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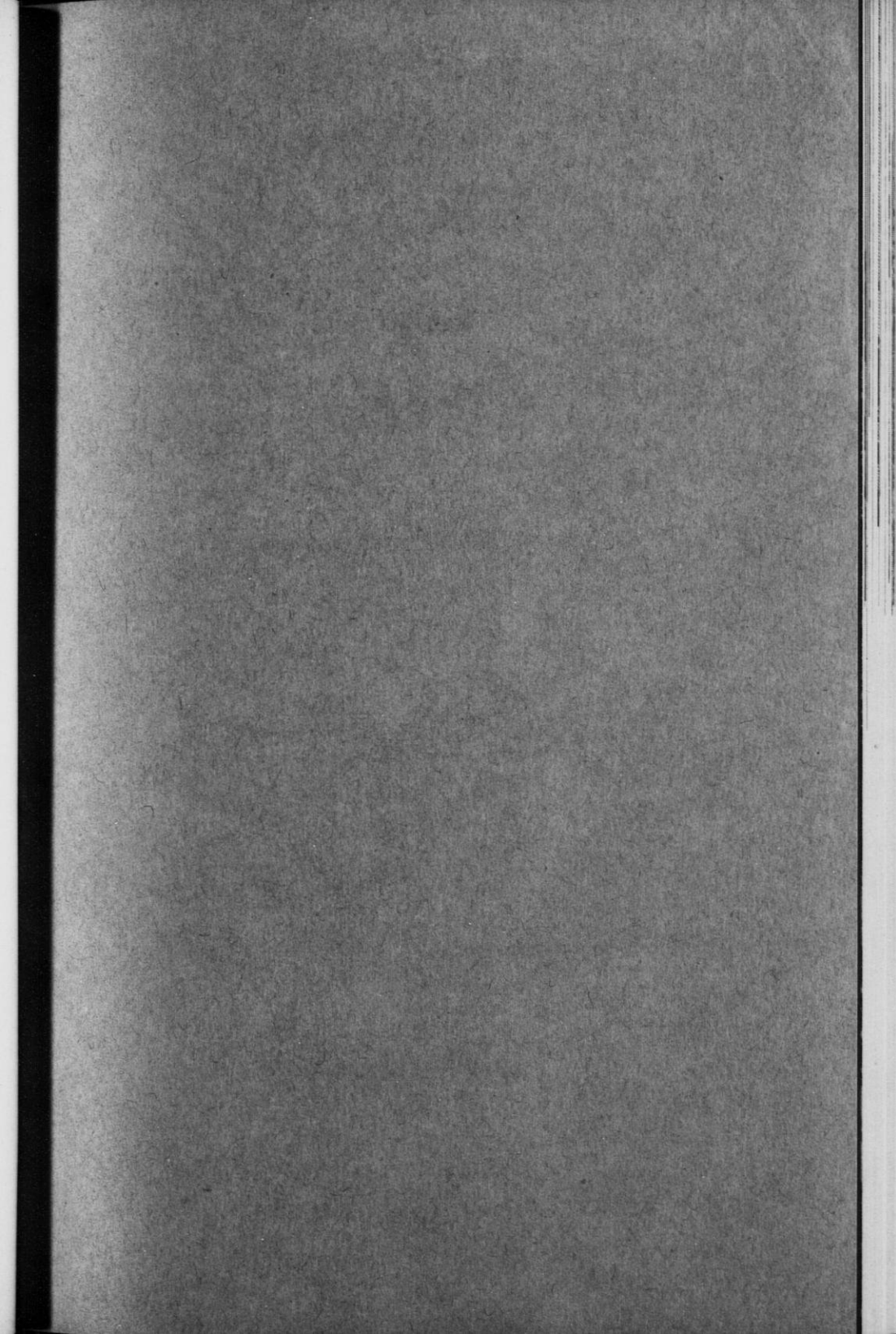
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Twenty-Third

Biennial Report

of the

**Wisconsin State
Conservation Commission**



Publication 612-52

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LETTER OF TRANSMITTAL

HONORABLE WALTER J. KOHLER
Governor of Wisconsin
Madison, Wisconsin

Sir: In compliance with the provisions of section 14.61 of the state statutes, we have the honor to submit, for your consideration, the report of the State Conservation Commission of Wisconsin concerning its work for the biennial period ending June 30, 1952, as well as certain recommendations, which we trust will meet with your approval.

Respectfully submitted,

STATE CONSERVATION COMMISSION
Arthur Molstad, *Chairman*
John O. Moreland, *Secretary*
Douglas Hunt
Guido R. Rahr
Dr. J. A. Riegel
Charles F. Smith

Oct. 1, 1952

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TWENTY-THIRD BIENNIAL REPORT

OF THE

**STATE CONSERVATION
COMMISSION**

OF

WISCONSIN

**For the Fiscal Years Ending June 30, 1951
and June 30, 1952**



MADISON, WISCONSIN

1952

CONSERVATION COMMISSION

ARTHUR MOLSTAD, Milwaukee Chairman	DOUGLAS HUNT, Wautoma GUIDO RAHR, Manitowoc
JOHN O. MORELAND, Hayward Secretary	DR. J. A. RIEGEL, St. Croix Falls CHARLES F. SMITH, Wausau

CONSERVATION DEPARTMENT

ERNEST F. SWIFT
Director

H. T. J. CRAMER
Assistant Director

C. A. BONTLY
Finance

W. T. CALHOUN
Information and Education

W. F. GRIMMER
Game Management

G. S. HADLAND
Law Enforcement

C. L. HARRINGTON
Forests and Parks

GEORGE SPRECHER
Assistant Director

LULU M. KORN
Clerical

NEIL LEMAY
Forest Protection

LAURENCE F. MOTL
Engineering

EDWARD SCHNEBERGER
Fish Management

L. P. VOIGT
Personnel

S. W. WELSH (acting)
Cooperative Forestry

Administration

The purpose of the conservation act as stated in section 23.09 in the statutes is "to provide an adequate and flexible system for the protection, development and use of forests, fish and game, lakes, streams, plant life, flowers and other outdoor resources in the state of Wisconsin."

The Conservation Commission, a policy making body consisting of six members appointed by the Governor for a term of six years, is the agency charged with the responsibility of carrying out the purpose of the conservation act. The commission is authorized to make such rules and regulations, inaugurate such studies, investigations and surveys, and establish such services as it may deem necessary to redeem its responsibilities.

CONSERVATION DIRECTOR

The execution of the policies of the conservation commission is carried out by the conservation department of which the conservation director is the administrative head. He is employed by the commission and continues in office at the pleasure of the commission. He exercises the powers of the commission in the interim of its meetings but subordinate thereto, but does not have authority to make rules and regulations. He is the appointing authority for personnel of the department.

ASSISTANT CONSERVATION DIRECTORS

The duties of the two assistant conservation directors are primarily to assume the duties of the director during his absence and to directly supervise certain divisions of the department. The assistant director for administration supervises the fish management, game management and law enforcement divisions. The assistant director for operations and finance supervises the information and education, finance and engineering divisions. The assistant directors are responsible for such functions as public relations and liaison with state, federal and private organizations.

SUPERVISOR OF INVENTORY

The supervisor of inventory is the custodian of the department records of physical property. He is directly responsible to one of the assistant directors.

It is his duty to maintain such records as are necessary to assign responsibility for department owned non-expendable property and to afford the best distribution of such property.

STENROCK MEMORIAL LIBRARY

He investigates and makes recommendations for procedures to be used in property control. Annual physical inventories are checked against inventory records to maintain their accuracy.

His duties include the taking of such special inventories as are necessary for property control, and to supervise general annual physical inventory.

A statewide survey of department-owned buildings was completed during the biennium. The survey revealed that this department now owns 1,531 buildings.

PERSONNEL OFFICE

Since April, 1947, when the Conservation Commission first established a separate personnel office, the objective and purpose of this personnel office has been to establish, maintain and coordinate an integrated over-all personnel program for the entire conservation department. In any organization employing approximately 900 permanent employees and with the tremendous variance of skilled, professional and technical duties performed by this group, it is in the interests of sound administration that specialists assume the responsibilities of coordinating a well-rounded personnel program. In addition to the establishment and maintenance of such a well-rounded personnel program, special duties are assigned to the head of the personnel office. The head of the personnel office acts as chief administrative officer with general responsibility for departmental personnel services, employee relations, in-service training, departmental systems and organization forms, job analyses, work flow, work simplification, and has general supervision over miscellaneous staff services and office administration.

Because of the ever-increasing workload in the personnel section, an assistant to the head of the personnel office has been added who will assume the responsibility of assisting the various divisions on organizational and training problems and who will assist the chief of the personnel office on personnel functions and specialized administrative projects and studies.

During the past biennium a very comprehensive study was made on the comparative salaries and working conditions of various conservation field positions.

The personnel office is represented on the Personnel Council, a subcommittee of the Personnel Advisory Committee, and through regular meetings, not only gains experience and valuable data on public personnel management, but can provide information which may be of mutual interest to other operating departments and the bureau of personnel.

The personnel office has established centralized personnel records which require that all personnel transactions clear through this central personnel office, thereby centralizing functions formerly carried out by various sections.

Preliminary work has been started on several projects as follows:

1. A handbook for employees which will provide a general outline and explanation of departmental administrative and personnel policies. This handbook will be very valuable to both present and new employees.
2. A booklet on careers in conservation will be published in response to the numerous requests on the training desired and the professions and skills

utilized in the field of conservation. This booklet will contain a list of the job specifications for the various civil service classifications of conservation department positions and also an explanation of the responsibilities and activities carried on by the various divisions in the department.

3. A combination credential and identification card to be issued to all employees, except conservation wardens who already have standard warden credentials. This combination credential and identification card will provide standardization of form and will enable employees to identify themselves to the general public or others and will be of assistance to them in fulfilling their duties.

Among the regular personnel functions assigned to the personnel office are the following:

(1) *The Recruitment, Selection and Placement of Personnel*—Since all positions in the conservation department are filled by competitive civil service examination, this recruiting function principally takes the form of informing by personal contact and regular information channels universities, schools and other sources of qualified applicants for employment of the impending examination and referring prospective applicants to the bureau of personnel so that they will be available and will compete when the positions are vacant in the department.

The department personnel office assists the bureau of personnel in evaluating the application blanks of applicants for a position and assists in the examination process. After a list of candidates has been certified as being qualified for conservation department positions, the personnel office then, in conjunction with the employing division of the department, makes recommendations for the selection of candidates from the qualified list. The personnel office assists the bureau of personnel in the examination process by coordinating the efforts of all the divisions in providing technical assistance for written examinations; and the personnel officer is normally on oral examination boards with representatives of the bureau of personnel and the general public.

The department personnel office assists divisions in the proper placement of certified and selected candidates from the eligible lists of the bureau of personnel. This is done by interviewing candidates and in knowledge of positions so that the qualifications of prospective employees can be matched with the requirements of the vacant position.

(2) *Job Classification and Job Evaluation*—As necessary changes are required and noted through changing job requirements, the department personnel office makes recommendations for reclassifications of various positions in the department to the state bureau of personnel. A program of periodic re-evaluation of all positions in the department to insure proper classification is carried out.

The department personnel office, in conjunction with the state bureau of personnel, maintains a department-wide program of job evaluation based on performance standards. Needs for future training and promoting employee morale through recognition of able performance can, therefore, be accomplished.

(3) *Training*—The personnel office coordinates the in-service training program of departmental personnel. Training programs are carried out on an area, division and department-wide basis. This program is conducted in

cooperation with the division and outside specialists so that the job efficiency of departmental employes may be constantly improved.

(4) *Job Promotions*—The departmental personnel office, in conjunction with the state bureau of personnel, conducts the promotional program of the department through competitive promotional examinations. The department very closely participates in this program by assisting the bureau of personnel in conducting the promotional examinations. After eligible registers for promotions have been established, the personnel office makes recommendations for the selection of individual employes for promotions to higher positions within the department.

(5) *Employee Morale*—The departmental personnel office works on the problem of promoting good employee morale; and, therefore, the personnel office is available for individual counselling, for consultation on grievances and other employee problems.

LEGAL COUNSEL

The legal counsel drafts commission orders; prepares recommended legislation of the department; reviews progress of conservation legislation introduced during legislative sessions; examines titles and closes land purchases; prepares legal documents and serves as consultant to departmental personnel in legal matters related to the performance of their duties; examines bounty and deer and bear damage claims; issues special permits and contracts; provides the public with legal interpretation of conservation laws through personal contact and correspondence; assists in the preparation of printed conservation laws and regulations for general distribution.

WISCONSIN CONSERVATION CONGRESS

The Wisconsin Conservation Congress, consisting of three regularly elected delegates and two alternates from each of the 71 counties of the state, acting as an advisory body to the Wisconsin Conservation Commission, continued to contribute to a sound and effective conservation program.

Congress chairman Richard A. Hemp, vice-chairman Jesse T. Walker and secretary-treasurer Emery A. Premeau and members of the executive council laid a fine foundation for the study committee activities in a committee's report which advised the conservation commission of the need for the following study groups which are: big game, waterfowl, trout, fish, upland game, fur, and education-public relations.

It was also agreed that the executive council would meet at least four times each year and each study committee was to meet at least three times each year. At least one of the meetings is a field trip whereby the group can observe actual conditions as they pertain to their particular study group.

The procedure which went into effect regarding election of county congressmen whereby one regular representative would be elected for a period of three years and an alternate be elected for a period of two years has proven to be very valuable. By retaining experienced men for a period of several years, the newer men elected to the congress will get the benefit of the older members.



State meeting of the Wisconsin Conservation Congress, 1952.

On June 2-3, 1952, the congress, at its statewide meeting in Madison, elected district councilors and John R. Lynch, of Gordon, Douglas county was elected chairman to succeed Richard A. Hemp, of Mosinee, Marathon county. Larry C. Whiffen, Milwaukee, Milwaukee county was elected vice-chairman to replace Jesse T. Walker, Baraboo, Sauk county who had resigned because of ill health. Mr. Emery A. Premeau was reelected, as secretary-treasurer.

WISCONSIN FORESTRY ADVISORY COMMITTEE

The Wisconsin Forestry Advisory was created in 1948, by the Conservation Commission to advise and assist the Commission on all forestry matters. The Committee is studying and analyzing Wisconsin forestry problems, both administrative and technical, and providing the Commission with its findings and recommendations.

During the biennium, the Committee conducted extensive research and study on the following subjects insofar as they are related to Wisconsin forestry: Conservation Department forestry administrative organization, forest entomology, forestry research, state forest management, forestry-game management relationship, forest taxation, forest insurance, forest inventory, and the economic significance and potential of Wisconsin forestry.

A very important and continuous function of the Committee is the maintenance of liaison and a sound working relationship between the forest industries and the Conservation Commission. The increasing value and yield of Wisconsin's forest will make this function increasingly important.

Other activities of the organization are the promotion of forestry education and publicity, investigation and study of forestry programs of other states and agencies, assisting the Commission in the promotion of sound forestry legislation, and the promotion of private forestry programs.

The Committee consists of four members appointed by the Forest Industries Information Committee, two members appointed by the Timber Producers Association and one appointed by the County Boards Association. The members of the organization are H. F. MacFarlane, Chairman; George A. Houghton, Vice Chairman; Ivan Branham, George Corrigan, D. C. Everest, F. G. Kilp, and John D. Mylrea. Allan S. Haukom is Executive Secretary of the Committee.

GREAT LAKES COMMERCIAL FISHERY ADVISORY COMMITTEE

For almost two decades the Wisconsin Conservation Congress has served as an advisory group to the Wisconsin Conservation Commission in the matter of establishing fishing and hunting regulations for the inland waters of Wisconsin. This plan has made such remarkable success that the Wisconsin Conservation Commission developed the idea of advisory committees for other fields, and as a result a committee known as the Great Lakes Commercial Fishery Advisory Committee was organized during the biennium. The regulations of the commercial fishery on the Great Lakes has been an item of controversial nature in view of the fact that there are so many diversified interests, and also because the subject is quite technical in itself. In developing the committee the Conservation Department recommended to the Commission that first of all the members should be outstanding and successful individuals in the industry, and who have not been the center of any controversy during recent years. It was also recommended that in so far as possible different types of fishermen; namely, gill or pound net fishermen, be represented, and since fishermen are mainly producers it would also be well to have one of the wholesale dealers on the committee to represent that phase of the industry. Consequently, after considerable care and deliberation the committee made up of two commercial fishermen from Lake Superior, two from Green Bay, two from Lake Michigan and one wholesale fish dealer were recommended to the Conservation Commission. Upon approval by the Commission, the Conservation Department notified these men of their appointment and invited them to a meeting in Madison for the purpose of organization, and the functions of the committeemen were fully reviewed with them. As a result the committee has elected its own officers consisting of a chairman, vice-chairman and secretary.

The sportsmen of the state recommended to the Commission that anglers have representation on this committee since hook and line fishing is be-



Reconstructed pyramidal mound, Aztalan.

coming more important on the Great Lakes. The committee agreed that such addition would be very wholesome, but recommended that there be two representatives of anglers; one from the Lake Superior and Lake Michigan area so as to give better coverage. Consequently, two additional members were appointed to this committee to represent the angler's interest and to develop better commercial fishermen and sportsmen's relations.

Since the organization of the Great Lakes Commercial Fishery Advisory Committee the Conservation Commission has made two annual reviews of commercial fishing regulations. On both occasions the recommendations for changes in regulations, with only one exception, have been unanimously agreed upon and controversy in the regulations of the commercial fishery is no longer a controversial issue. We believe that this is accomplished through better understanding by all persons concerned, and the attempt to develop sound regulations on the basis of scientific evidence and to give all persons equal opportunities.

Cooperative Forestry

FOREST CROP LAW

The total acreage of lands entered under the provisions of Chapter 77 of the statutes is 2,381,233 acres. This is an increase of 70,391 acres since the last biennium.

Privately owned forest crop lands total 238,862 acres, an increase of 20,587 during the past two years. Privately owned lands entered under the new special classification for lands outside of forest protection districts total 10,889 acres, or approximately half of the increase. A further breakdown by counties is shown in the accompanying table.

The effectiveness of the Forest Crop Law is not alone the number of acres actually entered under the law but rather its effect in holding down the level of general property taxes which, if too high, may prevent good forest management—and such management is a long term undertaking. Ten wood using industries now have forest holdings of 614,683 acres in 27 counties, on which forest practices have been approved by the conservation department. More than 45 million trees have been planted on these holdings to date.

During the biennium 60,160 acres of lands were examined, most of which was done to determine compliance with provisions of the law.

Privately owned as well as county owned forest crop lands are open to public hunting and fishing, thus this constitutes the largest class of public hunting grounds in Wisconsin.

COUNTY FORESTS

The establishment of county forests is authorized under Chapter 28 of the statutes. Twenty-eight counties have established county forests which are administered by a committee of the county board, some of which designate the county agricultural agent as administrator and others employ full time administrators and assistants. The conservation department, through its district foresters, provides technical advice and service. Principal forest management activities include planting, cultural cutting, timber sales, and insect and disease control.

County owned lands entered under the forest crop law under this program now total 2,142,372 acres, an increase of 49,806 acres during the past two years. Additions to the county forests continue to be largely land purchases to improve blocking with present holdings rather than acquisition by tax deed. No radical changes have been made in county forest boundaries, as extensions are now the exception.

COOPERATIVE FORESTRY—FOREST CROP LANDS BY COUNTIES

July 1, 1950—June 30, 1952

County	PRIVATE ENTRIES					COUNTY ENTRIES					Total Forest Crop Lands
	Prior to July 1, 1950	1951	1952	With-drawn	Net Private Lands	Prior to July 1, 1950	1951	1952	With-drawn	Net County Lands	
Adams	1,231.27	420.00			1,651.27						1,651.27
Ashland	1,277.51				1,277.51	38,866.02	200.00			39,066.02	40,343.53
Barron	651.52	120.00			771.52	6,378.67	1,132.66	1,929.18		9,440.51	10,212.03
Bayfield	920.00	40.00	100.00		1,060.00	159,392.63	640.00	235.69	360.33	159,907.99	160,967.99
Buffalo			80.00		80.00						80.00
Burnett	380.30	80.00		80.00	380.30	103,843.32	632.35	980.00	983.87	104,471.80	104,852.10
Calumet			80.00		80.00						80.00
Chippewa	383.00	889.10	220.00	143.00	1,349.10	22,101.73	568.07	200.00		22,869.80	24,218.90
Clark	165.55	158.63		165.55	158.63	128,844.72	291.60	160.00		129,296.32	129,454.95
Crawford			519.20		519.20						519.20
Door	666.30	40.00	1,342.43	120.00	1,928.73						1,928.73
Douglas	11,815.67	2,272.73	280.00		14,368.40	220,624.71	15,017.05	1,628.75	960.00	236,310.51	250,678.91
Dunn	304.35	650.00	320.20		1,274.55						1,274.55
Eau Claire	680.00	80.00			760.00	39,356.06	280.00	1,572.71	360.00	40,848.77	41,608.77
Florence	43,582.88	560.00	521.39	310.00	44,354.27	38,773.58	200.00			38,973.58	83,327.85
Forest	30,463.67		360.00	30.00	30,793.67	10,695.07				10,695.07	41,488.74
Iron	4,680.00				4,680.00	171,752.37	1,116.56	200.00	40.00	173,028.93	177,708.93
Jackson	320.00	80.00			400.00	110,186.25	801.61	4,569.98	3,100.76	112,457.08	112,857.08
Juneau	360.92	155.59	40.00	160.00	396.51	14,644.38	200.00	80.00		14,924.38	15,320.89
Kewaunee		78.47			78.47						78.47
La Crosse		160.00			160.00						160.00
Lafayette	51.67				51.67						51.67
Langlade	6,417.19	198.79	1,152.74	3.75	7,764.97	98,812.54		14,418.55	638.95	112,592.14	120,357.11
Lincoln	26,955.55	160.00	1,500.30	6.02	28,609.83	95,769.11	199.94			95,969.05	124,578.88
Manitowoc		230.00		40.00	190.00						190.00
Marathon	1,689.58	517.70	553.10		2,760.38						2,760.38
Marinette	738.00	80.00			818.00	223,878.27	730.78	315.15		224,924.20	225,742.20
Marquette	55.00				55.00						55.00
Monroe	80.00		54.00		134.00	2,387.08		240.00		2,627.08	2,761.08
Oconto	463.40	40.00	190.06		693.46	41,708.44	120.00	160.00	2,520.00	39,468.44	40,161.90
Oneida	59,038.22	668.56	1,151.21		60,857.99	79,313.40		640.00	640.00	79,313.40	140,171.39
Outagamie	360.00		80.00		440.00	516.98			280.00	236.98	676.98
Pierce	80.00		70.00		150.00						150.00
Polk	1,865.61	120.00	60.00	40.00	2,005.61	9,269.49				9,269.49	11,275.10
Portage	1,065.44	440.00	40.00		1,545.44						1,545.44
Price	2,112.38	40.00			2,152.38	80,283.70	3,773.37	600.00		84,657.07	86,809.45

COOPERATIVE FORESTRY—FOREST CROP LANDS BY COUNTIES—Continued

County	PRIVATE ENTRIES					COUNTY ENTRIES					Total Forest Crop Lands
	Prior to July 1, 1950	1951	1952	With- drawn	Net Private Lands	Prior to July 1, 1950	1951	1952	With- drawn	Net County Lands	
Rusk.....	795.22		490.00	160.00	1,125.22	79,310.76	800.00			80,110.76	81,235.98
St. Croix.....	100.00				100.00						100.00
Sauk.....		40.00	40.00		80.00						80.00
Sawyer.....	950.00	98.37		80.00	968.37	105,210.99	756.51	192.00		106,159.50	107,127.87
Shawano.....	5,499.23	311.80	240.00	40.00	6,011.03						6,011.03
Sheboygan.....		41.50			41.50						41.50
Taylor.....	1,411.28	80.00	280.00		1,771.28	15,935.11		120.71	39.55	16,016.27	17,787.55
Vernon.....		150.00			150.00						150.00
Vilas.....	523.24		1,540.45		2,063.69	31,611.25			86.00	31,525.25	33,588.94
Washburn.....	674.08		758.12		1,432.20	129,290.64	120.00	1,447.66	280.00	130,578.30	132,010.50
Waupaca.....		240.00	260.00		500.00						500.00
Waushara.....	160.00	260.00	80.00		500.00						500.00
Wood.....	9,307.46		60.00		9,367.46	33,809.41	2,743.80	80.00		36,633.21	46,000.67
TOTALS.....	218,275.49	9,501.24	12,463.20	1,378.32	238,861.61	2,092,566.68	30,324.30	29,770.38	10,289.46	2,142,371.90	2,381,233.51



Well-stocked stand of Norway and white pine small sawtimber in Oneida county. This is typical of many natural pine stands in need of management.

