred Jansen,
Town Clerk.

Parrish Town. August 19, 1980. Personal Communication, Chester Hollands,
Town Chairman.

Parrish Town. August 15, 1980. Personal Communication, Leslie Brendemihl,
Town Clerk.

Peck Town. August 20, 1980. Personal Communication, Ken Shadick, Town
Chairman.

Peck Town. August 20, 1980. Personal Communication, Mrs. Ken Shadick, Town
Clerk.

Pelican Town. August 19, 1980. Personal Communication, Ken Gardner, Town
Clerk.

Pelican Town. August 19, 1980. Personal Communication, Harry Lassig, Town
Chairman.

Pelican Town. August 19, 1980. Personal Communication, Martin Nelson, Town
Constable.

Piehl Town. August 20, 1980. Personal Communication, John Harkins, Town Clerk.

Pine Lake Town. August 21, 1980. Personal Communication, Jim Berard, Town
Clerk.

Pine Lake Town. August 19, 1980. Personal Communication. Jim Smoczak,
Fire Chief.

(continued)

(Table 2.10A-15, continued)

Polar Town. May 22, 1981; August 18, 1980. Personal Communication, Leona Groth, Town Clerk.

Polar Town. August 18, 1980. Personal Communication, Carl Groth, Town Constable.

Popple River Town. August 21, 1980. Personal Communication, Eugene Lemerande, Town Chairman.

Popple River Town. August 20, 1980. Personal Communication, Joyce Perenick, Town Clerk.

Price Town. August 22, 1980. Personal Communication, Mrs. Eugene Schlundt, Town Clerk.

Price Town. August 22, 1980. Personal Communication, Carl Thiede, Town Chairman.

Rolling Town. August 22, 1980. Personal Communication, Ken Husnick, Town Clerk.

Ross Town. August 22, 1980. Personal Communication, Peter Brunette, Town Supervisor.

Ross Town. August 22, 1980. Personal Communication, Jerry Huepf, Fire Chief.

Ross Town. August 22, 1980. Personal Communication, Ray Bonestee, Town Clerk.

Ross Town. August 21, 1980. Personal Communication, Gerald Albrecht, Town Constable.

Schoepke Town. August 15, 1980. Personal Communication, Conrad Zander, Town Chairman.

Stella Town. August 22, 1980. Personal Communication, Melvin Rominsky, Town Supervisor.

Stella Town. August 18, 1980. Personal Communication, Jerome Kuczmariski, Town Supervisor.

Stella Town. August 17, 1980. Personal Communication, Larry Schinke, Town Constable.

Stella Town. August 15, 1980. Personal Communication, Jean Fish, Town Clerk.

Sugar Camp Town. August 15, 1980. Personal Communication, Dennis Dart, Town Supervisor.

Sugar Camp Town. August 15, 1980. Personal Communication, Tony Lorbetske, Town Chairman.

(continued)

(Table 2.10A-15, continued)

Sugar Camp Town. August 15, 1980. Personal Communication, Bruce Pratz, Town Clerk.

Upham Town. August 22, 1980. Personal Communication, Otto Raith, Town Chairman.

Upham Town. August 22, 1980. Personal Communication, Mrs. Jan Wagner, Town Clerk.

Wisconsin Department of Natural Resources. July, 1980. Solid Waste Management. Madison.

Wisconsin Department of Public Instruction. 1979. Unpublished file data on each school district. Madison.

Wolf River Town. August 22, 1980. Personal Communication, Roger Maas, Town Chairman.

Wolf River Town. August 22, 1980. Personal Communication, John Mireault, EMS Technician.

Wolf River Town. August 21, 1980. Personal Communication, Les Elst, Town Clerk.

Wolf River Town. August 19, 1980. Personal Communication, Ron Houfek, Fire Chief.

Wolf River Town. August 19, 1980. Personal Communication, Leonard Steckbauer, Town Constable.

Woodboro Town. August 18, 1980. Personal Communication, Nancy Holmes, Town Clerk.

Woodboro Town. August 18, 1980. Personal Communication, Clarence Reader, Town Chairman.

Table 2.10A-16

SCHOOL DISTRICT EXPENDITURES
CRANDON SCHOOL DISTRICT

Resources	Year								
	1971	1972	1973	1974	1975	1976	1977	1978	1979 ^a
Salary costs (including fringe benefits) (\$ 000)	524.5	563.8	542.0	610.6	647.1	684.8	718.6	795.3	882.8
Expenditures for materials and supplies (\$ 000)	24.4	31.0	22.8	17.4	26.7	27.2	41.7	47.9	66.6
Operation and maintenance costs of bus program, including personnel (\$ 000)	57.9	62.7	71.3	72.5	90.5	84.5	103.8	97.9	118.0
Expenditures for utilities (\$ 000)	28.1	32.8	36.2	38.8	54.4	65.1	78.3	79.8	89.9
Expenditures for equipment (\$ 000)	13.0	5.0	6.1	5.7	6.7	8.3	9.6	5.2	6.2
Other expenditures (\$ 000)	109.7	101.4	128.5	168.3	217.0	249.8	247.0	334.2	277.3
Total expenditures (\$ 000)	757.6	796.7	806.9	913.3	1,042.4	1,119.7	1,199.0	1,360.3	1,440.8
Total expenditures per pupil (dollars)	731.98	727.58	836.36	844.09	934.89	1,026.31	1,130.06	1,279.68	1,352.86

NOTE

^a Figures do not include expenditures for students sent to Iron River, Michigan School District

(continued)

(Table 2.10A-16, continued)

LAONA SCHOOL DISTRICT

<u>Resources</u>	<u>Year</u>								
	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salary costs (including fringe benefits) (\$ 000)	281.8	308.2	321.3	345.8	382.0	413.0	471.4	495.5	514.5
Expenditures for materials and supplies (\$ 000)	20.1	17.6	24.2	23.9	30.7	34.0	42.8	50.1	33.2
Operation and maintenance costs of bus program, including personnel (\$ 000)	20.6	19.0	30.8	32.1	28.6	40.1	54.5	35.7	54.9
Expenditures for utilities (\$ 000)	13.6	14.7	16.0	19.0	26.1	27.6	33.0	38.4	38.4
Expenditures for equipment (\$ 000)	3.8	4.4	2.1	3.3	2.6	3.3	4.0	1.0	3.3
Other expenditures (\$ 000)	74.3	72.8	82.3	120.8	149.8	155.4	233.5	248.6	257.3
Total expenditures (\$ 000)	414.2	436.7	476.7	544.9	619.8	673.4	839.2	869.3	901.6
Total expenditures per pupil (dollars)	861.12	882.22	974.85	1,070.53	1,169.43	1,320.39	1,668.39	1,770.49	1,918.36

(continued)

(Table 2.10A-16, continued)

WABENO SCHOOL DISTRICT

<u>Resources</u>	<u>Year</u>								
	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salary costs (including fringe benefits) (\$ 000)	361.4	411.2	380.9	299.1	347.7	391.5	492.2	544.3	604.8
Expenditures for materials and supplies (\$ 000)	33.9	14.5	16.9	21.4	34.8	25.0	41.2	52.3	55.7
Operation and maintenance costs of bus program, including personnel (\$ 000)	38.6	46.4	46.8	36.0	33.1	57.3	92.6	67.4	98.2
Expenditures for utilities (\$ 000)	17.2	22.0	21.1	18.1	26.0	31.3	45.5	39.2	43.9
Expenditures for equipment (\$ 000)	4.7	3.0	2.0	1.4	3.4	6.0	4.9	6.5	6.7
Other expenditures (\$ 000)	50.2	69.3	79.3	110.8	333.8	128.1	212.2	201.8	279.4
Total expenditures (\$ 000)	506.0	566.4	547.0	486.8	778.8	639.2	888.6	911.5	1,088.7
Total expenditures per pupil (dollars)	716.71	820.90	813.94	958.27	1,586.15	1,301.83	1,397.17	1,368.62	1,647.05