Work Program

County forest records of accomplishment and work plans are compiled by the calendar year. The report for the preceding biennium covered a full two year period to January 1, 1951. As this report is being written in mid 1952 it will, of necessity, cover a period of a year and a half, January 1, 1951 to June 30, 1952; thus, the work accomplished as shown in the accompanying table for 1952 will actually be for a six month period only.

Planting programs are continuing to increase due largely to the availability of more planting machines and planting stock. It is anticipated that the acreage planted each year will remain at a high level until the relatively open areas have been planted, at which time the acreage will drop due to the increased cost of planting with hand labor on the more difficult sites.

SUMMARY OF PLANTING AND CULTURAL CUTTING ON COUNTY FORESTS

January 1, 1951—June 30, 1952

County	New Planting				Replanting				Cultural Cutting			
	Acres				Acres				Acres			
	Prior to 1951	1951	1952	Total to Date	Prior to 1951	1951	1952	Total to Date	Prior to 1951	1951	1952	Total to Date
Ashland.....	431	26	10	467	55			55				
Barron.....	54	39		93					12			12
Bayfield.....	6,022	772	515	7,309	958			958	2,302			2,302
Burnett.....	4,100	855	542	5,457	2,644	159		2,803	3,242			3,242
Chippewa.....	153	68	50	271	3		3	6				6
Clark.....	5,124	183	150	5,497	620		40	660	169	5		174
Douglas.....	5,195	1,077	589	6,861	333			339	42			42
Eau Claire.....	1,705	133	137	1,975	262	6		262	6			6
Florence.....	2,094	98	73	2,265	120			120	50			50
Forest.....	376	22	28	426	4		1	9				
Iron.....	3,990	56	63	4,109	636			636		80		1,007
Jackson.....	5,838	231	145	6,214	972			972	50	180	80	310
Juneau.....	2,926	108	158	3,192	161			161	171	80		251
Langlade.....	4,621	72	34	4,727	1,032			1,032	1,056	34		1,090
Lincoln.....	2,988	13		3,001	134	19		153			64	64
Marquette.....	10,874	725	529	12,128	2,698	7	178	2,883	4,673	144	16	4,833
Monroe.....	98			98	120			120				
Oconto.....	6,760	52	94	6,906	886	3		889	2,196	74	34	2,304
Oneida.....	1,590	50	63	1,703	1,425			1,425	1,092			1,092
Polk.....	304	150	46	500	7		54	61	33			33
Price.....	954	64	40	1,078	49			49	130	100		230
Rusk.....	891	58	48	997	438			438	2,897		58	2,955
Sawyer.....	3,886	82	79	4,047	1,780	14		1,794	3,782	71		3,853
Taylor.....	223	58	36	317	2			2	68			68
Vilas.....	1,957	173	192	2,322	6			6	158			158
Washburn.....	1,098	332	107	1,537	441		2	443	1,349			1,349
Wood.....	3,566	91	110	3,767	515			515	493			493
Total.....	77,818	5,588	3,858	87,264	16,301	212	278	16,791	24,898	768	252	25,918

SUMMARY OF TIMBER SALES ON COUNTY FORESTS—1951

County	No. of Sales	LOGS		CORDWOOD						PIECE PRODUCTS			Total Sales Value
		Conifers	Hardwoods	Pine	Spruce	Balsam	Other Conifers	Aspen	Other Hardwoods	Crossties	Posts	Poles	
		M.B.F.											
Ashland.....	31		305.32		154	1,458	349	795					\$ 13,088.17
Barron.....													
Bayfield.....	47	33.42	56.99	744	86	445	23	9,509	4		80		21,371.12
Burnett.....	10	3.62		376	86			454			330		3,674.51
Chippewa.....	27	11.55	42.81		1	10	8	2,284	23		517		4,174.72
Clark.....	4												1,667.20
Douglas.....	34	64.14	42.70	1,075	215	665		3,844	133				20,016.78
Eau Claire.....	16	.98		841				53			5,542	571	3,490.31
Florence.....	10	5.44	14.85	289	31	39	3	2,324	31			27	3,845.42
Forest.....													
Iron.....	32	27.20	177.80		208	681	269	1,531	116	2,345	1,643		11,871.88
Jackson.....	10	5.60		1,771				271	21				8,871.76
Juneau.....	2			13									40.01
Langlade.....	27	162.28	193.68	2	613	1,937	91	2,742	127	103	4,918	5	25,744.48
Lincoln.....	34	10.23	18.68	4	93	695	228	1,786	423	21	4,787	14	9,739.18
Marinette.....	36	58.80	20.80	73	156	245	37	13,167	139		1,977		29,080.03
Monroe.....													
Oconto.....	11	39.30	6.50		13	177	49	1,231			1,158		4,682.60
Oneida.....	27	11.13		4	101	620	641	2,418	38	34	1,696	77	9,692.84
Polk.....													
Price.....	30	18.92	184.88	22	154	204	97	8,819	333			65	24,127.70
Rusk.....	76	53.38	851.49		10	24		2,273					27,369.83
Sawyer.....	31	20.83	135.29		16	36	149	2,139			930		5,893.88
Taylor.....	10	5.12	12.22		7	55	34	632					1,487.92
Vilas.....	12	19.42			8	55		592	59				2,378.41
Washburn.....	53	26.45	51.21	405	140	736	37	10,464	65		800	51	25,084.92
Wood.....													
Total.....	570	577.81	2,115.42	5,811	2,092	8,082	2,015	67,328	1,587	2,503	24,671	745	\$257,393.67

SUMMARY OF TIMBER SALES ON COUNTY FORESTS

January 1, 1952—June 30, 1952

Products and Volumes Cut

County	No. of Sales	LOGS		CORDWOOD						PIECE PRODUCTS			Total Sales Value
		Conifers	Hardwoods	Pine	Spruce	Balsam	Other Conifers	Aspen	Other Hard- woods	Tie Cuts	Posts	Poles	
		M.B.F.											
Ashland.....	19	300	253,170		109	1,221	472	560	28	126	84	\$ 11,828.13	
Barron.....												4,300.25	
Bayfield.....	13	11,210	170					2,336	30			13,732.07	
Burnett.....	9			1,792	14		1					2,431.48	
Chippewa.....	30	2,190	49,410		2	7		908	17		45	2,159.23	
Clark.....	8		710					184			965	3,022.46	
Douglas.....	2	111,380	76,500		2	87	10	135				226.86	
Eau Claire.....	2	5,120		39								1,251.74	
Florence.....	4	1,150			45	73		521					
Forest.....													
Iron.....	28	60,320	407,760	2	207	1,059	454	3,325	469	337		22,705.32	
Jackson.....	6			17				26				293.33	
Juneau.....	2			88								176.86	
Langlade.....	1	8,850	31,000									1,147.28	
Lincoln.....	13	1,370	89,050		50	249	182	367	31		6,110	3,295.18	
Marinette.....	16	41,160	4,100	372	903	432	37	4,809	118		7,265	24,756.67	
Monroe.....													
Oconto.....													
Oneida.....	36	21,960	103,580	11	204	392	757	5,175	366		1,060	60	17,833.73
Polk.....													
Price.....	15	21,720	5,940		174	210	55	3,014	248				10,656.44
Rusk.....	47	73,330	845,720		8	46	48	731	2		2,555		26,538.83
Sawyer.....													
Taylor.....	14	780	7,380		7	65	26	405	77		507		1,392.64
Vilas.....	3	1,700		34	3	76	15	35					596.25
Washburn.....	27	35,140	448,070	125	85	165	50	1,122			2,178	298	12,236.73
Wood.....													
Total.....	295	397,680	2,322,560	2,480	1,813	4,053	2,106	23,653	1,386	463	22,014	398	\$160,581.53

Prior to calendar year 1951 the counties had established 77,818 acres of successful plantation. During 1951, 5,588 acres of new plantation were established, bringing the total to 83,406 acres. This is an increase of more than 1,500 acres over that planted each of the two preceding years. It should be pointed out that plantation inspection is carried on currently, and it follows that each year some acreage is written off due to failure.

Planting in the spring of 1952 on county forests totaled 3,858 acres bringing the total planted to 87,264 acres. Marinette, Oconto, Douglas, Bayfield, and Jackson counties all have established more than 6,000 acres of successful plantation with Clark and Burnett very near to that figure. Many of the other counties are not required to carry on as extensive planting programs as those listed above due to the character of their forests.

Replanting has been continued on a moderate scale on the county forests with 212 acres replanted in 1951 and 278 acres in 1952. The total is approximately half that done during the preceding biennium.

A total of 1,020 acres was improved through cultural work during the period. Included in this type of work is stand improvement cuttings and plantation release.

Timber Sales

The same situation applies to the timber sale record as with the planting record in that it is for the first six months only of 1952.

In 1951 sales numbered 570, which was practically the same number as the preceding year. The volume of sawlogs harvested was 2,693,230 board feet, which is a considerable drop from the preceding year. Cordwood products totaled 78,833 cords, of which 67,328 cords was aspen pulpwood. Balsam pulpwood ranked second in volume cut with 8,082 cords, followed by pine with 5,811 cords. Other products such as crossties, posts and poles were harvested as shown in the accompanying table. While the total volume harvested was reduced in 1951, the value of these products was \$257,393.67, an increase of approximately \$7,000 over the preceding year.

For the first half of 1952 completed sales number 295. The volume of sawlogs harvested exceeds that for all of 1951 with 2,720,240 board feet, but cordwood products are being cut at a reduced rate and total 35,851. This reduction may be due to the slump in the pulpwood market which developed this year. Prices, however, have remained fairly constant. The total sales value for the six months is \$160,581.53.

The total harvest in cord equivalent is 125,418 cords.

SERVICE TO PRIVATE OWNERS

Under this program technical service is given to farmers and other owners in the forest management of their lands. These services include assistance in cruising, marking, planting, marketing, preparation of management plans, and other forestry services. Eleven districts are activated covering 34 counties.

The U. S. Forest Service cooperates with this department in the program. Federal aids which support it in part are received under the Cooperative Forest Management Act of 1950. This aid applies to the 11 farm

forestry districts only. In addition, much service is given to private owners in the north by the district foresters under the county forest program.

The accompanying table shows that for the biennium 2,603 owners were given assistance, of which 1,979 adopted improved practices. The woodland involved totaled 86,136 acres. The acreage planted was 6,184, and there were 42,727 acres placed under protection from grazing. Products harvested using improved practices include 12,264,000 board feet of sawlogs, 2,741 cords of pulpwood, 64,670 tie cuts, 2,194 cords of fuelwood, 27,410 posts and other products such as poles, piling and Christmas trees. The total when converted to log scale equivalent amounts to 16,906,000 board feet. An additional 6,900,000 board feet were harvested with market assistance in selling, bringing the total cut on which assistance was given to 23,806,000 board feet. It is estimated that the stumpage return to owners was \$450,357 and that the gross return from the sale of logs and other products after the owners had done their own logging was \$851,943. It should be pointed out that there has, with slight variations, been a steady increase since the beginning of the program in acreage planted and products harvested under improved practices.

ACCOMPLISHMENT REPORT—SERVICE TO PRIVATE OWNERS

Item	Fiscal Years		Total
	1950-51	1951-52	
Districts activated.....	11	11	-----
Owners given assistance—No.....	1,458	1,145	2,603
Woodland involved—Acres.....	49,192	36,944	86,136
Timber marked—M.B.F.....	6,405	4,570	10,975
—Cords.....	3,233	4,431	7,664
—Acres.....	6,129	5,932	12,061
Timber cruised for manage, plans—M.B.F.....	22,744	20,483	43,227
—Cords.....	4,470	4,090	8,560
—Acres.....	6,405	5,348	11,753
Woodlands using improved practices—No.....	1,146	833	1,979
Land planted—Acres.....	2,224	3,960	6,184
Land protected, grazing—Acres.....	25,522	17,205	42,727
Products harvested using improved practices			
Sawlogs, veneer, lumber—M.B.F.....	5,878	6,386	12,264
Pulpwood—Cords.....	1,685	1,056	2,741
Ties—No.....	21,620	43,050	64,670
Fuelwood—Cords.....	1,171	1,023	2,194
Posts—No.....	6,070	18,340	24,410
Total—Converted to—M.B.F.....	8,088	8,818	16,906
Market Assistance only—M.B.F.....	4,168	2,732	6,900
Total, products harvested—M.B.F.....	12,256	11,550	23,806
Stumpage return to owners, approx.....	\$268,635	\$181,722	\$450,357
Gross return to owners, approx.....	\$495,356	\$356,587	\$851,943

INSECT CONTROL

Insect survey and control was activated in 1950 with the employment of a forester entomologist. Insects have been taking an increasing toll of our forests and survey and control measures must be undertaken.

In 1952 two more forester entomologists were employed. These specialists will be stationed at Wisconsin Rapids, Hayward and Antigo.



Loading insecticide in plane used to spray for control of the Saratoga spittle bug on the Northern Highland State Forest.

In 1951 direct control measures were used against the pine tussock moth in Douglas county which was attacking jack pine, much of which was mature. Approximately 3,000 acres were sprayed with the use of planes. Private owners, industry and the state cooperated in the project.

Direct control was also used against the Saratoga spittle bug in Oconto, Marinette and Florence counties. Approximately 2,600 acres were sprayed from the air using DDT.

In addition, numerous small plantations were sprayed with knapsack sprayers and a portable mist blower to control the red-headed pine sawfly.

In 1952 approximately 1,600 acres were sprayed from the air in Oconto and Marinette counties for the Saratoga spittle bug, and 500 acres were covered in Vilas county to control the same insect.

In Sauk and Richland counties operations were carried out against Swaine's jack pine sawfly and the red-headed pine sawfly, 420 acres were sprayed in all.

An additional 1,100 acres was sprayed on the ground with knapsack sprayers. These areas were small plantations and control was for the red-headed pine sawfly.

Ten district foresters are now equipped with knapsack sprayers, and a small mist blower is being used on an experimental basis for work in plantations. In 1951 a tank with motor and accessory equipment was built by the department and is used for mixing and dissolving insecticides and pumping the finished product into planes. Two more units will be made if this model proves satisfactory.

During 1951 the introduced pine sawfly was reported in Wisconsin for the first time. It is a vigorous defoliator and prefers white pine.

In 1952 the forest tent caterpillar was reported over a wide area in the northwestern part of the state. This insect has moved in from Minnesota in large numbers, and an outbreak may be expected next year.

FOREST INVENTORY

The forest inventory of 32 northern and central counties which was activated in 1950 and covers approximately 18,000,000 acres has been continued. The purpose of such an inventory is to determine the condition of our forests, that is, the kind and amount of timber present, where located, rate of growth, amount being cut, amount that is recommended for cutting under good forest practices, kind and amount of natural reproduction present, acreage in need of planting, etc.

Satisfactory progress has been made in all phases of the work except in the taking of new aerial photography. More specifically, the progress on the various phases is as follows:

Photography: Satisfactory aerial photography has been obtained to date on 23 of the 32 counties to be inventoried. Partial coverage is reported for several other counties. However, this phase is behind schedule due to poor weather for the taking of photography during the summer seasons of 1950 and 1951. Contractors simply did not have a sufficient number of days of clear weather to complete the schedule. The work is being continued in 1952 with the hope that satisfactory photography can be obtained for the balance of the area. Should poor weather again prevail, completion of the inventory will be further delayed.

Mapping: Photo interpretation and field checking have been completed in 17 counties with work underway in 4 additional counties. Mapping is complete in Burnett, Douglas, Sawyer, Ashland, Marathon, Vilas, Forest, Oneida, Adams, Portage, Waupaca, Waushara, Marquette, Juneau, Monroe, Jackson and Wood counties. Currently being worked are Iron, Clark, Chippewa, and Langlade counties. The gross area mapped for the extensive survey totals 9,968,000 acres with an additional 961,920 acres mapped for the 100 per cent or intensive survey.

Cruising: Sample plot measuring has been completed in the 17 counties listed above; and a total of 4,406 one-fifth acre sample plots have been measured, of which 537 are permanent plots. Future remeasurement of these permanent plots will provide additional valuable information on rate of growth, mortality, and drain. In addition, 4,156 chains of mil-acre plots have been counted for the reproduction survey.

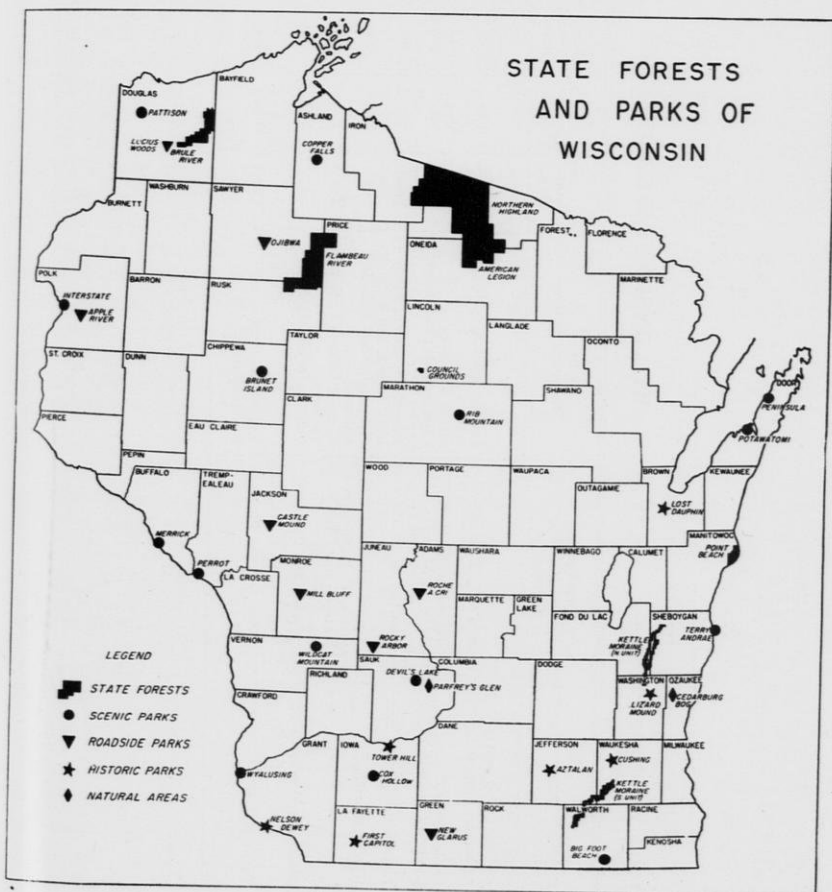
Computing: All compilation and computations have been completed for Adams, Marquette, Portage, Waupaca, and Waushara counties; and the Waushara county report is currently being written. Reports for the other counties in the sampling unit will follow.

In addition to the above project, an intensive inventory of the Northern Highland and American Legion State Forests was activated in April of 1952. Mapping of all department owned land, totalling approximately 163,000 acres within the boundaries, has been completed. Sample plots will be measured and computations made which will lead to a sound forest management plan including the allowable annual cut.