(continued)

(Table 2.10A-16, continued)

ANTIGO SCHOOL DISTRICT

<u>Resources</u>	<u>Year</u>									
	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	
Salary costs (including fringe benefits) (\$ 000)	2,116.3	2,170.4	2,294.3	2,420.6	2,660.1	2,931.1	3,142.0	3,334.3	3,297.3	
Expenditures for materials and supplies (\$ 000)	99.2	87.2	118.7	124.3	145.6	141.8	159.1	199.9	136.5	
Operation and maintenance costs of bus program, including personnel (\$ 000)	259.0	299.2	331.8	343.1	418.0	469.8	532.8	596.9	605.1	
Expenditures for utilities (\$ 000)	66.6	71.0	79.9	92.0	111.2	128.6	170.8	160.7	187.2	
Expenditures for equipment (\$ 000)	24.9	6.2	6.5	10.4	12.8	15.0	16.2	6.4	9.2	
Other expenditures (\$ 000)	244.4	281.7	288.3	586.3	874.9	975.9	1,038.8	1,139.3	2,370.9	
Total expenditures (\$ 000)	2,810.4	2,915.7	3,119.5	3,576.7	4,222.6	4,662.2	5,059.7	5,437.5	6,606.2	
Total expenditures per pupil (dollars)	689.50	709.42	755.69	870.24	1,007.54	1,106.10	1,230.17	1,387.83	1,714.90	

(continued)

(Table 2.10A-16, continued)

ELCHO SCHOOL DISTRICT

<u>Resources</u>	<u>Year</u>								
	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salary costs (including fringe benefits) (\$ 000)	322.4	352.8	368.4	392.8	433.7	451.7	500.0	530.7	550.3
Expenditures for materials and supplies (\$ 000)	15.6	16.8	22.7	26.6	24.2	31.2	31.4	39.2	46.5
Operation and maintenance costs of bus program, including personnel (\$ 000)	43.7	58.5	56.0	70.6	69.2	81.0	92.3	97.8	131.1
Expenditures for utilities (\$ 000)	14.6	16.6	19.1	22.2	27.9	30.9	35.5	36.2	42.0
Expenditures for equipment (\$ 000)	2.4	1.8	1.9	2.5	2.6	3.3	6.0	3.0	3.1
Other expenditures (\$ 000)	45.2	51.7	53.3	105.8	143.1	147.6	195.5	206.4	215.9
Total expenditures (\$ 000)	443.9	498.2	521.4	620.5	700.7	745.7	860.7	913.3	988.9
Total expenditures per pupil (dollars)	743.55	835.91	873.37	1,012.23	1,146.81	1,226.48	1,451.43	1,534.95	1,663.70

(continued)

(Table 2.10A-16, continued)

WHITE LAKE SCHOOL DISTRICT

Resources	Year								
	1971	1972	1973	1974	1975	1976	1977	1978	1979
Salary costs (including fringe benefits) (\$ 000)	200.2	242.6	284.0	385.0	449.8	492.3	364.3	388.3	412.7
Expenditures for materials and supplies (\$ 000)	11.8	14.8	17.0	29.0	28.8	36.7	25.0	18.3	26.0
Operation and maintenance costs of bus program, including personnel (\$ 000)	16.1	28.4	58.3	87.1	88.8	84.6	37.8	40.4	39.7
Expenditures for utilities (\$ 000)	12.7	13.4	16.9	25.0	28.6	36.8	36.5	46.2	47.4
Expenditures for equipment (\$ 000)	5.0	0.9	0.8	1.7	1.6	2.5	2.4	4.5	2.8
Other expenditures (\$ 000)	35.3	44.5	47.6	110.7	167.3	176.3	147.7	150.6	187.2
Total expenditures (\$ 000)	281.1	344.6	424.6	638.5	764.9	829.2	613.7	648.3	715.8
Total expenditures per pupil (dollars)	683.94	745.89	980.60	1,015.10	1,216.06	1,361.58	1,606.54	1,771.31	1,919.02

(continued)

(Table 2.10A-16, continued)

RHINELANDER SCHOOL DISTRICT

<u>Resources</u>	<u>Year</u>								
	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salary costs (including fringe benefits) (\$ 000)	2,016.0	2,221.5	2,367.4	2,521.7	2,774.2	3,072.9	3,362.8	3,664.7	3,533.7
Expenditures for materials and supplies (\$ 000)	142.8	132.6	145.6	154.0	234.7	265.8	323.4	328.8	364.3
Operation and maintenance costs of bus program, including personnel (\$ 000)	234.6	253.9	270.1	286.0	352.5	392.9	476.4	527.6	601.8
Expenditures for utilities (\$ 000)	83.1	104.4	107.9	124.7	179.5	210.0	239.5	266.6	301.3
Expenditures for equipment (\$ 000)	29.6	10.1	12.3	13.9	18.9	23.0	21.6	13.0	14.7
Other expenditures (\$ 000)	301.0	395.5	428.4	805.0	970.7	995.2	1,166.8	1,433.9	1,579.8
Total expenditures (\$ 000)	2,807.1	3,118.0	3,331.7	3,905.3	4,530.5	4,959.8	5,590.5	6,234.6	6,395.6
Total expenditures per pupil (dollars)	678.70	752.96	789.88	914.16	1,067.51	1,187.69	1,332.02	1,521.01	1,588.18

(continued)

(Table 2.10A-16, continued)

THREE LAKES SCHOOL DISTRICT

<u>Resources</u>	<u>Year</u>								
	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salary costs (including fringe benefits) (\$ 000)	396.1	423.6	459.4	482.0	538.2	601.7	647.5	697.8	790.3
Expenditures for materials and supplies (\$ 000)	26.3	26.2	31.9	33.1	41.2	40.3	40.0	51.6	56.9
Operation and maintenance costs of bus program, including personnel (\$ 000)	56.9	69.9	72.5	82.7	98.2	111.8	122.5	138.6	163.1
Expenditures for utilities (\$ 000)	22.5	26.0	28.2	33.4	45.9	49.5	59.3	67.3	83.4
Expenditures for equipment (\$ 000)	4.5	2.3	3.9	2.9	4.5	3.8	5.8	7.1	8.2
Other expenditures (\$ 000)	76.3	85.8	91.4	164.8	206.6	236.7	267.8	286.4	311.4
Total expenditures (\$ 000)	582.6	633.8	687.3	798.9	934.6	1,043.8	1,142.9	1,248.8	1,413.3
Total expenditures per pupil (dollars)	844.35	867.03	915.18	1,038.88	1,249.47	1,311.31	1,421.52	1,517.38	1,744.81

(continued)

(Table 2.10A-16, continued)

SOURCES

- Antigo School District. 1971-1979. Annual Reports to the State Superintendent of Public Instruction.
District Administrator.
- Crandon School District. 1971-1979. Annual Reports to the State Superintendent of Public Instruction.
District Administrator.
- Elcho School District. 1971-1979. Annual Reports to the State Superintendent of Public Instruction.
District Administrator.
- Laona School District. 1971-1979. Annual Reports to the State Superintendent of Public Instruction.
District Administrator.
- Rhineland School District. 1971-1979. Annual Reports to the State Superintendent of Public Instruction.
District Administrator.
- Three Lakes School District. 1971-1979. Annual Reports to the State Superintendent of Public Instruction.
District Administrator.
- Wabeno School District. 1971-1979. Annual Reports to the State Superintendent of Public Instruction.
District Administrator.
- White Lake School District. 1971-1979. Annual Reports to the State Superintendent of Public Instruction.
District Administrator.

Table 2.10A-17

SCHOOL DISTRICT DESCRIPTION
CRANDON SCHOOL DISTRICT

District Area: 436 Square Miles

<u>Staff and Students</u>	<u>Year</u>									
	<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Total Professional Staff	48	50	54	71	66	86	54	55	57	59
Non-Professional Staff	NA ^a	28	32	20	15	64	34	NR	39	47
Total Student Enrollment ^b	1,035	1,095	1,092	1,082	1,115	1,091	1,085	1,061	1,063	1,065
Student/Professional Staff Ratio	21.5	21.9	20.2	15.2	16.9	12.7	20.0	19.3	18.6	18.1

Bus Program: 10 buses, 1 small van operated by private contractor

Planned Modifications: heating equipment to be added 1980-1981; estimated cost \$23,000; remodel windows and roof in 1980-1981; estimated cost \$31,000.

Source of Funds:

<u>Type</u>	<u>Current Amount</u>	<u>Purpose/Restrictions</u>
	(anticipated for '80-'81)	
State Aids	\$ 861,000 year	General fund
Property Taxes	988,000 year	General fund
Federal	218,000 year	General fund
Miscellaneous	109,000 year	General fund

Revenue Bonds:

<u>Purpose</u>	<u>Issue Year</u>	<u>Maturity Year</u>	<u>Amount of Issue</u>	<u>Interest Rate</u>
High School Addition	1967	1985	\$80,000	6.0%

(continued)

(Table 2.10A-17, continued)

LAONA SCHOOL DISTRICT

District Area: 244 Square Miles

Staff and Students	Year									
	70-71	71-72	72-73	73-74	74-75	75-76	76-77	77-78	78-79	79-80
Total Professional Staff	NR	29	31	50.5	45.5	36	34	39	36.1	37
Non-Professional Staff	NR	16	NR	19.5	16	10	23	NR	19	21
Total Student Enrollment	481	495	489	509	530	510	503	506	491	470
Student/Professional Staff Ratio	NR	17.0	15.8	10.0	11.6	14.2	14.8	13.0	13.6	12.7

Bus Program: 4 buses plus 1 spare; ages 1-6 years old; replaced 1 bus every 2 years; typical cost \$20,000.

Planned Modifications: equipment is updated or replaced yearly; estimated cost \$5,000; update and remodeling cost \$10,000.

Source of Funds:

Type	Current Amount	Purpose/Restrictions
State Aids	\$ 680,000 year	Used for school purposes only.
School Taxes	520,000 year	

Revenue Bonds:

Purpose	Issue Year	Maturity Year	Amount of Issue	Interest Rate
Building	1973	1989	\$460,000	6.5%
Building	1974	1986	\$70,000	6.5%

(continued)

(Table 2.10A-17, continued)

WABENO SCHOOL DISTRICT

District Area: 221 Square Miles

<u>Staff and Students</u>	<u>Year</u>									
	<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Total Professional Staff	NR	42	48	62.3	42	35.4	43.5	45.6	44	44.6
Non-Professional Staff	NR	36	39	36	4	12	30	NR	32	33
Total Student Enrollment	706	690	672	508	491	491	641	702	666	661
Student/Professional Staff Ratio	NR	16.4	14.0	8.2	11.7	13.9	14.7	15.4	15.1	14.8

Bus Program: 11 buses; 5 are 4-6 years old; buses are replaced as needed; typical cost of bus \$18,000

Planned Modifications: reduced staff if enrollment continues to decline; equipment replaced as needed - at estimated cost of \$25,000; art room remodeled soon for estimated \$12,000.

Source of Funds:

<u>Type</u>	<u>Current Amount</u>	<u>Purpose/Restrictions</u>
Taxes	\$ 1,112,000	General operations of district
30% State Aid	312,000	
Federal Impacted Aid	63,000	
Miscellaneous Revenue	12,200	
Drivers Education Aid	2,300	
Transportation	23,371	
Handicapped Aid	48,000	

Revenue Bonds:

<u>Purpose</u>	<u>Issue Year</u>	<u>Maturity Year</u>	<u>Amount of Issue</u>	<u>Interest Rate</u>
Elementary School	1974	1989	\$650,000	6.0%
High School	1978	1996	\$760,000	6.5%

(continued)

(Table 2.10A-17, continued)

ANTIGO SCHOOL DISTRICT

District Area: 504 Square Miles

<u>Staff and Students</u>	<u>Year</u>									
	<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Total Professional Staff	166	183	178	242	266	206.9	206	197.3	204	215.8
Non-Professional Staff	NR	81	78	66	75	62.5	99	NR	92	105
Total Student Enrollment	4,076	4,110	4,128	4,110	4,191	4,215	4,113	3,918	3,786	3,625
Student/Professional Staff Ratio	24.6	22.5	23.0	17.0	15.8	20.4	20.0	19.9	18.6	16.8

Bus Program: Unified School District contracts with 2 bus companies.

Planned Modifications: The district plans to run a bond referendum in 1981 to build a new high school.

Source of Funds: NR

Revenue Bonds:

<u>Purpose</u>	<u>Issue Year</u>	<u>Maturity Year</u>	<u>Amount of Issue</u>	<u>Interest Rate</u>
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No Bonds Outstanding.

(continued)

(Table 2.10A-17, continued)

ELCHO SCHOOL DISTRICT

District Area: 312 Square Miles

<u>Staff and Students</u>	<u>Year</u>									
	<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Total Professional Staff	NR	34	33	47.8	52.5	34.2	38	37.3	37.2	38.3
Non-Professional Staff	NR	33	18	14	21	1.0	20.0	NR	15.5	20
Total Student Enrollment	597	596	597	613	611	608	593	600	595	563
Student/Professional Staff Ratio	NR	17.5	18.0	12.8	11.6	17.8	15.6	16.1	16.0	14.7

Bus Program: 9 buses; 2 are school property - ages 6 and 1; 7 are contracted; no plans to replace; cost would be \$22,000.

Planned Modifications: Energy retrofitting, estimated cost \$60,000; upgrading science facilities, est. cost \$25,000.