Forests and Parks

STATE FORESTS

State forests are areas set aside primarily for timber production but managed under the principle of "Multiple use". They are composed of lands submarginal for agriculture because of low fertility, excessive stoniness, poor drainage, or rough topography. Although the primary use of state forests is the growing of recurring forest crops, scenic values, scientific and educational values, outdoor recreation, public hunting and fishing and stabilization of stream flow are important extra benefits. Under the



WISCONSIN STATE FORESTS

<i>Name</i>	<i>Location and State Highway Connection</i>	<i>Dominant Feature</i>	<i>Swimming</i>	<i>Camping</i>	<i>Electrical Outlets</i>	<i>Store</i>	<i>Address of Forest Manager</i>	<i>Water Frontage</i>	<i>Picnic Grounds</i>
STATE FORESTS									
American Legion.....	Oneida Co., T. H. 47	Inland lakes, wooded terrain	Yes	Yes	No	Nearby	Trout Lake	Many glacial lakes	Yes
Brule River.....	Douglas Co., T. H. 2	River scenery	Yes	Yes	No	Nearby	Brule	Brule River	Yes
Council Grounds.....	1 mi. W. of Merrill, Lincoln Co. T. H. 51	Pine woods, river scenery	Yes	Yes	No	Nearby	Merrill	Wisconsin River	Yes
Flambeau River.....	Sawyer Co., T. H. 13, 8, 70	Flambeau River, wilderness, forest, canoeing	Yes	Yes	No	Nearby	Phillips	Flambeau River	Yes
Kettle Moraine.....	N. Unit—5 mi. N. of Kewaskum, T. H. 55 and 45 S. Unit—4 mi. N. of Eagle, T. H. 59	Glacier formed hills and valleys	Yes	Yes	Yes	Nearby	Campbellsport	Mauthe Lake Long Lake	Yes
Northern Highland.....	Vilas and Iron Counties, T. H. 51	Glacier formed hills and valleys	Yes	Yes	No	Nearby	Eagle	Whitewater Lake	Yes
Point Beach.....	4 mi. N. of Two Rivers, T. H. 42	Glacier formed lakes, wooded terrain	Yes	Yes	No	Nearby	Trout Lake	Trout Lake and many other lakes	Yes
		Lake Michigan, sand dunes, pine woods	Yes	Yes	No	Nearby	Two Rivers	Lake Michigan	Yes

principle of multiple use, forest contain special use areas such as recreation sites, wilderness areas, scientific areas, game refuges, and canoe ways, within which the specific uses take precedence over timber production.

The extensive lake and river frontage retained by the state, the hills, marshes, and other geographic, historic and natural features embraced within the forests provide a wide variety of recreational opportunities.

During the biennium the order creating the Silver Cliff State Forest was rescinded by the conservation commission. The relatively small acreage and the cessation of intensive work made it difficult to justify continuance of this small area as a state forest. This does not mean a change of ownership, but the lands under the jurisdiction of the conservation commission are now classified as lands outside forest boundaries.

The seven state forests of Wisconsin as of June 30, 1952 contained 271,472.37 acres. A tabulation showing location, how reached, dominant features and other information appears on page 24.

STATE FOREST LAND ACQUISITION

The examination and acquisition of lands within established forest boundaries continued over the biennium. Of greatest significance was the acquisition of 1,775.56 acres of timber land from the Commissioners of the Public Lands on the Flambeau River Forest. This was accomplished by an act of the State legislature at a cost of \$457,115.63, of which the sum of \$275,000 was paid from conservation funds and \$182,115.63 was provided by a special appropriation from the general fund. This purchase included some frontage on both Connors and Pickerel Lakes.

Over the biennium there was in excess of 2,900 acres of land acquired in the Flambeau River Forest, including approximately one mile of river frontage and one mile of lake frontage. Kettle Moraine State Forest Land acquisition approached a thousand acres. In total there was acquired 4,615.21 acres of forest land as additions to the state forests.

The following table shows the total acreage of state-owned forest land by counties within the boundaries of the seven state forests:

STATE FOREST ACREAGE AS OF JUNE 30, 1952

Name	County	Acre	Total Acres
American Legion.....	Oneida.....		37,637.30
Brule River.....	Douglas.....		18,692.54
Council Grounds.....	Lincoln.....		278.17
Flambeau River.....	Price.....	7,115.48	
	Rusk.....	9,173.52	
	Sawyer.....	55,170.97	71,459.97
	Fond du Lac.....	3,755.47	
	Sheboygan.....	6,622.91	
	Washington.....	185.50	
	Northern Unit Total.....	10,563.88	
	Jefferson.....	739.76	
	Walworth.....	1,057.34	
	Waukesha.....	4,020.58	
	Scuppernon Total.....	5,817.68	16,381.56
Northern Highland.....	Iron.....	12,358.73	
	Vilas.....	112,954.81	125,313.54
Point Beach.....	Manitowoc.....		1,709.29
TOTAL.....			271,472.37

REFORESTATION ON STATE FOREST LANDS

A slight increase is shown in the total number of trees planted on the state forests during 1951 over the number planted in 1950 or 1949. Some experimental fall plantings were made on the Kettle Moraine forest using seven species of trees ordinarily planted in the spring including several of the hardwoods. If reasonable success is attained from the fall planted trees, it may be possible to materially step up the annual planting program on this forest. One new planting machine was delivered late in 1951, bringing the total number of mechanical tree planters to three modern machines on the Kettle Moraine Forest.

The following table gives figures on the number of trees and acres planted on state forests in 1951:

STATE PLANTING REPORT SUMMARY 1951

Forest	Trees	ACRES		
		New Planting	Replanting	Total
American Legion.....	42,000	25		25
Brule River.....	511,390	308	71	379
Flambeau River.....	223,000	187		187
Kettle Moraine.....	315,751	230.05	10	240.05
Northern Highland.....	372,455	124	218	342
Point Beach.....	9,000	11.20		11.20
Misc. Gordon, CWCA, Etc.....	113,060	93.70		93.70
Total State Forest.....	1,586,656	978.95	299	1,277.95

SALE OF FOREST PRODUCTS

Timber sales over the biennium exceeded all previous records. In terms of money the value of the logs somewhat exceeded the value of the products in the form of pulpwood. Some of the total volume of wood harvested was in the nature of salvage operations of dead, down and storm damaged timber. Gross revenue derived from the sale of forest products over the biennium amounted to \$207,450.57 or a 260% increase over the previous two years.

The apportionment to the counties of 25% of the revenue from the sale of wood products cut on state forest lands in accordance with section 25.30 Wisconsin Statutes for 1951 and 1952, follows:

APPORTIONMENT TO COUNTIES OF REVENUE FROM SALE OF WOOD PRODUCTS CUT ON STATE FOREST LANDS.

(SECTION 25.30, WISCONSIN STATUTES)

The following apportionment is made on the basis of state forest acreage as of June 30, 1951:

Total acreage -----	268,466.54
Total income -----	\$65,760.40
One-fourth of income -----	\$16,440.10

County	Town	Town Acreage	County Acreage	Per Cent of County to Total	Amount Due County
Douglas	Bennett	680.00	18,692.54	6.96271	\$ 1,144.68
	Brule	4,116.27			
	Highland	9,692.48			
	Solon Springs	4,203.79			
Fond du Lac	Auburn	2,395.44	3,755.47	1.39886	229.98
	Osceola	1,360.03			
Iron	Mercer	7,244.96	12,358.73	4.60345	756.81
	Sherman	5,113.77			
Jefferson	Palmyra	729.76	729.76	.27183	44.69
Lincoln	Merrill	278.17	278.17	.10361	17.04
Manitowoc	Two Rivers	1,709.29	1,709.29	.63669	104.67
Oneida	Lake Tomahawk	8,191.69	37,306.65	13.89620	2,284.55
	Newbold	10,877.56			
	Sugar Camp	7,685.45			
	Woodruff	10,551.95			
Price	Flambeau	1,196.98	7,075.48	2.63552	433.28
	Lake	5,878.50			
Rusk	Cedar Rapids	5,173.31	9,173.52	3.41701	561.76
	South Fork	4,000.21			
Sawyer	Draper	10,362.43	53,239.21	19.83085	3,260.21
	Winter	42,876.78			
Sheboygan	Greenbush	2,239.50	6,418.87	2.39094	393.07
	Mitchell	3,075.03			
	Plymouth	41.03			
	Scott	1,063.31			
Vilas	Arbor Vitae	24,172.59	112,875.83	42.04465	6,912.18
	Boulder Junction	33,371.54			
	Cloverland	2,631.79			
	Land O'Lakes	3,657.51			
	Manitowish Waters	4,277.68			
	Plum Lake	31,794.93			
	Presque Isle	5,159.72			
	St. Germain	3,660.07			
Winchester	1,960.00				
Walworth	La Grange	626.88	940.94	.35049	57.62
	Whitewater	314.06			
Waukesha	Eagle	1,597.88	3,912.08	1.45719	239.56
	Ottawa	2,314.20			
TOTALS		268,466.54	268,466.54	100.	\$16,440.10

APPORTIONMENT TO COUNTIES OF REVENUE FROM SALE OF WOOD PRODUCTS CUT ON STATE FOREST LANDS.

(SECTION 25.30, WISCONSIN STATUTES)

The following apportionment is made on the basis of state forest acreage as of June 30, 1952:

Total Acreage	271,472.37	acres
Total Income	\$141,690.17	
One-fourth of Income	\$ 35,422.54	

County	Town	Town Acreage	County Acreage	Per Cent of County to Total	Amount Due County
Douglas.....	Bennett.....	680.00	18,692.54	6.88561	\$ 2,439.06
	Brule.....	4,116.27			
	Highland.....	9,692.48			
	Solon Springs.....	4,203.79			
Fond du Lac.....	Auburn.....	2,395.44	3,755.47	1.38337	490.02
	Osceola.....	1,360.03			
Iron.....	Mercer.....	7,244.96	12,358.73	4.55248	1,612.60
	Sherman.....	5,113.77			
Jefferson.....	Palmyra.....	739.76	739.76	.27250	96.53
Lincoln.....	Merrill.....	278.17	278.17	.10247	36.30
Manitowoc.....	Two Rivers.....	1,709.29	1,709.29	.63669	104.67
Oneida.....	Lake Tomahawk.....	8,271.69	37,637.30	13.86414	4,911.03
	Newbold.....	10,917.56			
	Sugar Camp.....	7,685.45			
	Woodruff.....	10,762.60			
Price.....	Flambeau.....	1,236.98	7,115.48	2.62107	928.45
	Lake.....	5,878.50			
Rusk.....	Cedar Rapids.....	5,173.31	9,173.52	3.37917	1,196.99
	South Fork.....	4,000.21			
Sawyer.....	Draper.....	10,362.43	55,170.97	20.32287	7,198.88
	Winter.....	44,808.54			
Sheboygan.....	Greenbush.....	2,259.50	6,622.91	2.43963	864.18
	Mitchell.....	3,259.07			
	Plymouth.....	41.03			
	Scott.....	1,063.31			
Vilas.....	Arbor Vitae.....	24,171.57	112,954.81	41.60821	14,738.69
	Boulder Junction.....	33,451.54			
	Cloverland.....	2,631.79			
	Land O' Lakes.....	5,857.51			
	Manitowish Waters.....	4,277.68			
	Plum Lake.....	31,794.93			
	Presque Isle.....	5,159.72			
	St. Germain.....	3,650.07			
	Winchester.....	1,960.00			
	Walworth.....	La Grange.....			
Whitewater.....		390.46			
Washington.....	Kewaskum.....	185.50	185.50	.06833	24.20
Waukesha.....	Eagle.....	1,706.38	4,020.58	1.48103	524.62
	Ottawa.....	2,314.20			
TOTALS.....		271,472.37	271,472.37	100.	\$35,422.54

IMPROVEMENTS

Forest Roads—In co-operation with the State Highway Commission, the work of maintaining and improving the forest road system on all state forests was continued. Heavy summer rains resulted in numerous wash-outs and necessitated more than the usual amount of summer maintenance. Snow removal costs during the year increased on all areas.

The Flambeau Forest Road (Winter to Phillips) was completed as to surfacing, except for a short distance where a relocation is planned at the South Fork bridge in Price County.

One of the primary road projects completed during 1951 was the erection of a distinctive sign to mark the route of the northern 45 mile section of the Kettle Moraine Scenic Drive. The signs were placed beginning at the south limits of the Sheboygan marsh and continued southward to a point just north of the City of Barton on highway 55 in Washington County.

Plans and surveys have been completed by the State Highway Commission for the east extension and improvement of the Whitewater Lake road. This project includes grading, graveling, and minor changes in road alignment; and it is estimated to cost \$36,000.

Buildings and Grounds—At Point Beach State Forest, work began on the development of a trailer camp area and a play area.

On the southern purchase unit of the Kettle Moraine, a new shelter house was constructed on the field trial grounds and wayside on highway 67, together with sanitary facilities and landscaping. A new water supply was developed and new sanitary facilities constructed on the Whitewater Lake area.

On the northern purchase unit of the Kettle Moraine Forest, a careful restoration was made of five of the Indian Mounds in the Lizard Mound group. Construction work started on a combination building at the Wade House project at Greenbush. This building is part of the restoration project being carried on at the Wade House by the Kohler Foundation. Six small bridges on the hiking and riding trails in the vicinity of Mauthe Lake were completed. More than one hundred new picnic tables were constructed for the public use areas on the Kettle Moraine Forest.

On the American Legion Forest, new toilets were constructed at the Carroll Lake and Buffalo Lake Camp grounds. New wells were drilled.

Late in 1951 construction work started on a new headquarters building for the Flambeau River State Forest.

On the Northern Highland State Forest, seven new wells were installed at the various public camp grounds, and forty-four new picnic tables were constructed.

New Equipment—The program of annually acquiring a limited number of new trucks as replacements for old worn out units was continued over the biennium. The periodic exchange and purchase of new equipment results in dependable transportation and greater efficiency of operation. One old tractor was traded in, and a new tractor was acquired for general forest improvement work.



Historic Wade House restored, 1952.

FOREST DAMAGE

The 1951 fire season was characterized by cool weather, frequent, well-spaced rains, and moderate relative humidity and wind velocity. The only dangerous fire weather experienced occurred in the first two weeks in May. There was a total of only thirteen fires reported on all forests; the total acreage burned was 19.86 acres; the fire damage was negligible.

Deer damage on the forests was much lighter than in the past several years, due to a reduction in the deer herd. Rabbits, on the other hand, seem to be on the increase, with greater resulting rabbit damage.

PUBLIC USE

Although the 1951 season was characterized by cool rainy weather, heavy use was made of the state forest camp grounds. Throughout the year the state forest properties see rather heavy use for a wide variety of recreational pursuits such as camping, picnicking, swimming, canoeing, fishing, hunting, hiking, winter sports, field trials, archery meets, photography, nature study, etc. Although it is impractical to get accurate figures on the total number of people using the forests for recreation, public campsite registrations and automatic counting devices on certain areas are helpful indicators of trends in public use.

Southern Forest Attendance by Areas (1951 Calendar Year)

<i>Mauthe Lake Area</i>		<i>Point Beach Area</i>	
Total People.....	158,061	Total People.....	208,860
Total Cars.....	35,340	Total Cars.....	66,212
Total Camper Days.....	4,349	Total Camper Days.....	1,268
Total Organized Campers.....	6,266	Total Trailers.....	34
Total Trailer Days.....	527	Total Tents.....	237
Total Tents.....	1,251		
<i>Long Lake Area</i>		<i>Greenbush Winter Sports Area</i>	
Total People.....	42,537	Total People.....	35,385
Total Cars.....	9,046	Total Cars.....	8,378
<i>Scuppernong Unit Roadside Areas</i>		<i>Whitewater Lake Area</i>	
Total People.....	15,942	Total People.....	13,316
Total Cars.....	3,985	Total Cars.....	3,328
Total Tents.....	18	Total Tents.....	30
Total Campers.....	54	Total Campers.....	128
<i>Lapham Peak Area</i>		<i>Lizard Mound Area</i>	
Total People.....	10,696	Total People.....	580
Total Cars.....	2,679	Total Cars.....	290
Total Tents.....	6		
Total Campers.....	6		
<i>Day Camping Scuppernong Unit</i>		<i>Organized Boy Scout Camporees</i>	
Children.....	2,655	Total Boys and Leaders.....	7,965
		Total Busses.....	306

Group camping on both the northern and southern purchase units of the Kettle Moraine State Forest increased during the year.

In addition, it is estimated 45,000 persons used the Kettle Moraine Forests for hunting; and 15,000 persons attended the field trials.

From Campsite Registrations (1951 Calendar Year)

<i>Forest</i>	<i>Number of Camp Grounds</i>	<i>Length of Season in Days</i>	<i>Av. No. of Persons per Camping Unit</i>	<i>Av. Length of Stay in Days</i>	<i>Daily Average Persons</i>	<i>Total Camper Days</i>
American Legion.....	5	130	4.2	7.4	85	11,067
Northern Highland.....	23	109	4.2	5.5	221	24,119

The above figures include only the roadside camp grounds. In addition, there are figures available from certain organized groups for the Northern Highland Forest.

Roadside Camp Grounds	24,119	Camper days
Eagle Scouts	1,005	“ “
Region Seven Boy Scouts	9,250	“ “
Total Camper days	34,374	

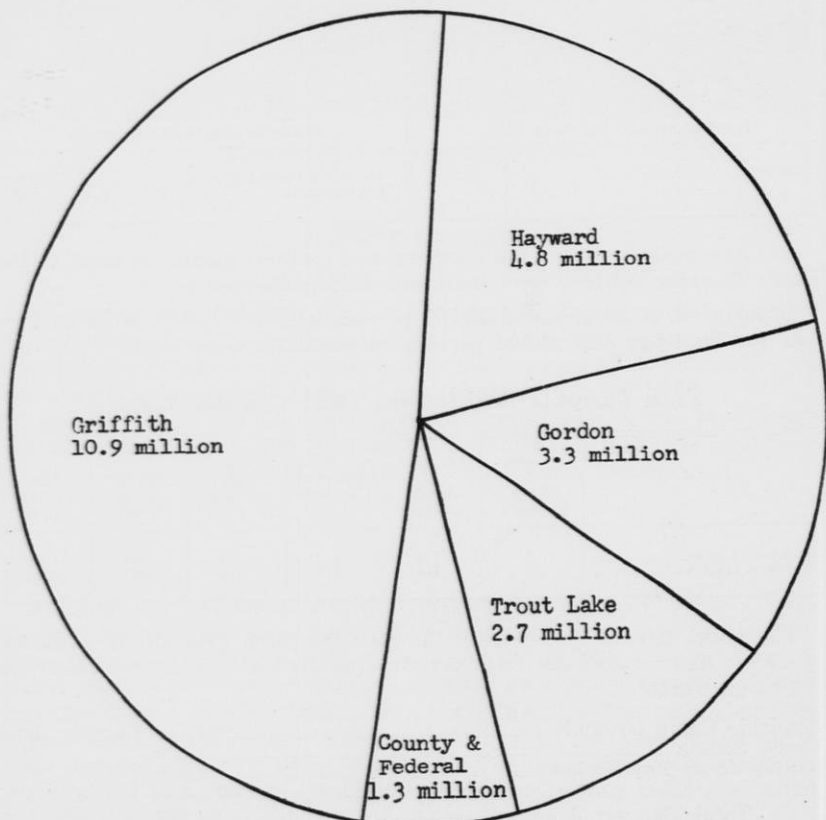
In addition there is a considerable amount of camping in the Forest by boys and girls camps and other persons while on canoe trips of which no record can be made. There are forty-seven river or lake campsites on the Northern Highland Forest that are accessible only by boat or canoe. No record is kept of the number of people using the picnic areas and the waterway camp grounds.

STATE FOREST NURSERIES

Distribution

The production and planting of forest trees in Wisconsin continued to climb at a substantial rate during 1951. A net of approximately 22 million seedlings and transplants were shipped from the state nurseries. This is a gain of roughly 3 million over the 1950 season. In addition to the 22 mil-

PRODUCTION OF TREES BY NURSERIES (Inter-nursery shipments excluded) Year of 1951



lion trees produced in the state nurseries, 1.5 million trees were obtained from federal nurseries and distributed through regular state facilities.

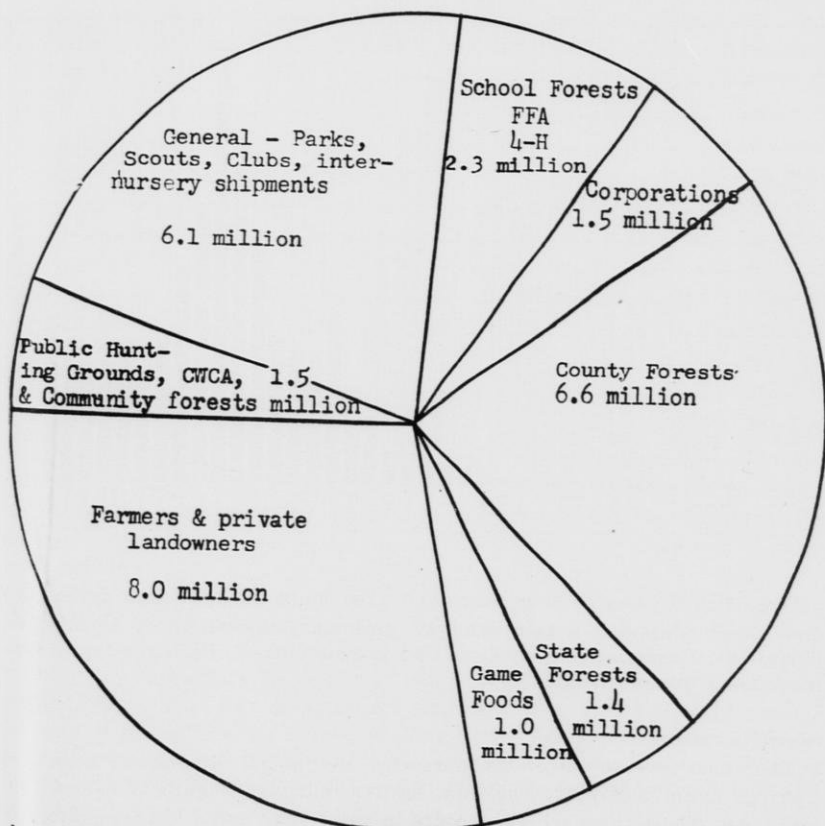
A large share of the nursery stock distributed was made up of the larger size 3-year seedlings and 4-year transplants.