Source of Funds:

<u>Type</u>	<u>Current Amount</u>	<u>Purpose/Restrictions</u>
Local Taxes/No State Aid		

Revenue Bonds:

<u>Purpose</u>	<u>Issue Year</u>	<u>Maturity Year</u>	<u>Amount of Issue</u>	<u>Interest Rate</u>
High School Addition	1968	1988	\$500,000	3.5%

(continued)

(Table 2.10A-17, continued)

WHITE LAKE SCHOOL DISTRICT

District Area: 318 Square Miles

<u>Staff and Students</u>	<u>Year</u>									
	<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Total Professional Staff	NR	24	25	60	66	46.9	29	28.5	27.5	29.5
Non-Professional Staff	NR	18	20	24	28	9.6	23	NR	20.6	21
Total Student Enrollment	411	462	433	622	629	609	382	366	373	383
Student/Professional Staff Ratio	NR	19.3	17.3	10.4	9.5	13.0	13.2	12.8	13.6	13.0

Bus Program: 10 buses; 4 buses are 4-6 years old; replaced as needed, estimated replacement cost is \$20,000.

Planned Modifications: just hired 1 science teacher; estimated cost \$16,500; finish addition of more classrooms; estimated cost of \$800,000.

Source of Funds:

<u>Type</u>	<u>Current Amount</u>	<u>Purpose/Restrictions</u>
Property Tax	\$ 310,000 year	General fund for operation of school
Handicapped Aid, Lunch Aid, Transportation Aid, Special Aid, State Aid	460,000 year	

Revenue Bonds:

<u>Purpose</u>	<u>Issue Year</u>	<u>Maturity Year</u>	<u>Amount of Issue</u>	<u>Interest Rate</u>
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No Bonds Outstanding.

(continued)

(Table 2.10A-17, continued)

RHINELANDER SCHOOL DISTRICT

District Area: 479 Square Miles

<u>Staff and Students</u>	<u>Year</u>									
	<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Total Professional Staff	173	167	197	314.3	241	213.5	231	224.3	228	235.2
Non-Professional Staff	NR	117	112	113	39	73	134	NR	109.5	116
Total Student Enrollment	4,136	4,141	4,218	4,272	4,244	4,176	4,197	4,099	4,027	3,908
Student/Professional Staff Ratio	23.9	24.8	21.4	13.6	17.6	19.6	18.2	18.3	17.7	16.6

Bus Program: Four private contractors, each serving a geographic area. Operate large buses + small van for handicapped.

Planned Modifications: Administration reorganization in 1980, no cost; K-6, upgrade libraries, gyms, 9-12th needs field house.

Source of Funds:

<u>Type</u>	<u>Current Amount</u>	<u>Purpose/Restrictions</u>
Local Tax	\$ 4,491,048 year	General Education
State Aid	2,340,923 year	Special Education
Other	1,150,125 year	Curricular projects, audiovisual, libraries, buildings declining enrollment

Revenue Bonds:

<u>Purpose</u>	<u>Issue Year</u>	<u>Maturity Year</u>	<u>Amount of Issue</u>	<u>Interest Rate</u>
Building	1973	1987	\$1,850,000	4.3%

(continued)

(Table 2.10A-17, continued)

THREE LAKES SCHOOL DISTRICT

District Area: 411 Square Miles

<u>Staff and Students</u>	<u>Year</u>									
	<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Total Professional Staff	NR	40	44	64	71	45	49.5	43.5	52.5	49.8
Non-Professional Staff	NR	14	23	22	28	6	35	NR	18.5	18.5
Total Student Enrollment	690	731	751	769	748	796	804	823	810	806
Student/Professional Staff Ratio	NR	18.3	17.1	12.0	10.5	17.7	16.2	18.9	15.4	16.2

Bus Program: 11 large buses; 1 van; 2 mini-buses; all under 6 years old; replace every 6-7 years, typical cost \$22,000.

Planned Modifications: None

Source of Funds:

<u>Type</u>	<u>Current Amount</u>	<u>Purpose/Restrictions</u>
Levy and State Taxes	1979 - \$1,707,448 1980 - \$1,739,559	

Revenue Bonds:

<u>Purpose</u>	<u>Issue Year</u>	<u>Maturity Year</u>	<u>Amount of Issue</u>	<u>Interest Rate</u>
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No Bonds Outstanding.

NOTES

^aNot reported on Wisconsin Department of Public Instruction annual files.

^bEnrollment figures do not include students sent to Iron River, Michigan School District.

(continued)

(Table 2.10A-17, continued)

SOURCES

- Antigo School District. July 24, 1981. Personal Communication, Diana Dahlke, Bookkeeper.
- Antigo School District. January 29, 1981; August 1980. Personal Communication, Pete Neidl, Superintendent.
- Crandon School District. July 24, 1981; March 4, 1981; August 26, 1980. Personal Communication, Harold Nickel, Superintendent.
- Elcho School District. July 31, 1981; August 13, 1980. Personal Communication, Lawrence Lampsa, Administration.
- Laona School District. July 24, 1981; January 29, 1981; August 12, 1980. Personal Communication, Howard Seeman, Superintendent.
- Moody's Municipal and Government Manual. Volume 2. Dun and Bradstreet Corporation. New York, New York. 1981
- Rhineland School District. August 21, 1980. Personal Communication, Joe Obey, Director of Education.
- Three Lakes School District. July 31, 1981; December 29, 1980; August 22, 1980. Personal Communication, George St. Catherine, Superintendent.
- Wabeno School District. February 20, 1981; August 13, 1980. Personal Communication, Joe Innis, Superintendent.
- Wabeno School District. July 31, 1981. Personal Communication, Betty Zimdars, Bookkeeper.
- Wabeno School District. July 24, 1981. Personal Communication, Alvera Alft, Bookkeeper.
- White Lake School District. August 14, 1980. Personal Communication, Matt Valitchka, Superintendent.
- Wisconsin Department of Public Instruction. 1970-1980. Unpublished file information on each school district. Madison.

Table 2.10A-18

PUBLIC SCHOOL ENROLLMENT BY SCHOOL
CRANDON SCHOOL DISTRICT

<u>School Name</u>	<u>Grade Levels</u>	<u>Location</u>	<u>Year</u>									
			<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Argonne Elementary	K-7	Argonne Township	108	113	115	98	100	107	123	133	133	122
Crandon Elementary	K-6	City of Crandon	409	435	419	420	438	407	361	338	344	353
Mole Lake Elementary	K-7	Nashville Township	67	75	77	72	65	59	84	92	104	103
Crandon Jr./Sr. High	7-12	City of Crandon	451	472	481	492	512	518	517	498	487	489
District Total	---	---	1,035	1,095	1,092	1,082	1,115	1,091	1,085	1,061	1,068	1,067

NOTE

^aEnrollment figures do not include students sent to Iron River, Michigan School District.