A detailed account of the tree distribution is set forth in the compiled tables of this report; however, a brief summary of these same figures can be found immediately following:

Net output by nurseries:

Griffith -----	10.9 Million (includes game foods)
Gordon -----	3.3 Million
Trout Lake -----	2.7 Million
Hayward -----	4.8 Million
Other sources -----	1.3 Million

DISTRIBUTION OF TREES BY PLANTING AGENCIES
 (Includes inter-nursery shipments).
 Year of 1951

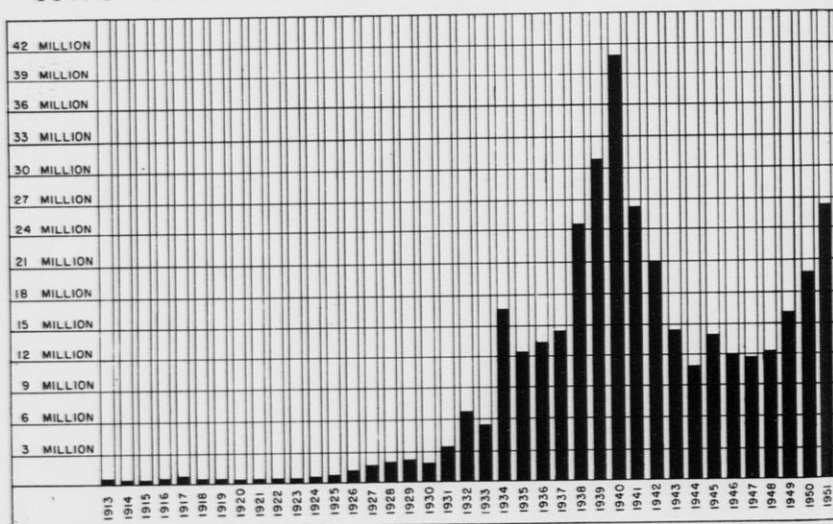


In gross figures trees were distributed to:

State Forests -----	1.4 Million
County Forests -----	6.6 Million
School Forests, FFA, 4-H Clubs -----	2.3 Million
Corporations -----	1.5 Million
Public Hunting Grds., CWCA & Community Forests -----	1.5 Million
Farmers & Private Landowners -----	8.0 Million
General (Parks, Scout Groups, etc.) ----	6.1 Million (includes inter-nursery shipments)
Game Foods (Deciduous shrubs & vines) --	1.0 Million

The shipment of trees collectively to planters within the various counties increased considerably during the 1951 season. Many individuals also called for their trees directly at the nurseries. While express shipments actually doubled in some nurseries due to the gain in over-all tree distribution, the abandonment of branch railroad lines and the closing of small express stations have tended to throw more tree shipments to motorized units.

OUTPUT OF STATE FOREST NURSERIES—1913-1951



Over 18,000 bales of trees were delivered from the nurseries during the four week shipping season, and to package and distribute these trees effectively during such a short period is now one of the biggest problems in nursery management.

Stock Inventories

The stock inventories of the nurseries accumulatively showed a marked upsurge again this year. The total figures indicated a gain of over 9 million trees. The largest increases were in the 1-year and 3-year seedling age

classes. It is figured that 25 million seedlings and transplants will be available for planting in the spring of 1952. A good share of the stock inventory is made up of the larger size seedlings and transplants, which of course furnishes the planter with "more trees". Many of the big tree planting states are leaning away from this policy of transplants and are shipping out the smaller and less costly low age classes.

Labor

While labor was not as plentiful as during the 1950 season, still it was possible to obtain sufficient workers to enable the nurseries to complete their spring operations with reasonable dispatch. Hayward and Griffith (where prisoners are not available) experienced the greatest difficulty in acquiring good able-bodied help. Griffith, with the use of 45 women in addition to what male workers it could get, successfully finished its sizeable seasonal activities on schedule. It was necessary, however, to employ a greater number of 16 and 17 year old boys as well as men well advanced in age.

Obtaining sufficient help and at the right time to complete the spring operations in the nurseries is becoming a serious problem. While the production of trees is becoming substantially larger each year, it appears that the labor needed to effectively handle the distribution of 25 million trees during the critical spring season is becoming increasingly difficult to procure.

Nursery and Forest Research

There was considerable acceleration in the activities of forest research as carried on cooperatively with the State University. This was largely due to more funds being made available to the University from Conservation Department forestry monies.

Four house trailers were set up at the Griffith Nursery for use in the tree disease projects. Particular emphasis in this field is being placed on the oak wilt problem. Studies are also being continued in disease resistant white pine, canker resistant and improved quality aspen, rooting of white pine cuttings and the control of damping-off fungi.

Insect studies continued to headquarter at the Griffith Nursery where from 4 to 6 graduate students did laboratory and field work on pests such as the pine tip moth, weevil, tussock moth, jack pine sawflies, larch sawfly and a follow-up on the white grub worm. Interest is also developing in the biological control of insect pests, through the favoring and rearing of parasitic enemies.

Studies in the improvement of nursery and forest soils are being continued. The use of sawdust as a substitute for peat is still being tried in an experimental way. This use of sawdust is quite important due to the development of the nursery at Boscobel where the soil is run down and peat supplies are scarce. The soils project also carried on this year an intensive analysis of the soils of all nurseries along with subsequent recommendations on fertilizers and soil improvement procedures. Studies are currently being made in the effect of fungicides and insecticides on the general "health" of the soil.

The genetic research project accomplished considerable transplanting in the nurseries of seedlings originally grown from specially collected seed. These transplants (approximately 30,000) are progeny from superior trees, and the idea is to eventually field plant them in known and controlled plantations where they will be available for future observation and will eventually become a source of seed.

Insects and Diseases

There were no serious outbreaks of damaging insects and diseases in the nurseries during 1951. However, small localized infestations occurred from such well-known pests as the red spider, pine bark louse and the powdery mildew on the multiflora rose. Damage from these pests was pretty well controlled by a regular spraying program kept up throughout the summer months.

The damping-off fungi again were troublesome at the Griffith nursery. Control trials were attempted by the tree disease pathologists with the use of several new fungicides. As yet no control has been satisfactory, particularly if used after the damage becomes noticeable.

No losses were noted during the 1951 season from the white grub worm. Apparently the applications of 10% chlordane dust as a control measure has held this troublesome insect in check.

Seeding and Transplanting

The 1951 cone crop could be considered as a good one, although white spruce and balsam fir cones were practically nonexistent. Generally speaking the Norway (red) pine was good; the white pine moderate to poor; the white spruce, Norway spruce and balsam fir were poor; and the jack pine, as is usually the case, was good. The collection stations at the 5 nurseries, along with assistance from ranger stations and district foresters, purchased 2,294 bushels of Norway pine, 700 bushels of white pine, 92 bushels of jack pine, 18 bushels of Norway spruce, and .36 bushel of white spruce. Prices paid were \$5.00 per bushel for Norway pine, \$1.50 per bushel for white pine, \$2.50 per bushel for jack pine, \$3.00 per bushel for Norway spruce, and \$6.00 per bushel for white spruce. The balsam fir price per bushel was listed as \$4.00.

Seeding in the nurseries was again increased approximately 10%. The demand for nursery stock has still exceeded the available supplies. The 1951 tree inventory, however, indicates a considerable increase in the one year seedlings, which when usable will go a long way in filling the Wisconsin tree planter's needs. Close to 5 million trees were transplanted in the nurseries in 1951. This amount is considered to be sufficient. Production increases in tree growing is being pushed particularly in the 3-0 age class, and to some extent also in the 2-year seedlings. Tree density in these seedling classes is being kept low with resultant good quality stock being distributed.

Production Problems

Winter came early and hard in the 1950-51 season. Snow and sub-zero weather arrived in late November and continued in ample quantities throughout the winter.

The spring was late with nursery operations not beginning until mid-April, and in the northern nurseries not until the extreme latter part of the month. The spring season itself was broken up with many lost working days due to cold, wet, disagreeable weather. The summer season saw plenty of rainfall, which extended into the fall months also. Generally speaking, however, it was a favorable season for plantation establishment and all around good tree growth.

The heavy snow along with some sleet caused unusual breakage of lateral branches on the 2-2 pine transplants in the nurseries.

The Griffith nursery experienced considerable damage from deer during mid-winter to the white cedar windbreaks. The deer also pawed through the 1½ foot snow covering and severely browsed the 2-2 white cedar transplants. The six foot nursery fence was no obstacle in keeping the deer out and permit shooting had to be resorted to in order to save the trees.

New Improvements

As of July 1, 1951, the Conservation Commission approved the taking over from the U. S. Forest Service of their Hugo Sauer Nursery located at Rhinelander. It is being operated as a state forest nursery under a federal use permit in a manner similar to the arrangement now in effect at Hayward. Its production and distribution have been integrated into the regular state nursery setup, and it will be of considerable aid in making more trees available and in giving improved service to Wisconsin tree planters. The Rhinelander Paper Company was of considerable assistance in a substantial financial manner in the initial arrangements in the transfer of the nursery to state operation.

Construction has also begun at the new Boscobel Nursery. The underground pipe has been installed sufficient to take care of 20 acres. Concrete foundations and floors have been installed for the shop-garage and packing building. Equipment such as a transplanting machine, soil tiller and tree seeding drill has been purchased, and plans are being furthered to procure additional necessary units. It is hoped that the project will have progressed far enough by the spring season so that a start can be made in the seeding and transplanting operations. The installation of the nursery facilities has been arranged through a Pittman-Robertson project under the game division, with help also being supplied from forestry funds.

A new soil tiller was acquired for the Hayward Nursery to replace an old worn-out unit that had seen many years of service both with the Forest Service and with the Conservation Department.

Varieties for Wildlife Improvement

Due largely to the interest shown in the multiflora rose, the quantity of game food species shipped out during the spring season showed a healthy increase. About a million shrubs and vines were distributed to parties interested in the development and improvement of wildlife species. The packaging and shipping of these game food species have become a big part of the Griffith Nursery's spring shipping operations involving considerable labor and packing materials.

While the game food section at Griffith is to be moved eventually to Boscobel, this fall's seeding was again put in at Griffith in order to insure constant continuity of production. Just as soon as conditions at Boscobel are in readiness it is planned to shift the game food activities to that southwestern nursery.

Public Relations

Many persons continued to visit the nurseries during 1950. A particularly large and diverse number of foreign groups looked over the nursery facilities and appeared to show a lively interest in tree production activities.

From the year-round number of inquiries, both in person and by mail, it is evident that tree planting is still of major interest to a large number of Wisconsin landowners. This was especially true in requests for information on Christmas tree and multiflora rose types of planting.

STATE NURSERY TREE DISTRIBUTION

All Nurseries—State, County & Private (Not Federal)

Year of 1951

Species	State Forests	County Forests	*Extension	**Private	Highway	***General	Totals
Norway Pine.....	548,696	1,695,928	1,096,175	3,802,600	10,000	1,367,610	8,521,009
White Pine.....	154,684	266,123	889,300	1,942,505	9,000	1,378,444	4,640,056
Jack Pine.....	741,540	4,572,265	390,000	1,067,950	-----	2,466,400	9,238,155
Norway Spruce.....	19,361	2,600	183,200	1,003,675	3,000	477,625	1,689,461
White Spruce.....	15,835	90,450	74,650	650,425	9,000	184,255	1,024,615
Black Locust.....	-----	-----	29,350	48,925	-----	20,750	99,025
American Elm.....	8,090	-----	23,900	47,100	500	45,825	125,415
White Ash.....	8,120	100	67,100	61,000	500	47,600	184,420
White Cedar.....	4,000	3,600	12,050	174,825	500	69,450	264,425
Balsam Fir.....	-----	-----	-----	251,050	-----	134,575	385,625
Hard Maple.....	2,430	-----	-----	-----	-----	-----	2,430
TOTALS.....	1,502,756	6,631,066	2,765,725	9,050,055	32,500	6,192,534	26,174,636

*Extension—Stock distributed through the State Extension Forester, the State Club Leader, the Agricultural Instructors and the County Agricultural Agents. This column includes Community Forests.

**Private—Individuals purchasing under the Tree Application and Agreement Form.

***General—Trees transferred to other State Nurseries and other Agencies not covered by the above headings, i.e., Gordon Nursery, Soil Conservation Service, Parks, Clubs, Institutions, etc.

STATE NURSERY TREE DISTRIBUTION BY COUNTY

All Nurseries—State, County & Private (Not Federal) ---- Year of 1951

<i>County</i>	<i>State Forests</i>	<i>County Forests</i>	<i>*Extension</i>	<i>**Private</i>	<i>Highway</i>	<i>***General</i>	<i>Totals</i>
Adams			33,400	195,900			229,300
Ashland		21,325	15,350	51,700			88,375
Barron		42,000	66,250	49,250		13,000	170,500
Bayfield		1,049,700	10,300	77,300			1,137,300
Brown			90,850	34,955		14,000	139,805
Buffalo			23,050	62,750		7,500	93,300
Burnett		1,155,200	13,800	51,175		16,500	1,236,675
Calumet			15,500	12,350		6,000	33,850
Chippewa		70,000	52,300	153,825		17,400	293,525
Clark		166,590	42,100	71,750		367,355	647,795
Columbia			28,850	132,425		36,800	198,075
Crawford			14,250	9,700			23,950
Dane			16,700	104,750		45,700	167,150
Dodge			23,725	28,250		10,500	62,475
Door			43,150	29,150		18,000	90,300
Douglas	540,550	1,408,100	23,250	905,200		2,041,375	4,918,475
Dunn			76,100	194,450		10,500	281,050
Eau Claire		143,967	75,850	93,375		50,275	363,467
Florence		90,300		39,850		2,000	132,150
Fond du Lac	30,281		5,000	5,625		22,000	62,906
Forest		24,000	16,050	96,100	2,000		138,150
Grant			6,000	127,500		2,400	135,900
Green			39,000	82,700		19,500	141,200
Green Lake			19,050	66,400		6,000	91,450
Iowa			37,850	44,400			82,250
Iron		45,000	10,000	59,550			114,550
Jackson		229,074	33,850	105,800	5,000	18,750	392,474
Jefferson			13,600	216,875		19,500	249,975
Juneau		134,760	318,300	76,550			529,610
Kenosha			2,700	14,200		1,200	18,100
Kewaunee			13,850	31,600			45,450
La Crosse			58,700	69,775		25,000	153,475
Lafayette				12,500		30,500	43,000
Langlade		55,000	86,500	155,725	2,000	8,500	307,725
Lincoln			56,850	180,650	2,000	11,200	250,700
Manitowoc	9,000		25,300	75,475		5,800	115,575
Marathon			179,000	193,425	3,000	188,500	563,925
Marinette		739,300	50,350	271,300		12,000	1,072,950
Marquette			28,400	229,300		10,900	268,600
Milwaukee			14,300	33,225		13,600	61,125
Monroe			62,550	165,225			227,775
Oconto		63,200	117,400	142,525		600	323,725
Oneida	42,000		16,900	366,350	2,000	5,500	432,750
Outagamie			21,600	54,150		13,500	89,250
Ozaukee			5,900	47,050			52,950
Pepin			21,000	53,275			74,275
Pierce			23,100	35,050		2,000	60,150
Polk		160,200	26,200	50,225		28,500	265,125
Portage			69,150	550,375		34,750	654,275
Price		50,500	41,250	116,850	2,000	3,000	213,600
Racine			3,800	17,200			21,000
Richland			19,000	40,800			59,800
Rock			16,600	50,050		2,000	68,650
Rusk			23,600	34,925	14,000	4,850	122,375
Sauk			77,150	375,925		86,200	539,275
Sawyer	223,000	105,000	15,500	92,750		993,505	1,429,755
Shawano			45,750	101,750		1,600	149,100
Sheboygan	112,970		6,100	72,350		1,350	192,770
St. Croix			18,800	87,625		8,075	114,500
Taylor		50,000	37,850	51,275			139,125

All Nurseries—State, County & Private (Not Federal) ----- Year of 1951

<i>County</i>	<i>State Forests</i>	<i>County Forests</i>	<i>*Extension</i>	<i>**Private</i>	<i>Highway</i>	<i>***General</i>	<i>Totals</i>
Trempealeau.....			55,850	104,725	500	25,500	186,575
Vernon.....			20,150	8,700		10,100	38,950
Vilas.....	372,455	225,000	17,500	198,975		756,525	1,570,455
Walworth.....			7,200	81,650		1,250	90,100
Washburn.....		453,850	15,600	39,800		15,700	524,950
Washington.....			28,000	32,400		6,000	66,400
Waukesha.....	172,500		20,550	112,100		3,600	308,750
Waupaca.....			88,750	442,950		14,400	546,100
Waushara.....			87,350	652,475		26,900	766,725
Winnebago.....			10,200	22,650		23,950	56,800
Wood.....		104,000	65,950	173,125		1,067,624	1,410,699
<i>States of</i>							
Illinois.....				203,000		50	203,050
Indiana.....				20,000			20,000
Iowa.....						2,000	2,000
Missouri.....				5,000			5,000
Massachusetts.....						500	500
<i>Territory of</i>							
Alaska.....						750	750
TOTALS.....	1,502,756	6,631,066	2,765,725	9,050,055	32,500	6,192,534	26,174,636

*Extension—Stock distributed through the State Extension Forester, the Assistant State Club Leader, the Agricultural Instructors and the County Agricultural Agents. This column includes Community Forests.

**Private—Individual purchasing under the Tree Application and Agreement Form.

***General—Trees transferred to the other State Nurseries and other Agencies not covered by the above headings, i.e., Gordon Nursery, Soil Conservation Service, Parks, Clubs, Institutions, etc.

STATE PARKS

A tabulation showing the state parks by classification, location, dominant features and other information follows:

WISCONSIN STATE PARKS

<i>Name</i>	<i>Location and State Highway Connection</i>	<i>Dominant Features</i>	<i>Swimming</i>	<i>Camping</i>	<i>Electrical Outlets</i>	<i>Store</i>	<i>Address of Park Manager</i>	<i>Water Frontage</i>	<i>Number of Acres</i>	<i>Picnic Area</i>
SCENIC PARKS:										
*Big Foot Beach.....	Lake Geneva, T.H. 120	Beach Park	Yes	No	No	Nearby	Lake Geneva	Lake Geneva	119	Yes
Brunet Island.....	1 mi. W. of Cornell, T.H. 27	River Island Park	Yes	Yes	Yes	Nearby	Cornell	Chippewa River	179	Yes
Copper Falls.....	4 mi. N. of Mellen, T.H. 13	River gorge, water falls, canyons	No	Yes	Yes	In Park	Mellen	Bad River—Tyler's Fork Mill Creek	1,160	Yes
*Cox Hollow.....	2 mi. N. of Dodgeville, T.H. 18	Wooded bluffs, valleys	No	No	No	Nearby	Baraboo		850	No
Devil's Lake.....	3 mi. S. of Baraboo, T.H. 123	Bluffs, mountain scenery	Yes	Yes	Yes	In Park	Baraboo	Devil's Lake	2,538	Yes
Interstate.....	St. Croix Falls, T.H. 8	River gorge, rocky bluffs	Yes	Yes	Yes	Nearby	St. Croix Falls	St. Croix River	581	Yes
Merrick.....	1 mi. N. of Fountain City, T.H. 35	A river park	Yes	Yes	No	Nearby	Fountain City	Miss. River	133	Yes
Pattison.....	10 mi. S. of Superior, T.H. 35	Highest waterfall in state, river gorge	Yes	Yes	Yes	In Park	Superior	Black River Innerfalls Lake	1,160	Yes
Peninsula.....	Fish Creek, T.H. 42	Green Bay, limestone bluffs	Yes	Yes	Yes	Nearby	Fish Creek	Green Bay	3,656	Yes
Perrot.....	1 mi. N. of Trempealeau, T.H. 35	River scenery, wooded bluffs	No	Yes	No	Nearby	Trempealeau	Miss. River	937	Yes
Potawatomi.....	2 mi. NW. of Sturgeon Bay, T.H. 42	Sturgeon Bay, limestone bluffs	No	Yes	No	Nearby	Sturgeon Bay	Sturgeon Bay	1,046	Yes
Rib Mountain.....	4 mi. SW. of Wausau, T.H. 51	Highest point in state, rock outcrops	No	Yes	No	Nearby	Wausau	None	498	Yes
Terry Andrae.....	4 mi. S. of Sheboygan, T.H. 141	Lake Michigan, sand dunes	Yes	Yes	Yes	Nearby	Sheboygan	Lake Michigan	167	Yes
Wildcat Mountain	T.H. 33 near Ontario	Bluff lands, upper Kickapoo River	No	Yes	No	Nearby	Ontario	Kickapoo River	696	Yes
Wyalusing.....	4 mi. S. of Prairie du Chien, T.H. 35	Miss. Rivers, wooded bluffs	No	Yes	Yes	Nearby	Wyalusing	Miss. River	1,671	Yes

*Acquisition or development incomplete.

WISCONSIN STATE PARKS—Continued

Name	Location and State Highway Connection	Dominant Features	Swimming	Camping	Electrical Outlets	Store	Address of Park Manager	Water Frontage	Number of Acres	Picnic Area
HISTORICAL-MEMORIAL PARKS:										
Aztalan.....	4 mi. E. of Lake Mills, T.H. 30	Site of Ancient Indian Village	No	No	No	Nearby	Eagle	Crawfish River	123	No
Cushing.....	Delafield, T.H. 30	Historic shaft	No	Yes	No	Nearby	Eagle	Bark River	10	Yes
First Capitol.....	3 mi. N. of Belmont, T.H. 151	First territorial capitol	No	No	No	Nearby	Belmont	None	2	Yes
Lizard Mound.....	2 mi. NE. of West Bend, T.H. 144	Indian mounds	No	No	No	Nearby	Campbellsport	None	20	Yes
Lost Dauphin.....	5 mi. E. of DePere, T.H. 41	Eleazer Williams home	No	No	No	Nearby	Fish Creek	Fox River	19	Yes
Nelson Dewey.....	1 mi. N. of Cassville, T.H. 35	Home of first Governor, river bluffs and valleys	No	Yes	No	Nearby	Cassville	Miss. River	579	Yes
Tower Hill.....	3 mi. S. of Spring Green, T.H. 14, 23	Historic shot tower river bluffs	No	Yes	No	Nearby	Spring Green	Wis. River	108	Yes
ROADSIDE PARKS:										
Castle Mound.....	1 mi. S. of Black River Falls, T.H. 12	Roadside bluffs	No	Yes	No	Nearby	Black River Falls	None	211	Yes
*Lucius Woods.....	Solon Springs, T.H. 53	Pine woods, beach	Yes	Yes	No	Nearby	Solon Springs	St. Croix Lake	38	Yes
Mill Bluff.....	4 mi. W. of Camp Douglas, T.H. 12 and 16	Rocky bluff	Yes	Yes	No	Nearby	Black River Falls	Roadside Pond	61	Yes
New Glarus Woods ..	1 mi. S. of New Glarus, T.H. 69	Wooded valleys	No	Yes	No	Nearby	New Glarus	None	78	Yes
Ojibwa.....	1 mi. E. of Ojibwa, T.H. 70	River scenery	No	Yes	No	Nearby	Ojibwa	Chippewa River	353	Yes
Roche A Cri.....	T.H. 13 near Friendship	Woodlands, rocky bluffs	No	Yes	No	Nearby	Friendship	Carter Creek	259	Yes
Rocky Arbor.....	1 mi. NW. of Wis. Dells, T.H. 12	Rocky ledges, wooded valley	No	Yes	No	Nearby	Wis. Dells	None	227	Yes
NATURAL AREAS:										
Cedarburg Bog.....	3 mi. W. of Saukville, T.H. 33	Rare flora	No	No	No	None	Campbellsport	Mud Lake	729	No
Parfrey's Glen.....	Devil's Lake	Botanical Assn's, Geological interest	No	No	No	None	Baraboo	Creek	89	No

*Acquisition or development incomplete.