LAONA SCHOOL DISTRICT

<u>School Name</u>	<u>Grade Levels</u>	<u>Location</u>	<u>Year</u>									
			<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Robinson Elementary	K-6	Laona Township	223	273	256	265	285	257	262	253	254	226
Laona Jr./Sr. High	7-12	Laona Township	258	222	233	244	245	253	241	253	237	244
District Total	---	---	481	495	489	509	530	510	503	506	491	470

(continued)

(Table 2.10A-18, continued)

WABENO SCHOOL DISTRICT												
<u>School Name</u>	<u>Grade Levels</u>	<u>Location</u>	<u>Year</u>									
			<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Wabeno Elementary	K-6	Wabeno Township	0	0	0	0	0	246	249	326	299	290
Wabeno Junior High	7-8	Wabeno Township	109	94	99	82	88	91	138	116	105	109
Wabeno High	9-12	Wabeno	170	165	167	153	151	154	249	260	262	262
Study Area	---	---	279	259	266	235	239	491	636	702	666	661
Other Schools	---	---	427	431	406	273	252	0	0	0	0	0
District Total	---	---	706	690	672	508	491	491	636	702	666	661

ANTIGO SCHOOL DISTRICT												
<u>School Name</u>	<u>Grade Levels</u>	<u>Location</u>	<u>Year</u>									
			<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Crestwood Elementary	1-8	Norwood Township	236	228	230	239	230	223	193	178	185	176
East Elementary	K-6	City of Antigo	252	236	244	237	216	216	225	226	201	185
Lily Elementary	K-6	Langlade Township	33	39	34	36	35	32	32	31	30	29
North Elementary	K-6	City of Antigo	352	333	318	336	328	312	277	258	245	225
Pleasant View Elementary	1-8	Rolling Township	210	215	251	239	240	262	254	238	228	224
River Grove Elementary	K-8	Peck Township	249	234	231	284	295	288	279	268	272	266
Spring Valley Elementary	1-8	Antigo Township	245	249	242	245	263	237	213	198	193	182

(continued)

(Table 2.10A-18, continued)

<u>School Name</u>	<u>Grades</u>	<u>Location</u>	<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
West Elementary	K-6	City of Antigo	357	368	338	299	326	336	354	280	310	297
Antigo Junior High	7-8	City of Antigo	729	788	813	802	820	814	836	771	717	679
Antigo High	9-12	City of Antigo	1,135	1,137	1,133	1,126	1,172	1,234	1,223	1,242	1,196	1,159
Study Area Total	---	---	3,798	3,827	3,834	3,843	3,925	3,954	3,886	3,690	3,577	3,422
Other Schools	---	---	278	283	294	267	266	261	227	228	209	203
District Total	---	---	4,076	4,110	4,128	4,110	4,191	4,215	4,113	3,918	3,786	3,625

ELCHO SCHOOL DISTRICT

<u>School Name</u>	<u>Grade Levels</u>	<u>Location</u>	<u>Year</u>									
			<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Elcho Elementary	K-8	Elcho Township	421	410	395	403	399	385	375	366	366	342
Elcho High	9-12	Elcho Township	176	186	202	210	212	223	218	234	229	221
District Total	---	---	597	596	597	613	611	608	593	600	595	563

(continued)

(Table 2.10A-18, continued)

WHITE LAKE SCHOOL DISTRICT

<u>School Name</u>	<u>Grade Levels</u>	<u>Location</u>	<u>Year</u>									
			<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
White Lake Elementary	K-8	Village of White Lake	290	320	273	321	314	305	255	227	175	183
White Lake High	9-12	Village of White Lake	121	142	160	185	212	207	127	139	198	200
Study Area Total	---	---	411	462	433	506	526	512	382	366	373	383
Other Schools	---	---	0	0	0	116	103	97	0	0	0	0
District Total	---	---	411	462	433	622	629	609	382	366	373	383

RHINELANDER SCHOOL DISTRICT

<u>School Name</u>	<u>Grade Levels</u>	<u>Location</u>	<u>Year</u>									
			<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Central Elementary	K-6	City of Rhinelander	203	200	202	180	231	230	247	233	225	210
Crescent Elementary	1-6	Crescent Township	167	167	170	158	158	161	148	143	163	144
Curran Elementary	1-6	City of Rhinelander	187	170	182	199	199	172	133	155	148	98
McCord Elementary	1-6	City of Rhinelander	164	153	159	149	148	151	138	158	154	130
Newbold Elementary	K-6	Newbold Township	184	188	198	203	202	186	211	201	213	207
Pelican Elementary	K-6	Pelican Township	321	292	280	273	207	177	168	150	143	165

(continued)

(Table 2.10A-18, continued)

<u>School Name</u>	<u>Grade Levels</u>	<u>Location</u>	<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Pine Lake Elementary	K-6	Pine Lake Township	323	317	324	332	319	319	282	300	302	302
South Park Elementary	K-6	City of Rhinelander	186	185	190	192	205	177	187	173	165	159
West Elementary	K-6	City of Rhinelander	257	242	213	209	193	213	183	147	161	181
James Williams Junior High	7-8	City of Rhinelander	589	628	686	680	664	677	688	636	584	602
Rhinelander Sr. High	9-12	City of Rhinelander	1,419	1,455	1,478	1,558	1,570	1,581	1,657	1,664	1,668	1,615
Study Area Total	---	---	4,000	3,997	4,082	4,133	4,096	4,044	4,042	3,960	3,926	3,813
Other Schools	---	---	136	144	136	139	148	132	155	139	101	95
District Total	---	---	4,136	4,141	4,218	4,272	4,244	4,176	4,197	4,099	4,027	3,908

THREE LAKES SCHOOL DISTRICT

<u>School Name</u>	<u>Grade Levels</u>	<u>Location</u>	<u>Year</u>									
			<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>	<u>79-80</u>
Sugar Camp Elementary	K-6	Sugar Camp Township	146	163	177	175	174	173	178	181	177	159
Three Lakes Elementary	K-6	Three Lakes Township	334	349	349	349	183	208	195	208	209	220
Three Lakes Jr. High	7-8	Three Lakes Township	0	0	0	0	138	145	130	139	130	126
Three Lakes Sr. High	9-12	Three Lakes Township	210	219	225	245	253	270	301	295	294	301
District Total	---	---	690	731	751	769	748	796	804	823	810	806

SOURCE

Wisconsin Department of Public Instruction. 1970-1980. Unpublished file information on each School District. Madison.

Table 2.10A-19

SCHOOL DISTRICT SCHOOL DESCRIPTION
CRANDON SCHOOL DISTRICT
Argonne Elemenatry School

Size: 13,680 gross square feet; seven classrooms
Other features: gym, cafeteria; gym is leased to Arzonne Town
Age and condition: poor to fair, 72 years old
Facility capacity: current pupils are the maximum number that have used the facility during any given year; ten more pupils could be handled; adequate for current programs
Special equipment and instruction: projectors and usual inst. equipment - adequate

Crandon Elementary School

Size: 33,960 square feet; 15 classrooms
Other features: gym, cafeteria
Age and condition: Three parts - ages 41, 29 and 9 years
Facility capacity: 375 pupils are the maximum that have used the facility during any given year; 20 more pupils could be handled; adequate for current programs
Special equipment and instruction: projectors and usual inst. equipment

Mole Lake Elementary School

Size: 12,700 gross square feet; six classrooms
Other features: gym, cafeteria
Age and condition: 63 years old, poor to fair condition
Facility capacity: 120 pupils are the maximum that have used the facility during any given year; 20 more pupils could be handled; adequate for current programs
Special equipment and instruction: projectors and usual inst. equipment

(continued)

(Table 2.10A-19, continued)

Crandon Jr. and Sr. High School

Size: 67,720 gross square feet; 19 classrooms

Other features: gym, lunch room

Age and condition: fair condition, three parts - 60 years, 22 years, 12 years

Facility capacity: 520 pupils are the maximum that have used the facility during any given year; 30 more pupils could be handled; adequate for current programs

Special equipment and instruction: projectors (3) and usual inst. equipment, equipment is not adequate

LAONA SCHOOL DISTRICT

Robinson Elementary School

Size: 9,720 square feet; 16 classrooms

Other features: gym shared with Jr./Sr. High School, Library, Cafeteria

Age and condition: 22 years old, excellent condition

Facility capacity: 280 pupils are the maximum that have used the facility during any given year; 75 more pupils could be handled; adequate for current programs