NEW PROPERTIES

No new park properties were acquired or approved for acquisition during the biennium.

ADDITIONS TO EXISTING PROPERTIES

It has been the policy of the Commission to acquire, at the opportune time, parcels of privately owned land within existing park boundaries.

The following parks have added acreages during the biennium:

Cox Hollow -----	75	Acres
Devils Lake -----	73	"
Wildcat Mountain -----	137	"
 Total -----	 <u>285</u>	 Acres

PARK IMPROVEMENTS

After necessary operational and maintenance costs are paid for with the devaluated dollar of today, there is little left from the park budget to invest in capital improvements. At such times acquisition of new sites, land acquisition for better blocking on existing properties and the development or improvement of properties must of necessity be curtailed.

In addition to the operation and maintenance of 27 state park properties over the biennium, limited progress is reported in the further development or improvement of facilities as follows:

Improvements were made to potable water supplies at -----	5	sites
Parking areas constructed or improved -----	4	
Entrance roads improved -----	5	properties
Interior roads improved -----	3	properties
Water flush toilets with sanitary systems -----	4	sites
Toilets, pit type -----	28	
Combination buildings -----	1	
Shelter buildings -----	1	
Foot bridges -----	3	
Campground improvements -----	2	sites
Electric outlet for campers -----	2	sites
Beach improvements -----	3	sites
Landscape and site improvements -----	3	
Ski trails—Rib Mountain -----	2,500	Cubic yards of fill
Indian Mound restoration -----	3,000	Yards of fill
Fire places temporary -----	50	
Mosquito control work was carried on on all public use areas.		

PLANNING AND EXPLORATION

Work with the State Historical Society in the field of applied history on the state historical sites continued. Progress was made in the assembling and acquisition of both original and period furnishings of the Nelson Dewey Farmstead.

In co-operation with the Wisconsin Archeological Survey, the exploration work at Aztalan was advanced. One of the pyramidal mounds in the south-

STATE PARK ATTENDANCE — 1935-1951

PERSONS

3,400,000

3,200,000

3,000,000

2,800,000

2,600,000

2,400,000

2,200,000

2,000,000

1,800,000

1,600,000

1,400,000

1,200,000

1,000,000

800,000

600,000

400,000

200,000

1935

1936

1937

1938

1939

1940

1941

1942

1943

1944

1945

1946

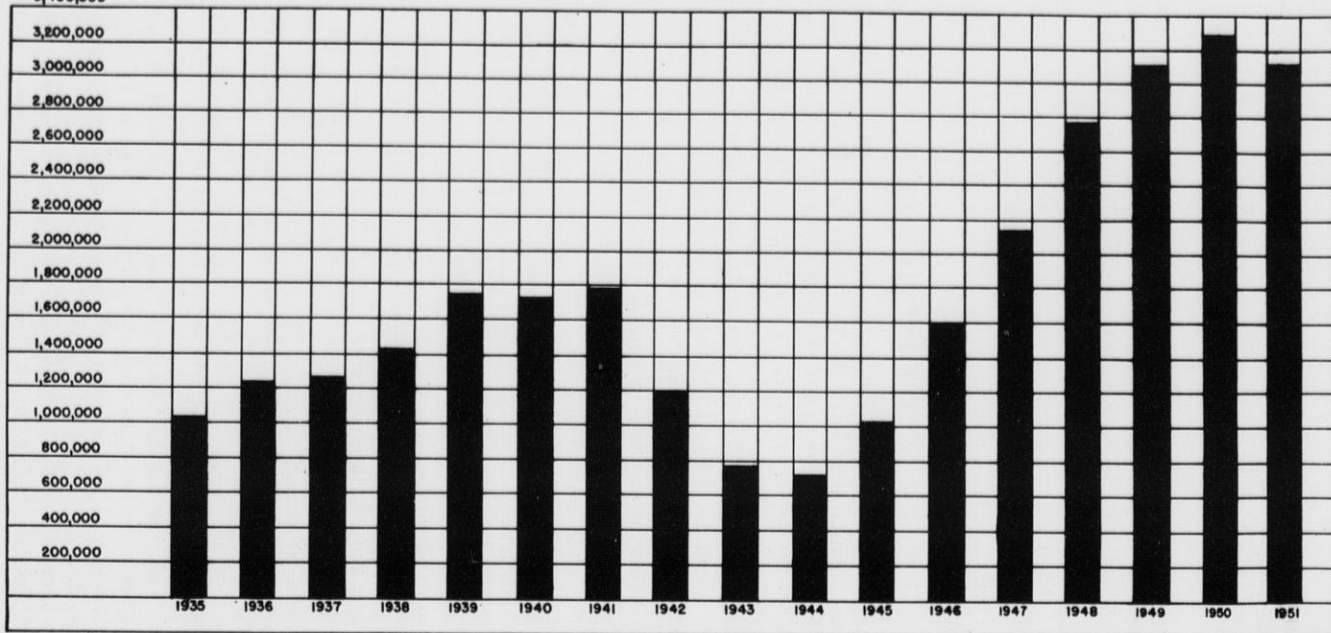
1947

1948

1949

1950

1951



west corner of the ancient walled city was restored during the summer of 1951. This mound had the most complete data available on it and was the largest and most spectacular of the various Aztalan earth works and was thus the logical feature on which to start the restoration work. About forty feet across the top, this mound rises twenty-five feet above the surrounding terrain and is in two levels with a pyramidal form that resembles the familiar mounds of Aztec culture of Mexico and the southwest.

The over-all study of the state park program and of specific locations and master plans was continued in co-operation with the State Planning Board.

PARK ATTENDANCE

During the season of 1951, visitors at the state parks totaled more than 3,071,000. This was less than the annual attendance figures reported for the 1949 or 1950 seasons. This represents a decrease of 6.6 per cent over the attendance of 1950 when an all time high of 3,290,000 persons visited the state parks. Of the twenty-two properties on which attendance records were available, eleven showed a decrease in attendance, while eleven properties showed a slight increase. Although the vast majority of the attendance is made up of day visitors, there were 142,750 overnight visitors.

STATE PARK AND FOREST ATTENDANCE RECORD 1951

<i>Name</i>	<i>Number of Visitors</i>	<i>Number of Cars</i>	<i>Camper Days</i>
<i>State Parks</i>			
Big Foot Beach.....	56,182	10,885	-----
Brunet Island.....	152,374	35,937	2,309
Copper Falls.....	76,935	15,569	1,469
Cushing Memorial.....	17,234	4,238	54
Devil's Lake.....	676,692	176,584	57,957
First Capitol.....	10,786	2,685	-----
Interstate.....	337,300	74,990	2,671
Lucius Woods.....	24,842	5,851	229
Merrick.....	66,764	17,910	261
Nelson Dewey Memorial.....	40,280	8,026	4
New Glarus Woods.....	14,280	3,943	198
Ojibwa.....	7,533	1,847	287
Pattison.....	205,190	51,356	1,393
Peninsula.....	642,328	168,671	55,243
Perrot.....	16,720	4,354	108
Potawatomi.....	286,514	71,693	3,394
Rib Mountain.....	161,062	42,562	756
Rocky Arbor.....	33,945	9,386	2,947
Terry Andrae.....	104,434	22,201	11,774
Tower Hill.....	16,424	4,562	472
Wildcat Mountain.....	30,131	7,472	40
Wyalusing.....	93,885	18,722	1,182
	3,071,835	759,444	142,750
<i>State Forests</i>			
Council Grounds.....	63,288	18,170	102
Kettle Moraine.....	282,802	63,062	14,034
Point Beach.....	208,860	66,212	1,268
	554,950	147,444	15,404

Forest Protection

Forest fires have played an important part in the history and development of Wisconsin. Prehistoric fires are believed to have been largely responsible for the scattered prairies and oak openings found in the southern counties and were instrumental in determining the type of forest prevailing in many other parts of the state.

Wisconsin has come a long way in solving its forest fire problem, but the threat of forest fires remains, and there can be no letup in protection efforts if forest fires are to be kept under control. A reasonable margin of safety beyond normal requirements is also essential since extreme emergency conditions occur periodically, and one bad year can wipe out all that has been gained in a generation.

During the past biennium a review of forest protection effort since the start of the program was undertaken and completed. Only fragmentary records of the early forest fires were available. There were, however, sufficient records to establish many sound, valuable tabulations over more than a twenty year period which will be invaluable for future planning and administration in forest fire control and equally valuable in evaluation of accomplishment.

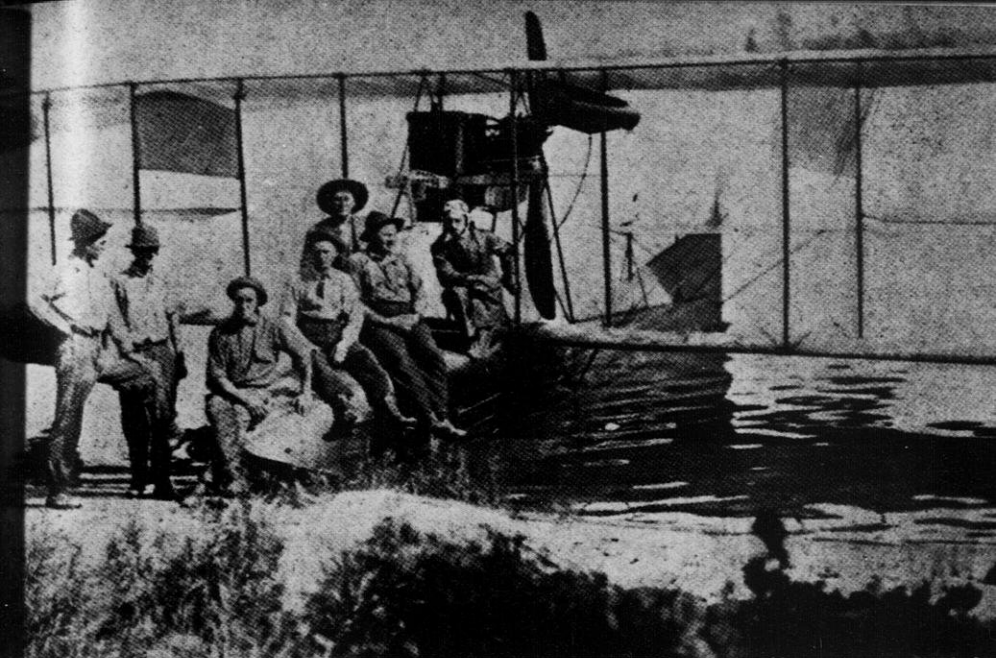
Department records show that fires can and do occur in Wisconsin at any time of the year when the ground is not snow covered. The normal fire season, however, runs from the last of March to early November with peaks in April, July or August, and October.

It has also been demonstrated that fire suppression costs tend to decrease as presuppression expenditures increase. Adequate fire suppression expenditures are imperative but high fire suppression costs also mean high losses and greater forest destruction, as every fire control officer knows. Adequate presuppression expenditures, on the other hand, not only tend to reduce suppression cost but reduce the damage and stimulate forest production.

The cost of fire control in Wisconsin is shared by the state, the counties and the federal government. The department's records indicate that we are doing a better job today at about the same relative cost.

Organization remained the same during the biennium with the chief ranger responsible to the acting state forester along with other forestry division chiefs. Ten districts combined into four supervisory areas break down administrative problems.

At the beginning of the biennium an area of approximately one quarter of a million acres in eastern Marathon county was added to the intensively protected territory as part of forest protection district four. As the biennium closes portions of Barron and Eau Claire counties are being added similarly. Expectations are that other acreage will be put under a degree



First plane used for forest fire detection, Wisconsin, 1915.

of forest protection from time to time as the need is shown and conditions warrant.

Fire prevention activities are regarded as important in the division. Maximum distribution was afforded the literature provided by such organizations as the U. S. Forest Service and the American Forest Products Industries. To complete the campaign literature, special items were prepared by the forest protection division which were slanted at specific causes of forest fires and often for specific local problems. Efforts were made to concentrate fire prevention activities in problem areas. Considerable time, in winter, was taken to meet with school children and other group contacts to plant the seed of fire prevention and care in young minds. Adults were not ignored, however, and much material was directed at them.

Slash disposal work and fire law enforcement were other fire deterrent activities.

Locomotive inspection and railroad fire prevention continues to receive its full measure of attention.

The detection system was served by 146 state-owned fire towers whose coverage normally blankets the protection districts and some parts of the adjoining areas.

State owned telephone lines and FM two-way radio connect these look-out points with the dispatchers to assure immediate action on any tell-tale wisp of smoke.

Training in fire line organization, the techniques of forest fire fighting and operation of equipment went on during the season. The end result of



Wisconsin Conservation Department plane looking over a forest fire, 1952.

years of this is that more men are able to handle heavy fire fighting equipment well and fewer men are needed for standby crews in bad fire weather.

Equipment maintenance is a first order of business within the division and the men and machines of the forest protection division are always ready to go.

A staff of over 700 unpaid voluntary emergency fire wardens were selected or reappointed, received basic training and were authorized to issue burning permits and to fight fires when needed.

District fire plans were drawn up to cover all anticipated hazardous conditions and to serve as a manual for action. Department personnel of other divisions received schooling in fire line organization and are ready to serve as trained leaders when called.

In trying times, the headquarters at Tomahawk functions as a center for directing the distribution of extra men and equipment as well as the transmitting of messages.

The central warehouse provides, on short notice, everything from office forms and field equipment to fire prevention literature. Repairs, not ordinarily possible at district stations, are made here, and new equipment is being developed.

Eleven new tractors have replaced the same number of our oldest models. Fourteen tractors have been equipped with P.T.O. pumps and water tanks,

and five tractors received in early 1952 are being equipped so that only three tractors out of 68 in fire use remain to be modernized.

Thirty-nine trucks have been exchanged for new, and nine 2-Ton trucks were on order at the end of the fiscal year. One hundred percent of the trucks on active fire duty have now been provided with P.T.O. pumps and water tanks. About thirty out of the one hundred fifty trucks are now four wheel drive vehicles of the Dodge or Willys one-ton pickup type, which provides needed off the road service.

Ten new all steel tractor-hauling tilting bed trailers were manufactured at Tomahawk, and twenty-three old style wood deck trailers were rebuilt to the standard sixteen foot all steel deck. Fifteen all steel, light-duty utility trailers, seven new-type narrow-gauge water tank trailers, and one 1600 gallon water tank semi-trailer were also constructed to aid in controlling fires in the expanded areas being added to the fire protected territories.

The basic technique of the forest protection men is to get to fires speedily and suppress them before they can achieve serious dimensions. The reports for the biennium, and previous years, indicate this objective has been satisfactorily accomplished.

Two-way FM radio has aided in eliminating travel and speeds up the transmission of instructions on going fires thereby increasing efficiency.

The 1951 fire season was the most favorable experienced since 1929 and the best in twenty-three years. Because of abnormal precipitation, very limited hazardous periods were experienced.

The 1952 spring season was shorter than average, starting in early April and greening off in May. During this short period rainfall and relative humidity were below normal and record high temperatures were recorded. The extreme low humidity and high temperature caused the fire danger readings to rise rapidly to an extreme high and fires burned explosively.

RECORD BY YEARS

Year	Total Cost of Protection	Area under Protection in Million Acres	Cost Per Acre in Cents	Number of Fires	Percent of Fires less than 10 Acres	Area Burned Over	Acreage Per Fire	Damage	Per Acre Damage
1947	\$ 737,784.34	16.1	4.6	1,398	94.0	16,007	11	\$74,645	\$4.66
1948	979,757.16	16.1	6.1	1,825	91.6	23,574	13	95,117	4.03
1949	948,809.53	16.1	5.9	1,164	91.4	9,749	8	47,404	4.86
1950	1,027,402.78	16.1	6.4	669	95.9	2,313	3	10,283	4.45
1951	1,128,299.24	16.1	7.0	464	92.5	2,036	4	14,518	7.13
1952	-----	16.1	-----	510	93.9	1,630	3	10,987	6.74



Forestry headquarters, Flambeau River State Forest, 1952.

EXPENDITURES BY YEARS

<i>Year</i>	<i>Contributed by State</i>	<i>Contributed by Federal Government</i>	<i>Contributed by Counties</i>	<i>Total Cost of Protection</i>
1947 -----	\$398,372.11	\$336,712.28	\$ 2,699.95	\$ 737,784.34
1948 -----	651,897.05	315,706.76	12,153.35	979,757.16
1949 -----	673,581.19	253,408.06	21,820.28	948,809.53
1950 -----	737,168.85	276,794.83	13,439.10	1,027,402.78
1951 -----	820,446.34	304,655.44	3,197.46	1,128,299.24
1952 -----				

ALLOTMENT OF EXPENDITURES BY YEARS

<i>Year</i>	<i>Administrative Expense</i>	<i>Field Personnel</i>	<i>Equipment and Improvements</i>	<i>Fire Fighting</i>	<i>Total Cost</i>
1947 -----	\$ 44,994.87	\$589,962.06	\$ 56,220.33	\$ 46,607.08	\$ 737,784.34
1948 -----	63,814.05	684,653.33	120,306.37	110,983.41	979,757.16
1949 -----	45,855.32	749,811.34	123,516.20	29,626.67	948,809.53
1950 -----	102,514.84	785,027.02	128,672.65	11,188.27	1,027,402.78
1951 -----	119,974.22	856,936.13	144,589.78	6,799.11	1,128,299.24
1952 -----					

Game Management

The game division, reorganized during 1949-50, provides for 5 administration areas. Game coordinators in charge of each area have virtually complete autonomy in field game management activities. The purpose of the new administration policy is to provide decentralization and have closer contact with the public in a more efficient handling of local game projects.

GENERAL GAME ADMINISTRATION

Game division disbursements totaled more than 2 million dollars during the biennium. Expenditures include general game administration, hunting and trapping regulations, all propagation and stocking, exhibits, land leases and purchases, surveys and investigations, winter feeding, the administration, maintenance, and development of refuges and public hunting grounds, administration of commercial game, deer, and fur farms, licensed shooting preserves, game and trapping season reports, publications, all game research, and miscellaneous game projects and services.

The game division now has 151 permanent employees including 20 district game managers operating in all sections of the state.

GAME REGULATIONS

By authority conferred upon it by the 1933 legislature, the Wisconsin Conservation Commission continues to regulate open and closed seasons on all species of game and fur-bearing animals as provided by law. The increasing hunting pressure has reached a peak where many theories on game management are now undergoing revision to meet the ever changing conditions. Before establishing seasons, 71 county fish and game hearings are held for the express purpose of giving the public an opportunity to present their opinions and give their recommendations. Department game technicians, managers, and research men make a thorough survey of game conditions throughout the state in order that proper game seasons and regulations may be adopted.

PUBLIC HUNTING AND FISHING GROUNDS

A continued expansion of our public hunting grounds program was under way during the biennium. Areas of wildlife habitat well situated to serve the public and lending themselves to development have been purchased. Occasionally right of ways to lakes and streams have been secured. It has also been a practice to purchase excellent wildlife habitat to save it from destruction by private interests. Public hunting ground lands are improved annually. Trees and shrubs are planted for watershed control and for wildlife food and cover. Waterfowl areas are improved by the installation

PUBLIC HUNTING AND FISHING GROUNDS
As of June 30, 1952

Figures show acreage of forest crop lands open by law to public hunting



of dikes and other water control structures. Other activities on lands, whether leased or purchased, are: Stocking of pheasants and other game, winter feeding, and fire protection.

Land purchases in 26 counties were as follows:

Year	Acreage	Cost	No. of Areas
1950-1951	3,155	\$ 98,153.10	21
1951-1952	2,413	31,488.29	51
Total	5,568	\$129,641.39	72

Crex Meadows, Beaver Brook, Vernon, Yellowstone, Browntown, and New Munster were some of the larger public hunting areas purchased.