Special equipment and instruction: shares equipment with high school, two video tape recorders and players, five film projectors (16mm), special education including speech therapist

Laona Jr./Sr. High School

Size: 10,000 square feet; 17 classrooms

Other features: gym (shared with elementary school), cafeteria, library (shared with town)

Age and condition: 64 years, fair condition

(continued)

(Table 2.10A-19, continued)

Facility capacity: 200 pupils are the maximum that have used the facility during any given year; 50 more pupils could be handled; adequate for current programs

Special equipment and instruction: shared equipment with elementary school, two VTR and players, five film projectors (16mm), computer terminal for accounting system, special education including speech therapist

WABENO SCHOOL DISTRICT

Wabeno Elementary School

Size: 20,000 square feet; 15 classrooms

Other features: gym, used for cafeteria, too

Age and condition: six years old; excellent condition

Facility capacity: 380 pupils are the maximum that have used the facility during any given year; 100 more pupils could be handled; adequate for current programs

Special equipment and instruction: share equipment with high school, one video tape recorder, eight TVs, special education offered

Wabeno Jr./Sr. High School

Size: 45,000 square feet; 20 classrooms

Other features: gym, cafeteria

Age and condition: new addition, excellent, less than one year old; old building, good, 42 years old

Facility capacity: 380 pupils are the maximum that have used the facility during any given year; 20 more pupils could be handled; adequate for current programs

Special equipment and instruction: shares equipment with elementary school, video tape recorder and camera, eight TVs, equipment not adequate for current programs, special education offered

(Table 2.10A-19, continued)

ANTIGO SCHOOL DISTRICT

Crestwood Elementary School

Size: 12,000 square feet; eight classrooms

Other features: gym, kitchen, office

Age and condition: 20 years old, good condition

Facility capacity: 250 pupils are the maximum that have used the facility during any given year; 50 more pupils could be handled; inadequate for current programs; needs: library and kindergarten space

Special equipment and instruction: Movie projectors, overheads, slide projectors, TV, radios, tape recorders, social studies map and globe unit.

East Elementary School

Size: 16,200 square feet; seven classrooms

Other features: gym, kitchen, office and sick room

Age and condition: 20 years old, good condition

Facility capacity: 256 pupils are the maximum that have used the facility during any given year; 30 more pupils could be handled; inadequate for current programs; needs: centralized library

Special equipment and instruction: Movie projectors, overheads, slide projectors, TV, radios, tape recorders, Learning Disabilities resource room.

Lily Elementary School

Size: 7,000 square feet; 2 1/2 classrooms

Other features: small gym in basement with small kitchen in corner

Age and condition: fair

Facility capacity: 55+ pupils are the maximum that have used the facility during any given year; 22 more pupils could be handled; inadequate for current programs; needs: central library

Special equipment and instruction: movie projectors, overhead slide projectors, and radio

(continued)

(Table 2.10A-19, continued)

North Elementary School

Size: 17,220 square feet; nine classrooms

Other features: gym, kitchen, office, teacher's room, sick room

Age and condition: good condition, 20 years old

Facility capacity: 300 pupils are the maximum that have used the facility during any given year; 80 more pupils could be handled; inadequate for current programs; needs: library

Special equipment and instruction: Movie projectors, overheads, slide projectors, TV, radios, tape recorders, Learning Disabilities Self-Contained room and Learning Disabilities resource room.

Pleasant View Elementary School

Size: 16,000 square feet; eight classrooms

Other features: gym, kitchen

Age and condition: good condition, 18 years old

Facility capacity: 267 pupils are the maximum that have used the facility during any given year; 0 more pupils could be handled; inadequate for current programs; needs: library and kindergarten room

Special Equipment and instruction: Movie projectors, overheads, slide projectors, TV, radios, tape recorders.

River Grove Elementary School

Size: 17,360 square feet; eight classrooms

Other features: gym, kitchen, kindergarten, library

Age and condition: good condition, main, 18 years old, kindergarten and library, four years old

Facility capacity: 300 pupils are the maximum that have used the facility during any given year; 35 more pupils could be handled; adequate for current programs

Special equipment and instruction: Movie projectors, overheads, slide projectors, TV, radios, tape recorders, Learning Disabilities resource room (1/2 day)

(continued)

(Table 2.10A-19, continued)

Spring Valley Elementary School

Size: 13,206 square feet; eight classrooms

Other features: gym, kitchen, office

Age and condition: good condition, 20 years old

Facility capacity: 260 pupils are the maximum that have used the facility during any given year; 50 more pupils could be handled; inadequate for current programs; needs: library and kindergarten room

Special equipment and instruction: Movie projectors, overheads, slide projectors, TV, radios, tape recorders, Learning Disabilities resource room (1/2 day).

West Elementary School

Size: 20,000 square feet; nine classrooms

Other features: gym, kitchen, teacher room, sick room, office

Age and condition: good condition, 20 years old

Facility capacity: 350 pupils are the maximum that have used the facility during any given year; 35 more pupils could be handled; inadequate for current programs; needs: library facilities

Special equipment and instruction: Movie projectors, overheads, slide projectors, TV, radios, tape recorders, Early Childhood Education for the Handicapped and Classrooms for the Emotionally Disabled.

Antigo Jr. High School

Size: 43,200 square feet; 34 classrooms

Other features: shares 2 gyms, cafeteria and kitchen with Sr. High

Age and condition: 59 years old and 41 years old; good condition

Facility capacity: 850 pupils are the maximum that have used the facility during any given year; 0 more pupils could be handled; inadequate for current programs

Special equipment and instruction: Movie projectors, overheads, slide projectors, TV, radios, tape recorders, and special education aids.

(continued)

(Table 2.10A-19, continued)

Antigo Sr. High School

Size: 136,593 square feet; 34 classrooms

Other features: 2 gyms, cafeteria, kitchen shared with Jr. High

Age and condition: 64 years old, addition 47 years, boy's gym, 26 years, fair condition

Facility capacity: 1,239 pupils are the maximum that have used the facility during any given year; 0 more pupils could be handled; inadequate for current programs

Special equipment and instruction: Movie projectors, overheads, slide projectors, TV, radios, tape recorders, and special education aids.

ELCHO SCHOOL DISTRICT

Elcho Public Schools

Size: 80,000 square feet; 27 classrooms

Other features: gym, cafeteria

Age and condition: part built 1900, other 14 years old, both good condition

Facility capacity: 650 pupils are the maximum that have used the facility during any given year; 150 more pupils could be handled; adequate for current programs

Special equipment and instruction: none

WHITE LAKE SCHOOL DISTRICT

White Lake Public School

Size: 100,000 - 200,000 square feet; 30 classrooms

Other features: gym, cafeteria

Age and condition: old part 58 years, old addition 17 years, new addition two years, all in good condition

Facility capacity: 360 pupils are the maximum that have used the facility during any given year; 50 more pupils could be handled; adequate for current programs with some management

Special equipment and instruction: 6 projectors (16 mm), 15 film projectors, needs audio-visual equipment

(continued)

(Table 2.10A-19, continued)

RHINELANDER SCHOOL DISTRICT

Central Elementary School

Size: 27,783 square feet; nine classrooms

Other features: library, gym, cafeteria

Age and condition: good condition, 41 years old

Facility capacity: 200+ pupils are the maximum that have used the facility during any given year; 40 more pupils could be handled; facility design inadequate for current programs. Needs: gym, library, pupil services, cafeteria, office

Special equipment and instruction: special instruction for learning disabilities

Crescent Elementary School

Size: 18,016 square feet; six classrooms

Other features: gym

Age and condition: 19 years old, good condition

Facility capacity: 200 pupils are the maximum that have used the facility during any given year; 25 more pupils could be handled; adequate for current programs

Special equipment and instruction: special education aids

Curran Elementary School

Size: 16,871 square feet; eight classrooms

Other features: small multi-purpose room

Age and condition: good condition, 47 years old

Facility capacity: 175 pupils are the maximum that have used the facility during any given year; 30 more pupils could be handled; inadequate for current programs

Special equipment and instruction: special education aids

(continued)

(Table 2.10A-19, continued)

McCord Elementary School

Size: 18,846 square feet; eight classrooms

Other features: gym, cafeteria

Age and condition: poor condition, 80 years old

Facility capacity: 200 pupils are the maximum that have used the facility during any given year; 0 more pupils could be handled; inadequate for current programs. Will close in Spring 1981

Special equipment and instruction: special instruction for learning disabilities

Newbold Elementary School

Size: 17,782 square feet; nine classrooms

Other features: gym

Age and condition: good condition, 13 years old

Facility capacity: 240 pupils are the maximum that have used the facility during any given year; 0 more pupils could be handled; inadequate for current programs. Needs: library and pupil services. 6th graders will go to new James Williams Jr. High beginning Fall 1981.

Special equipment and instruction: special education aids

Pelican Elementary School

Size: 13,946 square feet, nine classrooms

Other features: gym

Age and condition: 24 years old, fair condition

Facility capacity: 350 pupils are the maximum that have used the facility during any given year; 20 more pupils could be handled; inadequate for current programs

Special equipment and instruction: special education aids

(continued)

(Table 2.10A-19, continued)

Pine Lake Elementary School

Size: 23, 255 square feet; 13 classrooms

Other features: cafeteria

Age and condition: 10 years old, good condition

Facility capacity: 375 pupils are the maximum that have used the facility during any given year; 0 more pupils could be handled; inadequate for current programs. Needs: library, pupil services. Most students from McCord will transfer here; 6th graders will go to new James Williams Jr. High.

Special equipment and instructions: special education aids.

South Park Elementary School

Size: 22,914 square feet; seven classrooms

Other features: multi-purpose room

Age and condition: 28 years old, good condition

Facility capacity: 200 pupils are the maximum that have used the facility during any given year; 20 more pupils could be handled; adequate for current programs

Special equipment and instruction: special education aids

West Elementary School

Size: 24,660 square feet; 11 classrooms

Other features: small multi-purpose room, cafeteria

Age and condition: good condition, 41 years old

Facility capacity: 250 pupils are the maximum that have used the facility during any given year; 40 more pupils could be handled; inadequate for current programs

Special equipment and instruction: special education aids

(continued)

(Table 2.10A-19, continued)

James Williams Jr. High School

Size: 111,405 square feet; 32 classrooms

Other features: gym, cafeteria, library

Age and condition: 6 years old, excellent condition

Facility capacity: 700 pupils are the maximum that have used the facility during any given year; 100 more pupils could be handled; adequate for current programs. Will also house all 6th graders beginning Fall 1981

Special equipment and instruction: five science labs

Rhineland Sr. High School

Size: 183,185 square feet; 32 classrooms

Other features: 2 gyms; cafeteria; library

Age and condition: 22 years old, good condition

Facility capacity: 1,700+ pupils are the maximum that have used the facility during any given year; 0 more pupils could be handled; inadequate for current programs

Special equipment and instruction: driver's education simulations

THREE LAKES SCHOOL DISTRICT

Sugar Camp Elementary School

Size: approximately 17,500 square feet; 8 classrooms

Other features: all-purpose room cafeteria and gym

Age and condition: 40 years old, good condition

Facility capacity: 158 pupils are the maximum that have used the facility during any given year; 25 more pupils could be handled; adequate for current programs

Special equipment and instruction: None

(continued)

(Table 2.10A-19, continued)

Three Lakes Public School

Size: 104,400 square feet; 34 classrooms

Other features: gym, cafeteria

Age and condition: excellent condition, 58 years old, one year old for new section

Facility capacity: 640 pupils are the maximum that have used the facility during any given year; 50 more pupils could be handled; adequate for current programs

Special equipment and instruction: one video tape recorder

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Crandon School District. March 4, 1981; August 26, 1980. Personal Communication, Harold Nickel, Superintendent.

Elcho School District. August 13, 1980. Personal Communication, Lawrence Lamps, Administration.

Laona School District. January 29, 1981; August 12, 1980. Personal Communication, Howard Seeman, Superintendent.

Rhineland School District. August 21, 1980. Personal Communication, Joe Obey, Director of Education.

Three Lakes School District. December 29, 1980; August 22, 1980. Personal Communication, George St. Catherine, Superintendent.

Wabeno School District. February 20, 1981; August 14, 1980. Personal Communication, Matt Valitchka, Superintendent.

Table 2.10A-20

NUMBER OF CURRICULUM OFFERINGS BY SCHOOL DISTRICTS
1978 - 1979

<u>Curriculum Offering</u>	<u>School District</u>							
	<u>Crandon</u>	<u>Laona</u>	<u>Wabeno</u>	<u>Antigo</u>	<u>Elcho</u>	<u>White Lake</u>	<u>Rhinelanders</u>	<u>Three Lakes</u>
Vocational Agriculture/ Agri-Business	0	1	0	6	0	0	0	4
Art	7	4	6	5	8	6	7	8
Business	4	6	8	14	4	6	14	11
Distribution Education	0	0	0	2	0	0	0	1
English Language Arts	12	7	11	10	11	5	12	10
Foreign Languages	2	4	3	7	0	0	8	3
Health Education	4	0	6	1	4	1	0	3
Physical Education	6	6	5	3	6	4	8	4
Home Economics	4	7	6	6	6	7	5	5
Industrial Education	8	11	9	8	6	5	10	7
Mathematics	7	7	7	9	5	7	7	5
Music	3	6	6	8	5	3	6	6
Natural Sciences	7	5	6	9	6	6	7	4
Environmental Ed.	1	1	0	0	0	1	1	1
Social Sciences/ Social Studies	8	9	11	8	5	4	10	6
Safety & Driver Ed.	2	2	2	2	2	2	2	2
TOTAL	75	76	86	98	68	57	97	80

SOURCE

Wisconsin Department of Public Instruction. 1978-1979. Unpublished file data on each school district. Madison.

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Ackley Town. August 15, 1980. Personal Communication, Mrs. John Baginski, Town Clerk.

Ainsworth Town. August 15, 1980. Personal Communication, Mrs. Harlen Girtz, Town Clerk.

Antigo School District. July 24, 1981. Personal Communication, Diana Dahlke, Bookkeeper.

Antigo School District. January 29, 1981; August 20, 1980. Personal Communication, Pete Neidl, Superintendent.

Antigo Town. August 22, 1980. Personal Communication, Sue Berg, Town Clerk.

Antigo Town. August 22, 1980. Personal Communication, Stephen Koss, Constable.

Antigo Town. August 22, 1980. Personal Communication, Vilas Neigenfind, Supervisor.