PUBLIC HUNTING AND FISHING GROUNDS AS OF JUNE 30, 1952

County	Name	Acreage	Game Species Prominent
Adams	Big Springs	2,270	Pheasant, rabbits
Barron	Colburn	4,374	Deer, rabbits, ducks, ruffed grouse
	Little Granite Lake Right-of-Way	3.1	Ducks
Brown	New Auburn	525	Pheasants, ducks, rabbits
	Sensiba	450	Pheasants, ducks, rabbits, squirrels
Buffalo	Suamico	1,329	Pheasants, rabbits, squirrels
Burnett	Tiffany	6,201	Waterfowl
	Crex Meadows	17,447	Waterfowl, ruffed grouse, deer
	Fish Lake	4,406	Waterfowl, ruffed grouse, deer
	Kiezer Lake	1,246	Waterfowl, ruffed grouse, deer, rabbits, squirrels
Calumet	Sand Creek		Deer, ruffed grouse
	Brillion	7,560	Pheasants, rabbits, raccoon, squirrels, Hungarian partridge
	New Holstein	1,245	Pheasants, rabbits, raccoon, squirrels, Hungarian partridge
Chippewa	Hallie	1,720	Pheasants, rabbits, ruffed grouse
	Jim Falls	2,311	Pheasants, rabbits, ruffed grouse
Columbia	French's Creek	2,027	Pheasants, ducks, rabbits, quail
	Jennings Creek	380	Trout fishing, pheasants, rabbits, deer, ruffed grouse
	Portage	1,675	Pheasants, ducks, deer, rabbits, raccoon
Dane	Black Earth Creek Public Fishing Grounds	38	
	Deansville	2,362	Pheasants, rabbits, ducks
	Leuten	1,746	Pheasants, rabbits, ducks
	Mazomanie	7,776	Pheasants, ducks, rabbits, squirrels
Dodge	Horicon Marsh Wildlife Area	10,000	Waterfowl, pheasants
	Shaw Marsh	626	Pheasants, ducks, rabbits, squirrels
	Theresa Marsh	4,694	Pheasants, Hungarian partridge, squirrels, ducks, rabbits
	Westford	728	Pheasants, ducks, rabbits
	Wildcat Swamp	3,720	Pheasants, squirrels, raccoon, rabbits
Dunn	Dunnville	3,111	Ducks, pheasants, rabbits, ruffed grouse
Eau Claire	Elk Mound	6,727	Pheasants, rabbits, squirrels, ducks
	Augusta	1,707	Pheasants, ducks, squirrels, rabbits
	Pleasant Valley	2,477	Pheasants, rabbits, ducks, woodcocks
Fond du Lac	Brandon	1,577	Pheasants, rabbits, Hungarian partridge
	Eden	1,999	Pheasants, rabbits, squirrels, Hungarian partridge
	Kettle Moraine State Forest	620	Pheasants, rabbits, Hungarian partridge
	Rush Lake Right-of-Way	19	Ducks
	St. Cloud	3,391	Pheasants, Hungarian partridge, ducks, rabbits, squirrels
Grant	Supple Marsh	321	Waterfowl, pheasants
Green	Montfort	3,773	Pheasants, rabbits
	Albany	2,003	Pheasants, rabbits, ducks
	Brodhead	3,225	Pheasants, waterfowl, rabbits
	Brooklyn	4,690	Pheasants, rabbits
	Browtown	3,904	Pheasants, rabbits, squirrels
	New Glarus	2,921	Pheasants, rabbits
Green Lake	Silver Creek	3,225	Pheasants, rabbits, ducks, squirrels
Iowa	Avoca	3,954	Pheasants, ducks
Jefferson	Jefferson Marsh	2,881	Pheasants, rabbits, raccoon, waterfowl
	Princess Point	5,643	Pheasants, rabbits, waterfowl
	Waterloo	5,223	Pheasants, raccoon, rabbits, ducks
Kenosha	New Munster	1,863	Pheasants, rabbits
	Paris	3,420	Pheasants, ducks, rabbits
	Salem	2,091	Pheasants, rabbits, squirrels
La Crosse	Bangor	7,962	Pheasants, quail, rabbits, squirrels
	Van Loon	4,734	Pheasants, ducks, quail, deer, squirrels, raccoon
Lafayette	Argyle	3,035	Pheasants, ducks
	South Wayne	4,170	Pheasants, rabbits
	Yellowstone Conservation Area	3,263	Pheasants, rabbits, squirrels, quail
Langlade	Ackley Grouse Management Area	1,680	Sharp-tailed grouse, ruffed grouse

PUBLIC HUNTING AND FISHING GROUNDS AS OF JUNE 30, 1952
—Continued

County	Name	Acreage	Game Species Prominent
Manitowoc	Collins	9,745	Pheasants, waterfowl, rabbits, raccoon, squirrels, Hungarian partridge
Marathon	Two Rivers	972	Pheasants, waterfowl, rabbits
	Eau Pleine	4,021	Pheasants, rabbits, ruffed grouse, deer
Marquette	Nine-Mile Swamp	4,100	Grouse, rabbits, squirrels, deer
	Lawrence Creek	477	Pheasants, ducks, deer
	Mecan	700	Pheasants, deer, rabbits
Oconto	Oconto Marsh	1,600	Pheasants, sharp-tailed grouse, waterfowl
Outagamie	Deer Creek	441	Pheasants, rabbits
	Mack	1,358	Pheasants, rabbits
	Maine	720	Pheasants, rabbits
Ozaukee	Outagamie County	412	Ducks, pheasants, rabbits
	Cedarburg	1,242	Pheasants, rabbits
	Cedarburg Bog	730	Waterfowl
Polk	Ulao	1,953	Pheasants, rabbits, waterfowl
	McKenzie Creek	2,330	Deer, trout fishing
	Rice Beds Creek	720	Deer, ruffed grouse
Richland	Richland	3,124	Pheasants, rabbits, squirrels, quail
Rock	East Hanover	2,236	Pheasants, ducks, rabbits
	Evansville	5,163	Pheasants, rabbits
	Footville	4,332	Pheasants, rabbits
	Lima	2,939	Pheasants, ducks, rabbits
	Rock Prairie Goose Refuge	1,452	
Rusk	Storr's Lake	527	Pheasants, rabbits, ducks
	Devils Creek Public Fishing Grounds	130	
St. Croix	St. Croix Island	484	Waterfowl
Sauk	Potters Marsh	4,018	Pheasants, quail, ducks, rabbits
	Reedsburg	1,713	Pheasants, quail
Sawyer	Witwen	2,747	Pheasants, ducks, rabbits
	Totagatic Conservation Area	3,683	Deer, grouse, woodcock
	Wiergor Springs	1,387	Deer, ruffed grouse, rabbits
Sheboygan	Adell	1,352	Pheasants, Hungarian partridge, rabbits, squirrels
	Nichols Creek	1,020	Pheasants, rabbits, squirrels
Vilas	Mann Creek	200	Ruffed grouse, deer, waterfowl
	Stevenson Creek	200	Ruffed grouse, deer, waterfowl
	Clover Valley	1,159	Pheasants, ducks, rabbits
Walworth	Richmond	1,010	Pheasants, rabbits
	Troy	8,852	Pheasants, ducks, rabbits, squirrels
	Beaver Brook	636	Ruffed grouse, woodcock, waterfowl, deer
Washington	Allenton	2,283	Pheasants, rabbits, ducks
	Colgate	750	Pheasants, ducks, rabbits, squirrels, Hungarian partridge
Waukesha	Hartford	1,414	Pheasants, rabbits
	Kewaskum	952	Pheasants, rabbits
	Eagle	1,725	Pheasants, rabbits
Waupaca	Vernon Marsh	2,628	Pheasants, rabbits, ducks, squirrel
	Clintonville	1,919	Pheasants, rabbits, waterfowl
Waushara	Marion	4,975	Pheasants, rabbits, squirrels
	Mukwa	1,474	Pheasants, waterfowl, rabbits
	Greenwood	1,603	Geese
Winnebago	Pine River	2,363	Pheasants, rabbits, deer
	White River	210	Pheasants, rabbits, squirrels
	Bay Boom	2,429	Pheasants, waterfowl, squirrels
	Deltox Marsh	774	Pheasants, rabbits
Wood	Deppe Marsh	100	Pheasants
	Rush Lake	1,113	Pheasants, waterfowl, rabbits, squirrels
	Rush Lake Right-of-Way	2	Waterfowl
	Wood County	18,632	Ducks, deer, grouse, rabbits

The following list shows the number of areas in operation each year. The acreage for 1951 includes 112,110 acres (Central Wisconsin Conservation Area and Horicon Marsh) not shown previously in this table.

<i>Year</i>	<i>Areas</i>	<i>Acreage</i>
1938.....	1	1,280
1939.....	2	21,120
1940.....	4	24,614
1941.....	4	25,971
1942.....	8	31,309
1943.....	11	32,699
1944.....	23	58,454
1945.....	31	63,959
1946.....	50	145,516
1947.....	63	192,561
1948.....	71	224,407
1949.....	100	283,433
1950.....	105	293,647
1951.....	110	402,097

WINTER DEER FEEDING AND DEER YARD ACQUISITION

Since 1943, revenue derived from \$.50 on each deer tag sold is spent exclusively for the purchase and distribution of winter deer feed and the acquisition of winter deer yards. The Game Management Division is charged with the procurement of hay and the best grades of grain concentrate in such amounts as are needed, and with the final determination of areas to be fed. The Forest Protection Division assists in this field activity by making available man power and equipment. A total of 1,130 tons of hay and deer feed concentrate at a cost of \$50,049.34 was distributed in deer yards during the 1950-1951 winter. In 1951-1952, 754 tons of feed were purchased at a cost of \$31,777.10. During the past season, approximately 305 tons (45%) were fed. The total cost of deer feed, including distribution expenses, amounted to approximately \$154,000.00 during the biennium.

A new program of deer feeding has been inaugurated. Trees and saplings of little commercial value have been cut or bulldozed down so that deer can browse the tops, and the stumps can set out new shoots within reach of deer.

During the biennium, a total of 2,083.45 acres of deer yard lands was purchased at a cost of \$17,574.00. Of this sum \$6,510.00 was spent in 1950-1951, and \$11,064.00 in 1951-1952. Deer yard lands were acquired in Ashland, Burnett, Iron, Marinette, Sawyer, and Polk counties.

Listed below is an annual summary of deer yard purchases since the beginning of the program in 1944:

DEER YARD PURCHASES

Year	Areas Added	County	Name	Acreage
1944	2	Iron	Hay Creek	1,320.
			Boot Lake	680.
1945	6	Bayfield	Flag River	160.
		Iron	Hay Creek	480.
			Big Island	960.
			Boot Lake	320.
			Newood	960.
		Lincoln	Town Corner Lake	319.59
		Marinette	Price Creek	1,392.
		Price	Chief River	760.
1946	3	Sawyer	Hoffman Lake	4,960.40
		Ashland	Hay Creek	1,329.45
		Iron	Town Corner Lake	321.25
		Marinette	Miscauno	357.9
			Chief River	40.
		Sawyer	Kissick Swamp	896.23
1947	3	Ashland	Hoffman Lake	480.
			White River	720.
		Bayfield	Flag River	240.
		Burnett	Kohler-Peet	2,553.35
		Iron	Hay Creek	160.
		Rusk	Silvernail	557.65
		Sawyer	Chief River	80.
1948	2	Bayfield	Flag River	80.
		Burnett	Kohler-Peet	320.
		Iron	Hay Creek	40.
		Marinette	Town Corner Lake	80.
			Amberg	254.6
		Sawyer	Flat Creek	171.34
1949	1	Ashland	White River	240.
		Bayfield	Flag River	80.
		Iron	Underwood	1,601.84
		Marinette	Amberg	448.76
		Rusk	Silvernail	480.
		Sawyer	Flat Creek	46.61
		Washburn	Flat Creek	160.2
1950	None	Marinette	Amberg	40.
		Burnett	Kohler-Peet	320.
		Sawyer	Flat Creek	40.
1951	1	Ashland	Hoffman Lake	160.
		Iron	Hay Creek	40.
		Marinette	Miscauno	280.
			Amberg	39.11
		Burnett	Kohler-Peet	55.68
		Sawyer	Kissick Swamp	44.94
			Chief River	85.
		Polk	McKenzie Creek	160.72
Totals	18	11	18	25,316.26

WILDLIFE AND GAME REFUGES

A total of 146 refuges amounting to 57,842 acres was posted in 48 counties in 1951. About the same number of refuges (145), totaling 56,397 acres, were in operation during the previous year. During the biennium, additional closed areas were established primarily for the protection of deer during the November deer season.

WINTER GAME BIRD FEEDING

Each winter since 1929 a winter feeding program for game birds has been conducted. Feeding activities have concentrated mainly on pheasants, Hungarian partridge, and quail. Some feeding of grouse has been accomplished.

In Wisconsin, under present conditions of land use with considerable dairy farming and intensified agricultural practices, cover and food have been reduced to a minimum. A good supply of food at all times is required to curtail starvation in the winter, and to put our birds in breeding condition in the spring.

During the past years the department has set aside \$5,000.00 to \$12,000.00 annually for feeding operations. Funds have been allotted to district game managers who furnish feed to conservation wardens in their counties. It has been the responsibility of game and law enforcement personnel to see that feeding needs and emergency situations are met promptly in the two feeding programs in operation; namely, the general county program, and the feeding in progress on the public hunting grounds.

During the winter of 1951-52, 1,285 bird feeding stations were maintained. A total of 248,080 lbs. of corn, buckwheat, barley, wheat, bird seed, and grit, was distributed in 56 counties. More than 26,000 pheasants, Hungarian partridges, quail, and grouse, made use of hundreds of shelters and feeding devices. Upland birds also utilized 67 food patches of crops left standing in the field, and small plots of food plants planted especially for wildlife. District game managers and conservation wardens cooperated closely with many participating sportsmen's clubs, civic groups, and individuals, particularly farmers. Most feeding activity occurred in the agricultural areas of southern and southeastern Wisconsin.

LICENSED FARMS AND SHOOTING PRESERVES

Game, fur, and deer farms, and shooting preserves, are licensed only after commission requirements and specifications have been met and approved by department personnel. The following licenses were newly established during the period:

	1950	1951
Game farms.....	63	69
Deer farms.....	6	3
Fur farms.....	25	29
Shooting preserves.....	3	1

At the close of the period there were approximately 307 game farms, 481 fur farms, 46 deer farms, and 68 shooting preserves. The acreage in shooting preserves now amounts to about 38,185 acres.

In addition to the above special licenses, the game division issues annually approximately 30 bird banding permits, 30 to 35 scientific collection permits, and 200 miscellaneous free permits for animals or birds obtained legally and held in captivity for noncommercial purposes.

GAME KILL REPORTS

Annually the game division maintains a record of the specie and quantity of game animals and upland game birds and waterfowl taken during each open season. A statistical list of hunters' and trappers' game kill reports

indicates the harvest trend during the years, and serves as a guide for future planning in game management. This compiled information is used by various agencies and press services in answering public requests for kill data.

A special deer kill inquiry based on the sample method used in other fields of statistical inquiry is now used. A questionnaire is sent to approximately 6% of the deer hunters. The survey is used to arrive at the annual deer kill, and also to provide additional information regarding deer hunting and hunter opinion in the state.

During the biennium more than 8½ million game animals and birds, exclusive of bountied animals, were taken in Wisconsin. More white-tailed deer were killed in Wisconsin in 1951 than in any other state.

BOUNTIED ANIMALS

The first state-financed bounties on wolves occurred in 1865. Bounties were paid on wildcat and lynx in 1867, and on fox in 1880.

Since March 11, 1945, statutes have provided for the following bounty payments: Adult fox—\$2.50; kits—\$1.00; adult wolves and coyotes—\$20.00; wolf cubs—\$10.00; wildcat and lynx—\$5.00. One-half of this bounty cost comes from the conservation fund, and one-half from the state's general fund. More than \$100,000.00 in bounty payments has been made annually since 1945. The number of animals bountied, and expenditures during the periods shown, were as follows:

	<i>Animal</i>	<i>Number of Bounties</i>	<i>Paid Claims</i>
1949-1950	Coyotes and wolves	3,135	\$ 57,970.00
	Wildcat and lynx	482	2,410.00
	Red fox	21,953	50,990.00
	Gray fox	6,489	15,915.00
	Total	32,059	\$ 127,285.00
1950-1951	Coyotes and wolves	2,877	\$ 55,240.00
	Wildcat and lynx	525	2,625.00
	Red fox	17,417	40,164.50
	Gray fox	4,606	11,306.50
	Total	25,425	\$ 109,336.00

DEER AND BEAR DAMAGE CLAIMS

Beginning July 1, 1949, \$40,000.00 was appropriated annually by the legislature to defray costs of deer and bear damage claims. Sec. 29.595 of the Wisconsin statutes provided that all claims filed with the commission and deemed valid shall be paid on a pro rata basis at the end of each year.

During the 1950-1951 fiscal year, claims approved totaled \$49,161.47. approximately 81% of the amount of each valid claim was paid. There was a considerable drop in deer damage claims in 1951-1952. Deer damage payments totaled \$21,396.55. For the most part, a reduced deer population accounted for the lessening of the deer damage problem.

The following table shows the payment for each fiscal year by species:

<i>Fiscal Year</i>	<i>Deer</i>	<i>Bear</i>	<i>Total</i>
1950-1951.....	\$37,442.61	\$ 2,427.84	\$40,000.00*
1951-1952.....	21,396.55	4,430.84	25,827.39
Totals.....	\$58,839.16	\$ 6,858.68	\$65,827.39*

*Includes witness fees, travel expense, etc.—\$129.55.

During the biennium a total of 613 deer damage claims was paid. During 1950-1951, 43 varieties of crops were damaged by deer. Items shown most often in deer damage claims were oats, garden vegetables, corn, and hay crops.

A total of 56 bear damage claims was paid during the period shown. Items leading the list for which damage was paid were livestock (mostly sheep) and apiaries.

STATE EXPERIMENTAL GAME AND FUR FARM

The State Experimental Game and Fur Farm, long recognized throughout the world, has its headquarters at Poynette, Wisconsin. Licensed veterinarians offer free services to the fur and game breeders of the state. Other personnel in the field of pathology examine game found dead or collected in the field, and also diseased birds and animals. They also offer assistance as to housing, feeding, and breeding, and assist conservation clubs and individuals in pheasant propagation methods under the cooperative rearing and stocking program conducted by the state.

The following are some of the functions:

PRODUCTION AND DISTRIBUTION OF GAME BIRDS PRINCIPALLY PHEASANTS

The following charts are totals, but the breakdown by counties will be found in the annual report:

	<i>1950-1951</i>	<i>1951-1952</i>	<i>Totals</i>
<i>Eggs produced:</i>			
Game birds.....	438,824	470,504	909,328
<i>Eggs set:</i>			
Game birds.....	376,763	386,308	763,071
<i>Eggs shipped to cooperators:</i>			
Game birds.....	28,466	34,574	63,040
<i>Chicks hatched:</i>			
Game birds.....	284,385	280,557	564,942
<i>Chick distribution:</i>			
Day-old chicks to cooperators.....	201,559	196,175	397,734
Chicks in farm brooders:			
Game birds.....	82,726	83,537	166,263
Totals.....	284,285	279,712	563,997

STOCKING

	1950-1951	1951-1952	Totals
<i>Birds liberated from:</i>			
Egg program.....	9,608	8,666	18,274
Day-old chick program.....	165,990	162,206	328,196
Farm—16-20 week old birds.....	21,590	21,398	42,988
Mature pheasants.....	47,465	39,870	87,335
Research.....	896	2,980	3,876
Totals.....	245,549	235,120	480,669

The stocking program has continued with good results, and the research section follows the results very closely. The cooperating clubs have increased their program of holding hens over the winter with very good results.

GAME ANIMAL STOCKING

The stocking of raccoon has decreased due to the curtailment of breeders at the farm. The herd will be held at a minimum until the wild population merits an increased stocking program.

	1950-1951	1951-1952	Totals
Raccoon.....	1,110	164	1,274
Rabbits.....	42	304	346
Squirrels.....	23	74	97
Totals.....	1,175	542	1,717

TRAPPING PROGRAM

Pheasant, rabbit, and duck trapping was carried on in Milwaukee county during the first year of the biennium; consequently, trapping success was reduced in 1951-1952. The trapped pheasants and partridges were furnished to the research section for breeding, feeding, and survival studies. A number were transported to other areas. Rabbits and squirrels were shipped to various parts of the state for stocking, and ducks were sent to Horicon Marsh.

	1950-1951	1951-1952	Totals
Pheasants.....	478	32	510
Hungarian partridge.....	241	6	247
Ducks.....	198	-----	198
Rabbits.....	127	102	229
Squirrels.....	74	-----	74
Prairie chicken.....	-----	2	2

CONFISCATION AND CLEARING HOUSE SECTION

During the biennium the clearing house section received, housed, and fed, the following birds and animals until proper disposal was undertaken:

	1950-1951	1951-1952	Totals
Mallards.....	169		169
Fawn.....	56	14	70
Deer.....	10	3	13
Beaver.....	3	1	4
Porcupine.....	6	3	9
Bear.....	4	6	10
Opossum.....		14	14
Raccoon.....	8	3	11
Woodduck.....	1		1
Rabbits.....	127	102	229
Squirrels.....	74		74
Hungarian partridge.....	241	6	247
Black ducks.....	29		29
Prairie chicken.....		2	2
Goose.....		1	1
Totals.....	728	155	883

PUBLIC RELATIONS AND EDUCATION

The animal and bird exhibits continued to be an integral part of the public relations and educational program. There was some curtailment since there was no program of production of ornamental birds. The Game and Fur Farm maintains both an animal and a bird exhibit which draws thousands of visitors annually. Aside from this the personnel of the farm attended forty-eight meetings sponsored by sportsmen's groups, at which talks were given and moving pictures were shown. The farm also cooperated with the information and education division in supplying the live animal and bird exhibits at the state fair, county fairs, and conservation organizations.

MAINTENANCE

In the first year of the biennium, 250 pheasant breeding pens were constructed. A total of 50 new pheasant runs was built, which furnished new grounds for birds and the replacement of old fences. The upkeep and painting of various buildings was continued in rotation at a minimum cost.

Farming practices were improved as a result of the crop rotation program recommended by the University School of Agriculture and the Soil Conservation Service.

Fire control and protection were given first priority at all times.

HORICON MARSH MAINTENANCE PROJECT 26-M

This federal aid project has now been incorporated with other activities of game management District 14, which comprises Dodge and Fond du Lac counties. Supervision of the marsh is now under the district game manager.

Development

Approximately 10 per cent of the project budget is set aside for development, and the remainder is used for maintenance of the marsh which includes the following: Upkeep of buildings and equipment; bridge, road and fence repair; sign posting; tree and shrub plantings; planting of game food crops; and patrolling. Controlled burning is also a management practice carried out on the marsh; however, unfavorable weather conditions during the past two seasons did not permit such burning.

Water Levels

Control of water levels on the marsh by manipulating the gates of the Horicon dam is a continuous activity. An attempt was made to maintain a lower water level on the marsh during the summer of 1951 in order to alleviate the destruction of bog areas. This summer drawdown will also be effected during the summer of 1952. Some recovery in certain areas has been noted as a result of the 1951 summer drawdown. New vegetation appearing as a result of this lower summer water level consisted largely of river bulrush.

Geese

The concentration of geese on Horicon Marsh was estimated at 25,000 in both the springs of 1951 and 1952. Large numbers of visitors are attracted to the marsh to view the late afternoon and evening flights of these birds.

Trapping

The share-trapping program on the marsh yielded a record harvest for the past two years. Muskrats were trapped intensively in order to reduce the destruction of marsh vegetation by these animals. Despite this heavy trapping pressure, the residual breeding population was more than adequate, and the annual surpluses were not cropped as heavily as was desired. This program was in conjunction with the policy of lowering the summer water level in order to achieve optimum conditions for rejuvenation of the marsh vegetation. Below is a summary of the fur harvest for 1951-52:

<i>Season</i>	<i>Muskrats</i>	<i>Mink</i>
Nov. 1, 1950—Mar. 15, 1951.....	18,739	90
Nov. 1, 1951—Mar. 15, 1952.....	29,873	29
*Apr. 1, 1952—Apr. 15, 1952.....	6,704	1
Total.....	55,316	120

*Special season

HORICON MARSH DEVELOPMENT PROJECT 31-D

The Muskrat-Waterfowl Habitat Development Project 31-D was completed on March 24, 1952. This was started in February 1950, and consists of a series of level ditches constructed with a dragline. The purpose of the project was to create an additional water area on the east side of the marsh which is relatively dry during the summer months, and which has a low carrying capacity for waterfowl and muskrats.