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Argonne Town. August 22, 1980. Personal Communication, Joe Gryczkowski, Town Chairman.

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Blackwell Town. August 21, 1980. Personal Communication, Lavenia Novak, Town Clerk.

Caswell Town. August 20, 1980. Personal Communication, Fred Gast, Town Supervisor.

City of Antigo. May 20, 1981. Personal Communication, Joseph Brobst, City Engineer.

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Crawford Ambulance, Ltd., City of Antigo. August 29, 1980. Personal Communication, John Crawford, Operator.

Crescent Town. August 19, 1980. Personal Communication, Joseph Mahner, Fire Volunteer.

Crescent Town. August 19, 1980. Personal Communication, Harold Walti, Town Clerk.

Elcho Sanitary District #1. August 13, 1980. Personal Communication, A. J. Brandon, Utility Worker.

Elcho School District. July 31, 1981; August 13, 1980. Personal Communication, Lawrence Lampsas, Administration.

Elcho Town. August 13, 1980. Personal Communication, Delores Froland, Town Clerk.

Elcho Town. August 13, 1980. Personal Communication, Bill Kelly, Fire Department.

Elcho Town. August 13, 1980. Personal Communication, Phyllis Vleslak, EMS Technician.

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Enterprise Town. August 18, 1980. Personal Communication, Fred Feller, Town Chairman.

Enterprise Town. August 18, 1980. Personal Communication, Mary Ladwig, Town Clerk.

Evergreen Town. August 21, 1980. Personal Communication, Frank Muraski, Town Supervisor.

Forest County. October 16, 1980. Personal Communication, Edgar Wilson, County Sheriff.

Forest County. August 21, 1980. Personal Communication, Ken Conway, County Clerk.

Forest County. August 14, 1980. Personal Communication, Richard Pitts, Highway Commissioner.

Forest County Health and Social Services Department. August 14, 1980. Personal Communication, Mary Barge, Director.

Forest County Potawatomi. April 1980. Personal Communication, Mr. Thunder, Chairman, Tribal Council.

Freedom Town. August 29, 1980. Personal Communication, John Harter, Town Chairman.

Freedom Town. August 29, 1980. Personal Communication, Bernice Schreiber, Town Clerk.

Hiles Town. August 18, 1980. Personal Communication, William Dixon, Town Chairman.

Lake Tomahawk Town. August 19, 1980. Personal Communication, Bill Kuckkan, Fire Chief.

Lake Tomahawk Town. August 14, 1980. Personal Communication, Beverly Fagan, Town Clerk.

Langlade County. February 12, 1981. Personal Communication, Walter Klimoski, Board of Supervisors Chairman.

Langlade County. November 13, 1980. Personal Communication, James Mabry, County Zoning Administrator.

Langlade County. October 18, 1980. Personal Communication, John Hoffman, County Sheriff.

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Langlade Town. August 15, 1980. Personal Communication, Claude Wells, Fire Chief.

Laona Sanitary District #1. August 12, 1980. Personal Communication, Leonard Hess, District Operator.

Laona School District. July 24, 1981; January 29, 1981; August 12, 1980. Personal Communication, Howard Seeman, Superintendent.

Laona Town. September 10, 1980; August 12, 1980. Personal Communication, Jim Baltus, Town Chairman.

Lacna Town. August 12, 1980. Personal Communication, Jack Carter, Fire Chief.

Laona Town. August 12, 1980. Personal Communication, Gail Lemerande, Town Clerk.

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Nashville Town. August 22, 1980. Personal Communication, John Cook, Fire Chief.

Nashville Town. August 19, 1980. Personal Communication, Carol Marquardt, Town Clerk.

Nashville Town. August 19, 1980. Personal Communication, John Schallock, Town Chairman.

Neva Town. August 20, 1980. Personal Communication, George Schmertzner, Town Chairman.

Newbold Town. August 21, 1980. Personal Communication, Earl Brown, Fire Chief.

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Newbold Town. August 21, 1980. Personal Communication, Richard Ludgatis, Town Chairman.

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Norwood Town. August 22, 1980. Personal Communication, Tony Koss, EMS Technician.

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Norwood Town. August 19, 1980. Personal Communication, Norbert Waldvogel, Fire Chief.

Norwood Town. August 18, 1980. Personal Communication, Douglas Washatko, Town Constable.

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Parrish Town. August 19, 1980. Personal Communication, Chester Hollands, Town Chairman.

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Peck Town. August 20, 1980. Personal Communication, Ken Shadick, Town Chairman.

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Pelican Town. August 19, 1980. Personal Communication, Ken Gardner, Town Clerk.

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Polar Town. May 22, 1981; August 18, 1980. Personal Communication, Leona Groth, Town Clerk.

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Popple River Town. August 21, 1980. Personal Communication, Eugene Lemerande, Town Chairman.

Popple River Town. August 20, 1980. Personal Communication, Joyce Perenick, Town Clerk.

Price Town. August 22, 1980. Personal Communication, Mrs. Eugene Schlundt, Town Clerk.

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Rhineland School District. August 21, 1980. Personal Communication, Joe Obey, Director of Education.

Rolling Town. August 22, 1980. Personal Communication, Ken Husnick, Town Clerk.

Ross Town. August 22, 1980. Personal Communication, Peter Brunette, Town Supervisor.

Ross Town. August 22, 1980. Personal Communication, Jerry Huepf, Fire Chief.

Ross Town. August 22, 1980. Personal Communication, Ray Bonestee, Town Clerk.

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Three Lakes Town. August 14, 1980. Personal Communication, Bill Slizewski, Constable.

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Wabeno Town. August 13, 1980. Personal Communication, Ed Korbass, Assistant Fire Chief.

Wabeno Town. August 13, 1980. Personal Communication, Donna Mischo, Town Clerk.

Wabeno Town. August 13, 1980. Personal Communication, Mrs. John Niermann, Librarian.

White Lake School District. July 24, 1981. Personal Communication, Alvera Alft, Bookkeeper.

White Lake School District. August 14, 1980. Personal Communication, Matt Valitchka, Superintendent.

White Lake Village. August 14, 1980. Personal Communication, Robert Gorke, Fire Chief.

White Lake Village. August 14, 1980. Personal Communication, Lawrence Luther, Village Marshall.

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White Lake Village. August 14, 1980. Personal Communication, Joan Mireault, EMS Technician.

White Lake Village. August 14, 1980. Personal Communication, Jerome Nixon, Service Department.

White Lake Village. August 14, 1980. Personal Communication, Mrs. Oatman, Librarian.

White Lake Village. August 14, 1980. Personal Communication, Mrs. James Owen, Village Clerk.

White Lake Water and Sewer Utility. August 14, 1980. Personal Communication, Jerome Nixon, Service Superintendent.

Wisconsin Department of Local Affairs and Development. July 24, 1980. Personal Communication, Robert Smith.

Wisconsin Department of Natural Resources. August 11, 1980. Letter. Division of Enforcement.

Wolf River Town. August 21, 1980. Personal Communication, Les Elst, Town Clerk.

Wolf River Town. August 19, 1980. Personal Communication, Ron Houfek, Fire Chief.

Wolf River Town. August 19, 1980. Personal Communication, Leonard Steckbauer, Town Constable.

Woodboro Town. August 18, 1980. Personal Communication, Nancy Holmes, Town Clerk.

Woodboro Town. August 18, 1980. Personal Communication, Clarence Reader, Town Chairman.