Approximately 7½ miles of ditching was completed at a cost of \$10,655.32. These ditches have an average depth of 5 feet, and an average width at top of 15 feet.

Periodic surveys are made to determine the value of the project insofar as use by waterfowl and muskrats is concerned. Additional information relating to the muskrat harvest in the experimental ditches is shown in the research section of this report.

DEVELOPMENT PROJECTS

Development projects are concerned primarily with the restoration and improvement of land and water to provide suitable food, cover, and water for wildlife, and are carried on under the Pittman-Robertson Act. Most of the activities of these projects are varied and depend upon the problems at hand. They may also be state-wide or general in scope. During the course of the years 1950-51 and 1951-52, the state was engaged in the following development projects:

Project	Approximate Cost	
	1950-51	1951-52
Rock County..... W-18-D	\$ 6,000.00	\$ 1,962.00
Regional Development..... W-19-D	15,750.00	55,000.00
Boscobel Nursery..... W-19-D		79,671.00
CWCA Meadow Valley..... W-28-D	11,297.00	10,386.00
CWCA Black River Falls..... W-29-D	16,699.00	28,729.00
Muskrat-Waterfowl..... W-31-D		8,921.00
Totagatic..... W-39-D	25,000.00	5,936.00
Crex Meadows..... W-40-D	41,759.00	33,912.00
Game Habitat Development Area I..... W-41-D		11,954.00
Game Habitat Development Area II..... W-42-D		15,386.00
Yellowstone..... W-45-D		6,000.00
Browntown..... W-50-D		5,500.00
Wood County..... W-52-D		13,672.00
Totals.....	\$116,505.00	\$277,029.00

The development of game habitat continued to be the most important type of work. This is evidenced in such as the Regional Development Project where the major emphasis was placed on fencing, the planting of public and private lands, and on game habitat development projects where activities were centered on determining the effects of timber and pulp cutting operations to produce deer browse. Other projects like the Crex Meadows and Totagatic accomplished game habitat development work through water impoundment.

Other types of development work include the Boscobel Nursery project and the Central Wisconsin Conservation Area projects. The former was initiated in the summer of 1951 to facilitate the cover planting program for habitat improvement. The latter was begun in the summer of 1949, and has continued through the years. Every known habitat improvement practice is being developed on 114,000 acres of federal leased land in the CWCA.

Other projects of a miscellaneous nature include Yellowstone and Rock County. Leasing, planting of food and game crops, and the fencing of woodlots, both private and public, are the major activities.



Multiflora rose planting for wildlife cover, Rock County.

LAND ACQUISITION PROJECTS

Land acquisition is also one of the activities carried on under the Pittman-Robertson Act. The purpose of this function is to obtain control over numerous, well-distributed areas of land for the conservation of wildlife. The important land acquisition projects with their budgets for the 1950-51 and 1951-52 fiscal years are as follows:

Project	Approximate Cost by Years		
	1950-51	1951-52	
Yellowstone.....	W-16-L	\$21,000.00	-----
Totagatic.....	W-17-L	2,000.00	-----
Mud Lake.....	W-20-L	10,000.00	-----
Greenwood Farms.....	W-21-L	3,000.00	-----
Crex Meadows.....	W-30-L	5,000.00	\$ 5,000.00
Fish Lake.....	W-33-L	4,000.00	2,000.00
New Munster.....	W-35-L	6,000.00	-----
Ten-Mile.....	W-36-L	4,000.00	4,000.00
Princess Point.....	W-37-L	5,000.00	5,000.00
Vernon Marsh.....	W-38-L	20,000.00	15,000.00
Rice Beds Creek.....	W-41-L	-----	2,000.00
Eldorado.....	W-46-L	-----	10,000.00
Tiffany.....	W-48-L	-----	2,086.00
Jackson Marsh.....	W-49-L	-----	2,750.00
Totals.....	-----	\$84,000.00	\$47,836.00

MAINTENANCE PROJECTS

Through the amendment to the Pittman-Robertson Act on July 24, 1946, maintenance of completed P-R projects was approved. The state is restricted to expenditure on maintenance not to exceed 25 per cent of the annual federal aid apportionment. It is further restricted in the sense that maintenance projects can be set up only on those areas acquired or developed under the wildlife restoration program.

The Horicon Marsh Maintenance Project is of this type. It was initiated in the summer of 1949, since all development was accomplished during the prior year. The activities include maintenance of 37 buildings and grounds, bridge repair, clearing of willows and cottonwoods overhanging the channels, road repair, and construction of new fences and repair of existing ones. Wildlife habitat management included: Planting food patches, share-cropping arrangements with neighboring farmers, herbaceous replantings, and the maintenance of existing coverts in order to make food available to local wildlife species. Other activities on the area included patrolling, purchase of equipment such as trucks, tractors, and field tools, and the maintenance of equipment.

Project

The budget of the project for the 1950-51 and 1951-52 fiscal years, which includes 10% development work, was as follows:

<i>Project</i>	<i>Approximate Cost</i>	
	<i>1950-51</i>	<i>1951-52</i>
Horicon..... W-26-M	\$29,642.00	\$22,334.00

COORDINATION

Coordination projects are initiated when the volume and complexity of the Pittman-Robertson program justify this type of work. Activities of the project include planning and direction of the restoration program, and selection, preparation, and supervision of projects. Coordination projects are important since they affect the smooth and effective operation of the entire wildlife restoration program.

The different functions coordinated by this project are listed separately under their proper categories.

FEDERAL AID SUMMARY—WILDLIFE COST PROJECTS

(All amounts include federal and state shares)

<i>Types of Projects</i>	<i>Approximate Cost</i>	
	<i>1950-51</i>	<i>1951-52</i>
Coordination.....	\$ 30,674.00	\$ 36,254.00
Acquisition.....	84,000.00	47,836.00
Development.....	116,505.00	277,029.00
Maintenance.....	29,642.00	22,334.00
Research.....	140,652.00	132,415.00
Totals.....	\$401,473.00	\$515,868.00

RESEARCH PROJECTS

Eight research projects have operated through the biennium. Their purpose is to study all game management problems, although major emphasis during the past two years has been placed on developing and improving game population inventory methods. Many procedures have now been improved to the point where they are assigned to the district game managers who conduct inventories in the field that are coordinated and analyzed by the game survey project, and financed in part with research project funds.

After field study is completed on any phase of the work of a project, the results must be made known both to other biologists and to the public. Findings of the research projects are published regularly as quarterly progress reports. A series of technical wildlife bulletins was started during the biennium, and two numbers have been published. Two bulletins were in press as the biennium closed (on pheasant rations and food-habit studies), and eight others were near completion (on fox, level ditching for muskrats, muskrat growth and development, capercaillie, ruffed grouse, waterfowl, deer, and pheasant stocking).

In order to carry research reporting one step farther, and to present research findings to the general public, a new series of popular bulletins entitled, "Wisconsin Wildlife" was started. Many newspaper releases and articles for the Wisconsin Conservation Bulletin and other local publications set forth further the facts, figures, and the meaning of wildlife research, and how it assists game management programs.

Project personnel have worked continuously with study committees of the conservation congress, have given talks to numerous sportsmen's clubs and civic organizations, and have worked with other department personnel to acquaint them with new developments and current practices in game management.

Project budgets are listed in the accompanying table, and the scope and important findings of each project are listed in the following sections:

FEDERAL AID BUDGETS—RESEARCH PROJECTS

<i>Project Name and Number</i>	<i>Budget</i>	
	<i>1950-51</i>	<i>1951-52</i>
Deer..... 4-R	\$ 25,294.00	\$ 21,380.00
Waterfowl..... 6-R	22,908.00	19,243.00
Pheasant-Quail..... 9-R	17,022.00	19,779.00
Grouse..... 13-R	27,668.00	24,442.00
Fur..... 15-R	23,921.00	19,934.00
Pathology..... 24-R	6,615.00	6,447.00
Game Survey..... 25-R	9,666.00	16,374.00
Capercaillie-Black Grouse..... 27-R	7,558.00	4,816.00
Total.....	\$140,652.00	\$132,415.00

DEER MANAGEMENT RESEARCH PROJECT

Surveys of winter range to determine deer yard conditions were made in 181 yards during the winter of 1950-51, and 497 yards during the winter of 1951-52. It is evident from the surveys that the liberal hunting seasons

of the past three years have resulted in improvement of browse conditions in many yards. The results of these yard checks are compared with the results of surveys during the previous biennium in the following table:

Per Cent of Deer Yards in Critical Condition

	1948-49	1949-50	1950-51	1951-52
Northern areas.....	65	63	69	39
Central area.....	52	53	42	3

Aerial surveys of deer wintering areas have been valuable in mapping yard boundaries, especially in the northern area. Approximately 80 per cent of the major deer range in northern Wisconsin was mapped from the air during the winter of 1951-52.

Deer killed by hunters during the 1950 and 1951 hunting seasons, and examined by project personnel, were aged by tooth wear as follows:

Age Composition of Deer Killed By Hunters

	Per Cent of Total Deer Aged in Years											Total Deer Checked
	Fawns	1½	2½	3½	4½	5½	6½	7½	8½	9½	10 plus	
1950.....	27	22.3	22.6	17.7	5.6	2.4	1.6	0.6	0.1	0.1	0.0	3,136
1951.....	28	20.3	17.2	18.9	8.8	3.1	1.2	1.8	0.5	0.1	0.0	4,754

These data are extremely valuable in analyzing Wisconsin's deer herd status. In both 1950 and 1951 the number of fawns taken in proportion to older deer was considerably below the proportion thought to exist in the state population. The yearling classes of 1949 and 1950 appeared relatively small; this is believed to show the effects of winter starvation losses on the herd. Using the frequency distribution of the kills shown above, it is estimated that the following numbers of deer have been removed *legally* from the 1949 year class:

1949: Kill of 159,663, of which 36% were fawns ----- 57,478
 1950: Kill of 168,294, of which 22.3% were yearlings ----- 37,530
 1951: Kill of 129,663, of which 17.2% were 2½ years old ----- 22,302

Total removal in 3 years from 1949 year class ----- 117,310

When other losses that have already occurred, such as starvation, crippling, poaching and predation, are added to the number of deer in this year class that may be presumed to remain alive, it is evident that the total size of the 1949 fawn crop greatly exceeded 117,310 deer, and was considerably greater than many people believed possible.

WATERFOWL MANAGEMENT RESEARCH PROJECT

This project is designed to gather facts on Wisconsin and Mississippi Flyway waterfowl populations so that a management plan can be formulated for the continental wildfowl resource. Since wildfowl are very mobile

and do not recognize state or federal boundaries, most of the jobs carried out by this project are done in cooperation with the U. S. Fish and Wildlife Service. The jobs being worked on fall logically into two categories, inventory and special problems, and a seasonal pattern.

Inventories concern annual trends in the state waterfowl breeding populations. In spring breeding grounds and production surveys are conducted. Each of the district game managers in the state samples from 15 to 25 water sites in each district. Each water site is checked three times between May 1 and July 15. The number of breeding pairs of ducks, the average brood size, and the per cent of nonbreeding females, are compared yearly to indicate the trend in duck production. Records are also kept on field water conditions, since drought or floods can curtail the number of ducks produced in any one year.

In early September aerial censuses of selected water areas begin. On these flights the estimated number of waterfowl present is recorded. The data secured from this work is used by administrators to help choose the type of waterfowl hunting season and the best opening date of the season for Wisconsin. Periodic news releases prepared from the results of each flight have helped inform the public about the fall duck flight. The five areas censused during these flights include 21 lakes and marshes in Burnett county, the Mississippi river from LaCrosse to Ferryville, the west shore of Lake Winnebago from Oshkosh north to Green Bay, and the west shore of Green Bay to Marinette, a selected group of lakes and flowages in the northeast, and selected sites on the Rock, Crawfish, and Yahara river channels in the southeast. In addition to the aerial censuses, concentrated effort has been directed toward determining when the goose migration takes place, and if the birds take definite routes through Wisconsin.

Hunter checks are conducted to obtain detailed information directly from the hunters. These details are used to supplement the figures obtained by other projects on the estimated total number of waterfowl bagged in Wisconsin each fall. Information is taken on hunter success, species bagged, band numbers, weights, and other items. In the past few years, between 6,000 and 14,000 hunters have been interviewed each hunting season. From these hunters we have learned among other things that:

1. From 20 to 70 per cent of the total season kill occurs on the opening week end (with a mid-October Friday or Saturday noon opening).
2. About 80 per cent of the total season kill is bagged in morning hunting.
3. Approximately 20 per cent of the ducks shot down are not retrieved.
4. The Wisconsin hunter averages slightly more than one duck bagged per hunting trip.
5. In 1951, on the basis of 6,502 hunters checked, nine per cent secured bag limits.
6. Mallards make up about 40 per cent of the Wisconsin duck kill.
7. Of the Mallards shot in Wisconsin, from 55 to 70 per cent (depending upon reproductive success or vulnerability of the young to hunting) are young birds that were hatched the same year.

In January all of the United States cooperate with the U. S. Fish and Wildlife Service in conducting a winter waterfowl inventory. It is during

this period that species with distantly-located nesting grounds, such as geese, are concentrated and can be tallied easily. In Wisconsin aerial censuses are employed to cover all inland waterfowl wintering sites.

The second category of jobs consists of special problems that are carried out largely in cooperation with other research projects. Dead waterfowl found afield are turned over to the pathology project for examination. To date, botulism and lead-poisoning have killed the most waterfowl found dead in Wisconsin.

Another special problem under investigation is the artificial propagation and release of mallards. The effects of such a program on increasing local breeding populations and the economics of the project are being studied. Canada geese are also being produced and released to build up local nesting flocks. A pair of Canadas released on Horicon Marsh in 1950 produced six goslings on the marsh in the spring of 1952. This is the first indication that the goose propagation program has been successful.

Waterfowl banding is a tool that has been used to find answers to local problems as well as continental and flyway questions. The banding activities of this project are aimed principally at:

1. Attempting to learn how the development of goose refuges in the northern states of the Mississippi Flyway are affecting the flyway goose population and goose hunting in southern states.
2. Following the hand-reared mallards released in Wisconsin.

Within the last year the Mississippi Flyway Council was created. This organization, of which Wisconsin is a member, brings administrators and technicians together from all states in the Mississippi Flyway to discuss waterfowl problems and work toward the same goal—better wildfowl management.

PHEASANT-QUAIL MANAGEMENT RESEARCH PROJECT

Pheasant brood studies were carried on during the two summer seasons of the biennium to provide a picture of the average number of young raised by each female, the dates during which young are hatched, and in general the production success of the year. In 1950 broods averaged 7.0 in size; in 1951, 7.1. Both years had cold, damp springs, and this may have been the reason why the brood sizes did not reach the 1949 high of 7.9. In 1950 the average hatching date was June 15, and in 1951 it was June 14.

Intensive brood studies were continued on four study areas: University Bay, the University Arboretum, southeastern Green county, and Milwaukee county. By obtaining four-year average hatching dates and annual brood sizes for these areas, an interesting point was disclosed. The largest broods tended to occur in years in which there was the least variation in hatching date from the four-year average.

Correlation of hatching seasons with hayfield mowing dates indicates strongly that a majority of nests are hatched before hayfield mowing is well under way.

Another index method that has received additional attention is a count of crowing cocks in the spring. Each year crowing-count transects are run in the major pheasant counties, most of these by game management per-

sonnel. It is believed that these, combined with winter sex ratios, are a reliable indicator of annual changes in pheasant breeding populations.

During 1950 and 1951, final experiments were made in artificial stocking and in the feeding of the synthetic hormone, dienestrol diacetate, to cocks before release. This hormone caused deposition of fat in domestic male chickens. It was hoped that male pheasants would also develop this fat reserve which would then enable stocked birds to survive better than the cocks fed with regular rations. Again in 1950 and 1951, as in 1948 and 1949, the number of hormone-fed birds taken was about 10 to 15 per cent higher than the number of control birds. These studies also substantiated previous findings that survival of summer-released cocks under proper release conditions runs not less than 40 to 60 per cent.

Analysis of stocking and kill records showed that counties which sustained 94 per cent of the pheasant kill received 84 per cent of the total stocking. Further, year to year trends in stocking seem to be correlated roughly with year to year trends in the kill. This suggests there may be at least an indirect relationship between the two.

Intensive selective breeding studies have been continued with a view toward developing strains of pheasants better able to survive and breed under Wisconsin conditions. Attributes for which selective breeding is made are fast growth and feathering, wariness, broodiness, tolerance to low temperatures, high fertility and hatchability, resistance to environmental stresses, and others. Strains from which these attributes are being bred are Formosan, Mongolian, Milwaukee ringneck, English blackneck, versicolor, Reeves, and Elliott pheasants.

Cooperative habitat development studies were started by this project and the University Agronomy Department. The purpose is to develop uses of herbicidal sprays that would be applicable to control of natural vegetation for management purposes, and for methods of planting and treating game food patches with a minimum expenditure of time and effort.

Cooperative studies with the University Zoology Department have been continued. These are fundamental studies in pheasant physiology that will equip us with background information on the operation of environmental factors on birds and bird populations through their physiology. They are also aimed at developing criteria that can be used to select better breeders for the propagation program.

An intensive crowing-count survey has been completed in the southeastern quarter of the state. The purpose was to give a picture of the geographic distribution of pheasant populations. It is to be followed up with a range survey and habitat analysis, and it is hoped that correlations can be drawn between population distribution and environmental characteristics, and thereby give an accurate picture of what constitutes good Wisconsin pheasant range.

In both 1950 and 1951, bobwhite covey breakup was late due to cold, wet springs. Also, the hatch of young in these years was similarly late, as shown by hatching dates obtained from wings sent in voluntarily by hunters. In the winter of 1950-51, censuses on both the Menomonie and Prairie du Sac areas showed winter mortality in that extremely severe winter to be about 50 per cent.

In February of 1952, 18 quail were trapped on the Prairie du Sac area for release in the River Hills area of Milwaukee county. Releases had been made here two years previously, and the purpose of releasing the additional birds was to serve as a "booster" to the earlier plant which seems to be doing very well.

GROUSE MANAGEMENT RESEARCH PROJECT

The grouse project is divided into two phases: The prairie grouse section, which deals with sharp-tailed grouse and prairie chickens, and the ruffed grouse section.

Prairie Grouse Section—In its work on prairie chickens and sharptails, the grouse project is following three closely related approaches:

1. A study of population dynamics, including spring censuses on display grounds, nesting and the rearing of young, movements as shown by banding, sex and age composition, and to a minor degree the role of disease.
2. Local habitat studies and statewide range surveys.
3. Experimental management.

These three lines of approach complement one another in an effort to meet the primary objective—to maintain both chickens and sharptails as game birds. This will be difficult to accomplish, however, as present land use generally is unfavorable to both species.

Population dynamics are being studied on four main areas: The Portage county and Plainfield areas (prairie chickens) in the central counties, and the Douglas county and Radisson areas in the North (sharptails). The Portage and Douglas county areas are being managed experimentally; the others are not. All but the Douglas county area are hunted.

On all study areas it is plain that the prairie grouse have passed the peak of the present population high, and have started to decrease in numbers. On both the Portage and Douglas county areas, where intensive brood studies have been carried on, it is plain that the decline was not caused by failure to produce young. On both areas spring counts of cocks on the display grounds, brood counts, and autumn populations, were high in 1951, but on both areas spring counts were down about 50 per cent in 1952.

The central area prairie chicken range has deteriorated markedly in the last ten years. Hundreds of acres formerly in sod are now plowland. Persistent heavy overgrazing also has detrimental effects, although moderate grazing is highly beneficial. The same thing can happen to Wisconsin's other remnant prairie chicken marshes. In an effort to keep the prairie chicken, it would be neither desirable nor feasible to buy large areas in agricultural communities. On the Portage county area, the best remaining chicken range in the state, studies so far indicate that the purchase or lease of scattered small parcels of land selected for their strategic importance in prairie chicken survival should be a practical compromise. These small blocks will be designed to maintain booming grounds, and nesting and rearing cover. Winter feeding will also be continued through a foodpatch system. It is conceivable that the recent general trend toward grassland

farming and permanent pastures may give changes for this sort of prairie chicken management in other parts of the state.

Until recently Wisconsin had many fine sharptail areas in the north that produced good hunting during the population highs. Thirty or forty years ago many of these areas were new range for sharptails created by lumbering, fire, and expanding agriculture in the forest. By now most such areas have lost their sharptails through reversion to forest, or development into clean-farmed communities lacking the brushlands so necessary to sharptails; however, some areas especially in the northwest were natural sharptail areas—the “barrens”, kept open by soil that was naturally poor, and by frost and fire. The “barrens” have stayed sharptail country until the present—in effect, free game management.

In recent years, however, many of these natural sharptail openings have been obliterated by jack pine planted for pulpwood. Except for bogs and marshes, most of the remaining natural sharptail range in northern Wisconsin occurs on preferred tree-planting sites, as the quality of openness that makes for sharptail range also makes for more simple and cheaper tree planting. Thus there is a head-on conflict between sharptail management and forest management for pulp. A study is now under way to attempt to resolve this difficulty, and to correlate sharptail management with forestry.

Ruffed Grouse Section—Ruffed grouse studies have been planned to develop and put into practice methods of analyzing the status of state-wide ruffed grouse populations throughout the year. During the spring drumming males are counted on annual census routes. Brood observations during the summer are used to estimate the production and survival of young. Fall populations are estimated by asking hunters how many ruffed grouse they flush and kill per hunting trip. Winter populations are checked by the number of birds flushed during annual deer yard checks. During 1950 and 1951, all these sources of information indicated that ruffed grouse populations continued to remain at a relatively high and stable level. Thus the long hunting seasons and the annual kill of about three-quarter million birds in 1950 and 1951 hunting seasons had no detrimental effect on the state ruffed grouse population.

During the 1950 and 1951 hunting seasons, hunters contributed wings and tails of ruffed grouse for a tally of the sex and age composition of the population based on feather characteristics. An analysis of these samples (shown in the table) indicated that the ruffed grouse population is reproducing at a rate that will maintain its present abundance. Since about three-fourths of the fall ruffed grouse population is composed of juveniles, these data indicate that breeding failure or high mortality among juvenile birds could cause a severe drop in the number of birds available to hunters.

Sex and Age Composition of Ruffed Grouse in Fall

	1950	1951
Total birds examined.....	3755	4116
Per cent males.....	50	52
Per cent juveniles.....	74	78

During the summer and fall of 1950 and 1951, intestinal tracts and blood samples from ruffed grouse were examined for parasite infestations. These samples and others collected since 1948 have indicated that blood parasites have become increasingly prevalent in the ruffed grouse population in northern Wisconsin, as they increased from 31 per cent of birds infected in 1948 to 90 per cent in 1951. The effect of blood parasites on ruffed grouse survival is unknown at present. Continued collections during the next several years should indicate whether or not parasite infestations are important in controlling grouse population levels.

FUR RESEARCH PROJECT

The fur research project has two functional phases—the fur section, which deals mainly with muskrats, and the beaver section, which deals with beaver and otter.

Fur Section—Three years of study at Horicon Marsh have now been completed on the fur productivity of level ditches at different spacings. Two more years of field work are planned to complete the study. Basically, these experimental ditches were created in order to determine what ditch spacing could best be used in the improvement of Wisconsin marshes for muskrats.

The accompanying table shows the harvest figures and relative values of the four dredged ditches as determined thus far. At the end of the third trapping season it can be seen that the highest return per \$100.00 invested was obtained from the ditch spaced at 200-foot intervals. This is the most important criterion when pelt prices are low as at the present time. The number of muskrats produced per acre increases as the distance between the ditches decreases. Small marsh owners might be more interested in the yield per acre than the return per \$100.00 invested.

Summary of Muskrat Harvest in Experimental Ditches, 1949-1951

<i>Ditch Spacing in Feet</i>	<i>Ditch Length in Feet</i>	<i>Total Harvest</i>	<i>Annual Number Muskrats per \$100.00 Invested</i>	<i>Annual Harvest per Acre</i>
50.....	4433	120	5.1	8.0
100.....	4783	204	8.1	6.8
200.....	2647	163	11.7	5.4
400.....	1435	77	10.2	2.6

Unfavorable weather during the 1951 trapping season greatly depressed the catch of muskrats in the ditches. If a full crop had been taken, the money invested in the most productive ditch (200-foot spacing) would have been recovered in the third trapping season. Under favorable circumstances money invested in dredging to increase muskrat production, including a good rate of interest, can be recovered in four years through the increased value of fur produced.

Other wildlife values accrue when new ditches are created for muskrats. In a check of the 35 acres ditched experimentally, 24 duck nests were found

in 1952. This is a greater concentration of duck nests than was found in any other section of Horicon Marsh.

A record muskrat harvest at Horicon Marsh in 1951 was helped by increased survival of young to the trapping season. The number of young muskrats trapped per adult female jumped from 4.3 in 1950 to 9.3 in 1951. The per cent of litter-tagged muskrats recovered during the 1951 trapping season was also much higher than in previous years. A rapid turnover in the muskrat population is indicated by tag returns, since no recoveries have been made of any muskrat as old as three years.

A 95-acre muskrat refuge at Horicon Marsh was evaluated by ear-tagging young muskrats in the refuge, and noting when and where they were recovered. Several management implications were derived from this study. Movement of young muskrats from the refuge before winter was insignificant. Practically no stocking of other parts of the marsh has originated from the refuge. The total harvest from Horicon Marsh would have been greater if the refuge had been trapped each year. Muskrat refuges or closed seasons, therefore, generally are not recommended as a sound management practice.

Diseases of muskrats have been studied through a cooperative agreement with the University of Wisconsin. The fur project investigates disease reports in the field, and supplies the University pathologist with all necessary specimens. Important progress has been made on the etiology of Errington's disease. No evidence has been found that a virus is involved and there are indications that the disease is associated with an anaerobic factor.

Beaver Section—The fish management division has concluded from studies in the northeastern part of the state that beaver are detrimental to many trout streams. Future beaver management is being planned to take this fact into consideration through the study of a stream-zoning system. Within zones beaver will be removed as completely as possible, however, other factors such as deforestation of watersheds are assisting the deterioration of trout streams.

The beaver population has not been cut down by trapping in the past three seasons to the extent desired. Although trapping seasons have been increasingly lenient, fewer trappers have been in the field due to low pelt prices. Only a few of the more accessible areas have been trapped heavily.

A total of 1,779 beaver damage complaints made since 1946 has been summarized. They show that agricultural, road damage, and timber damage complaints are the most frequent. Also indicated is the fact that beaver in Wisconsin reached their maximum range extension in the late 1940's. The project recommends that beaver be removed from agricultural areas, since they are more of a nuisance than a fur resource in such situations. The transplantation of 1,344 beaver from complaint areas to other locations during the last six years undoubtedly has had an effect on the spread of beaver into many sections of the state.

Beaver ordinarily are little affected by diseases, but a disease resembling tularemia has been discovered among beaver in the Hayward area. A similar disease in Minnesota during the winter of 1951-52 killed thousands of beaver, and therefore, a further reduction of beaver populations in Wisconsin seems to be in order, to minimize the spread of this disease.

WILDLIFE PATHOLOGY STUDY

It is necessary to keep a constant vigilance for disease outbreaks, to diagnose the cases observed, and to study methods of prevention in wildlife populations. To determine the cause of outbreaks, it frequently is necessary to conduct laboratory experiments under controlled conditions.

Rather than wait for the disease to kill the animal, this project solicits the cooperation of other wildlife research projects to submit blood smears from all live and dead (fresh) specimens handled during the course of other studies. This procedure is effective especially in studying the potential blood diseases that might be responsible for ruffed grouse fluctuations commonly called "cycles". A report on these studies is made by the ruffed grouse project.

A total of 32 wild geese (mainly Canadas) was examined for blood parasites, and ten (31.2 per cent) showed infestations. *Microfilaria* and leucocytozoans were the two parasites found most commonly. Fifteen out of 41 sharp-tailed grouse examinations revealed leucocytozoans, but only one out of 60 prairie chickens contained blood parasites.

Laboratory studies revealed that in winter ruffed grouse harbor blood parasites, but these are in a latent form and are not in the peripheral blood stream. Indications were that as the blood temperature increased, the rate of parasitism in the peripheral blood increased. This is a new approach to blood parasitism analysis and study.

A method was developed to determine the ability of wildlife species to survive specific applied stress. This technique is especially important in determining differences in superiority to specific stress (starvation and caging) of animals used in artificial propagation programs. At the present time a pheasant breeding study is being conducted. It involves the crossing of different species of pheasants selected because they possess one or more important characteristics desired in the breeders at the game farm.

Mongolian and Formosan pheasants showed the least amount of weight and temperature loss when caged and placed on a starvation regime. Versicolor crosses showed a high rate of weight and temperature loss; however, they showed the most rapid recovery when given food. This is an extremely important characteristic to be had by birds when they are placed in the wild.

The stress study technique also revealed that game birds, particularly pheasants, are least able to survive stresses at the time they are beginning their post-breeding season molt in August. Thus this is a time when exposure to disease-causing agents is very important. At this time the birds have reached the lowest point in their normal body weight. As they increase in weight, their stress resistance increases. During the winter most pheasants have a static weight level. As spring begins, there is a sudden spurt in hen pheasant weight. This is the time the bird has the highest resistance to starvation. Whereas hen pheasants could live in cages without food for an average of only 12 days in August, they survived for 30 to 40 days in March and April. The ability to survive for a period of 30 to 40 days in late winter indicates that in the average Wisconsin winter pheasants should be able to survive without significant losses.

The stress studies have also indicated that game farm pheasants might be able to survive through the winter in good health on a much smaller

amount of feed than was believed possible previously. Experiments will be conducted to determine whether a reduced feeding program is feasible. If it is practical, a very significant saving can be realized by game farms in their propagation programs.

In the spring of 1951, approximately 20,000 game farm pheasant chicks suddenly showed signs of abnormality. The project, cooperating with other agencies, discovered that the basic cause was an inferior ration. Correction of the problem through a change in feed eliminated the abnormalities.

Experiments were also conducted to determine the proper usage and dosage of sulfa drugs in coccidiosis problems. Very satisfactory results were obtained when a combination of sulfa drugs was used simultaneously.

GAME SURVEY PROJECT

During the biennium several new methods of game inventory were tested and set up for the routine use of game division personnel, and improvements were made in existing surveys. These were designed to yield an extensive type of information that is useful in following the population status of the various game species. These surveys often have been devised or adapted from known methods by the research project dealing with the species in question. The game survey project has analyzed the material gathered to date, and has made certain recommendations relating to the survey method on the basis of the analysis. In other cases, perfection of the survey method along with the field work has been carried out directly by this project. Usually the procedure followed for routine surveys is to submit instructions and record forms to field personnel who conduct the surveys and return the results, whereupon they are summarized and interpreted. The information is then made available for use by the department. These surveys now cover in varying degree the pheasant, ruffed grouse, waterfowl, quail, Hungarian partridge, sharp-tailed grouse, prairie chicken, mourning dove, and deer, and touch on various other species. It is the aim of the project to include soon all formal survey work under its direction.

Special game surveys have been conducted through the use of the facilities of the Federal-State Crop Reporting Service and its farmer cooperators.

A streamlined game kill questionnaire has been devised that is sent to about 10,000 hunters whose names and addresses are taken at random from the license sales stubs. Three mailings are used in order to obtain a high percentage return of the questionnaire from the contacts. This return has amounted to over 85 per cent. Information on kill, hunting success, distribution of hunters, and related topics, is obtained. Tests of this procedure during the past two years have shown that this is an efficient method of obtaining hunting statistics, and it is expected that it soon may replace the hunter report now required by statute but on which the response runs only about 20 per cent. The method gives a highly reliable estimate of the total state kill for each kind of game, but is somewhat deficient in estimating county kills of the lesser species hunted in the county. A special comparison of hunting results achieved by holders of sportsmen's licenses and small game licenses was made, and this indicated that the former had different hunting habits and success than the small game licensees. Thus while 9.2 per cent



Bridge—Cascade Trail, Copper Falls State Park.

of the hunters held sportsmen's licenses, this group took 13.9 per cent of the harvest of game in 1951.

A considerable portion of the effort of the project is devoted to treatment of data obtained by the other research projects. This data is subjected to statistical processes by which the reliability of the results obtained are tested, and the extent to which the information obtained can be generalized is determined. In general, such examination of data is aimed at making the fullest possible use of the material gathered. On occasion, assistance is given in setting up field experiments so that the data gathered will be of sufficient bulk and of such nature that clear-cut final results will be obtained.

The project has also carried out a few minor activities, which include mourning dove nesting studies and the banding of young in cooperation with the U. S. Fish and Wildlife Service, perfecting a method of trapping ruffed grouse, and bobwhite quail population studies.

CAPERCAILLIE—BLACK GROUSE RESEARCH PROJECT

The four capercaillie released on Outer Island in Lake Superior in May, 1950, were the last birds received from Europe for release. Intermittent observation of birds remaining on the island was made during the summer and fall of 1950. No birds were seen after the winter of 1950-1951, and no evidence of their fate has been found.

At present the project is inactive pending the receipt of additional birds for release. Future logging plans by the owners of Outer Island will also play a part in determining if and when project activities will resume.

Fish Management

Introduction

The fish management division was further reorganized late in the biennium to create five areas instead of three. Headquarters for the new areas were incorporated into the already established headquarters of law enforcement and game management divisions at Oshkosh and Black River Falls. This change now makes the management areas identical with the game management and law enforcement divisions and permits smoother interdivisional cooperation, closer coordination, and harmonious departmental activities. The primary purpose of the area plan is to better serve the residents of the state in the Conservation activities. Field men are closer to the problems and projects and more prompt and immediate attention can be given to them than from the Madison office.

Changes in legislation during the biennium having a direct effect on the activities of the division include fishing license reciprocity with the state of Michigan, the bait dealers license law and the private fish hatchery law. Three rivers form part of the boundary between Michigan and Wisconsin and the boundary line bisects 19 lakes. Previous to the enactment of the reciprocity law by the legislatures of both states, it was necessary for non-residents to purchase non-resident licenses from both states in order to angle in these waters without danger of being arrested for fishing without a license as distinct boundary lines are impossible, especially on the larger lakes. The new law now permits each state to honor each other's non-resident license law on these specified waters and an important public relations problem has been solved.

During the past decade the minnow population has been decreasing in many waters. This situation created a shortage of bait and also caused the enactment of a large number of varied and complicated regulations. The department for many years sought the enactment of a bait dealers license in order to have better control over the harvest and the bait dealers desired a license as the same would not only add dignity to the business, but would also offer the dealers some protection. The law enacted provides for two classes of license, depending on the volume of business transacted and also authorizes the commission to issue permits of various types. While it is too early to measure the virtues of the act, certain problems and certain benefits have become evident although the full accomplishment of any new legislation is not realized for some time after its enactment. The new law did, however, open one new source of bait for harvest—this being trout streams from which the seining or trapping of minnows has been prohibited for many years. To date nearly 100 permits have been granted to take minnows from certain specified trout streams by means of the glass trap. The effect of minnow harvest in trout streams will be evaluated and used as a guide in future fish management practices.

Along with the problem of bait shortages, there was a gaining interest in the culture and propagation of minnows, making it necessary to revise the private fish hatchery law in order to permit the licensing of certain types of waters suitable for such purposes and of no public interest. This brought about an increase in the number of private fish hatchery licenses issued and also raised questions as to the type of waters that may be licensed.

The present economic and social trends are having a direct effect on the program of the division. In view of the fact that people are having more time for recreation, fishing pressure has increased tremendously and along with it more demand for services of all types. Unfortunately, income for the fish and game fund has not kept pace with the increasing costs of operations and demands for greater service. In addition, working conditions and terms of employment are changing. For example, adoption of the forty hour work-week for non-supervisory and non-technical employees presents problems that are sometimes delicate and otherwise complicated in nature.

FISHERY OPERATIONS

The fishery operations section of each area has the propagation distribution and stocking fish as the major activity. The emphasis on stocking trout of catchable size and fingerlings of the larger game fish species has been continued during the biennium. The following table shows the numbers and species of fish stocked during the two years:

DISTRIBUTION OF FISH BY SPECIES AND SIZE

	1950		1951	
	Total	Grand Total	Total	Grand Total
<i>Bluegill</i>				
Fingerling.....	4,318			
Yearling.....	7,000F			
Adult.....	130			
	4,500F			
	3,212	7,660	2,429	2,429
		11,500F	11,500F	11,500F
<i>Brook Trout</i>				
Fingerling.....	1,691,955		1,586,826	
Yearling.....	414,382F		186,116F	
Legal.....	120,760		69,596	
Adult.....	1,300F		2,200F	
	484,780		614,460	
	1,400F		4,946F	
	2,692	2,300,187	312	2,271,194
	2,200F	419,282F		193,262F
<i>Brown Trout</i>				
Fry.....			500F	
Fingerling.....	692,324		636,496	
Yearling.....	49,300F		100,200F	
Legal.....	42,132		105,695	
Adult.....	5,500F		4,635F	
	409,147		459,521	
	16,112F		20,530F	
	1,025	1,144,627	3,545	1,205,257
		70,912F	150P	125,865F
				150P
<i>Bullhead</i>				
Fingerling.....	926			
Adult.....	5,426	6,352	356	356
<i>Catfish</i>				
Adult.....	785	785	517	517

DISTRIBUTION OF FISH BY SPECIES AND SIZE—Continued

	1950		1951	
	Total	Grand Total	Total	Grand Total
<i>Crappie</i>				
Fingerling.....	600			
Adult.....	5,175	5,775	2,225	2,225
<i>Lake Trout</i>				
Fingerling.....			2,428,459	2,428,459
<i>Large Mouth Bass</i>				
Fingerling.....	635,955		313,712	
Legal.....	886,646F		114,205F	
Adult.....	3	636,563	1,058	314,770
Adult.....	605	886,646F		114,205F
<i>Muskellunge</i>				
Fry.....	1,129,967		696,998	
Fingerling.....	249,533F			
Yearling.....	143,870		238,039	
Adult.....	4,363	1,278,260	5,030	940,067
Adult.....	60	249,533F		
<i>Northern Pike</i>				
Fry.....	14,466,410		4,251,591	
Fingerling.....	8,223		3,498	
Adult.....	1,047	14,475,680	6,258	4,261,347
<i>Perch</i>				
Fingerling.....	3,700			
Adult.....	1,071	4,771	2,283	2,283
<i>Rainbow Trout</i>				
Fingerling.....	214,565		158,461	
Yearling.....	77,000F		63,500F	
Legal.....	21,150		39,935	
Legal.....	4,750F			
Adult.....	69,007		45,558	
Adult.....	2,250F	306,822	6,416F	243,954
Adult.....	2,100	84,000F		69,916F
<i>Rock Bass</i>				
Adult.....	169	169		
<i>Salmon</i>				
Fingerling.....			1,460	
Yearling.....			424	1,884
<i>Smallmouth Bass</i>				
Fingerling.....	357,692		307,867	
Adult.....	92,310F	357,734	6,500F	307,867
Adult.....	42	92,310F		6,500F
<i>Sturgeon</i>				
Adult.....	8	8		
<i>Sucker</i>				
Adult.....			300	300
<i>Sunfish</i>				
Adult.....			634	634
<i>Walleye</i>				
Fry.....	120,735,232			
Fry.....	12,475,948F		67,052,216	
Fingerling.....	2,547,732		1,050,905	
Yearling.....	36,635		53	
Legal.....	1,050			
Adult.....	202	123,320,851		68,103,174
Adult.....		12,475,948F		
Total State.....		143,846,245		80,086,717
Total Federal.....		14,290,131		521,248
Total Private.....				150
Grand Total.....		158,136,376		80,608,115

Shortages of labor and materials during the war years made it necessary to delay several repair and maintenance projects and as a result some of the fish hatchery facilities are presently in poor condition. Since the war and as funds became available construction projects have been almost equally divided between renovation of existing trout hatcheries and the building of rearing ponds for walleyes. The rewalling of raceways at the Hayward trout hatchery has been completed and the renovation of raceways has been started at the Nevin and Wild Rose hatcheries, which are two of the larger state trout hatcheries. The latter projects are on a sectional plan and construction is planned over a five year period.

With respect to pond construction, a rearing pond near Sand Lake in Sawyer County has been in the making during the past two years. Unpredictable circumstances have delayed completion but it is expected to finish the pond this summer and have it ready for operation in 1953. Lake Marion near Mazomanie is being acquired as a walleye rearing pond and legal problems in obtaining a clear and guaranteed title have delayed the start of construction. However, it is hoped that this pond will be available in 1953. Work was also started on the Conover or Tamarack pond in Vilas County. This pond was built on the Tamarack Creek but was not in operation because the water supply could not be regulated or controlled. The construction of a bypass, started late in the biennium should make this pond available for the next rearing season.

Other major improvements consisted of the addition of a second boiler to the heating plant at the Spooner headquarters and conversion to oil, installation of freezers at Westfield, Lakewood and Thunder River hatcheries. All trout rearing hatcheries are now equipped with freezer units for the storage of fish foods. This enables the purchase of fish foods in car load quantities thus assuring a continuous supply and at times effective savings are made in the purchase.

ROUGH FISH CONTROL

Adequate rough fish control is a very important factor in good fish management practices. The salvation of the habitat in many lakes in southern Wisconsin depends largely on how well we can control rough fish, particularly the carp population in these waters. To carry out an effective rough fish control program in Wisconsin requires a large amount of money. Formerly the rough fish control program was operated on a revolving fund; however, the 1951 session of the state legislature abolished this fund and effective July 1, 1951, money was appropriated from the Conservation Department general fund to carry on this work. Revenue derived from the sale of rough fish is now placed in the general fund of the Conservation Department.

Rough fish removal by state crew operation has been conducted during the past biennium from five permanent stations located at Newville, McFarland, Horicon, Fond du Lac and Oshkosh. Sub-stations and temporary installations for seasonal rough fish control operations were also operated at Delafield, Lake Delavan, Lake Kegonsa, Beaver Dam, Calumet Harbor, Sheboygan Marsh, Green Lake, Buffalo Lake, Lake Puckaway, Omro and Lake Mason. Many improvements have been made in regard to labor and

time saving devices used in carrying on this work. New lightweight engines used to pull the large seines have replaced the old bulky type engines formerly used. All permanent stations are now equipped with heavy-duty tilt top trailers which are used to move large barges, live cribs and launches overland. Power winches and hoists have been installed on the larger trucks. The new method now used to load out live carp from holding ponds will practically eliminate the old manual way of carrying carp in boxes.

There was an average of 28 private contract fishing crews conducting rough fish removal operations during the past biennium. These commercial fishermen are issued contracts for specified waters and all their operations are supervised by departmental personnel including the weighing and shipping of fish caught.

Conservation Clubs have become more active during the past biennium in removing rough fish. These clubs operate under a cooperative agreement with the Conservation Department. The department furnishes the necessary equipment and supervises the operations while the club supplies the labor. All rough fish caught are the property of the club; however, if the fish are sold, any money received must be used for conservation purposes.

The following table represents the entire rough fish removal by the state, by the contract fishermen, and by the cooperative conservation clubs for the fiscal year 1950-1951 and 1951-1952.

<i>Year</i>	<i>State Crews</i>	<i>Contract Crews</i>	<i>Coop. Cons. Clubs</i>	<i>Total</i>
July 1, 1950 to June 30, 1951.....	3,434,328	2,129,421½	18,478	5,582,227½
July 1, 1951 to June 30, 1952.....	3,019,692	1,978,804	24,771	5,023,267
TOTAL.....	6,454,020	4,106,225½	43,249	10,605,494½

Approximately 90 percent of the rough fish caught are carp, 8 percent sheepshead while the remaining 2 percent consists of buffalo, suckers, white carp, dogfish, garfish and eelpout. In many of our inland waters we do not permit the removal of buffalo, suckers and mooneyes by seining crews as these species are native fish and if kept under control, are very beneficial in producing forage for game fish.

ROUGH FISH UTILIZATION

Carp weighing 2½ pounds and over are generally sold for human consumption. The principle markets at present are New York, Philadelphia, Chicago, Memphis, Louisville, Nashville and several other cities in the southern states. Until two years ago the majority of small carp under 2½ pounds were sold to mink and fox ranchers, processed for trout food at the state canning plant or buried. However, a new market has been found for these small carp and during the past biennium approximately 400,000 pounds of these fish taken from Wisconsin waters were transported alive to southern states and stocked in fish ponds. Fishermen were required to pay admission to fish with hook and line to catch these carp.

Sheepshead caught during the fall, winter and early spring are usually in good demand and are generally sold to Chicago fish markets. In late spring and summer when the market for these fish falls off, they are sold to mink ranches and sometimes small amounts are processed at the canning plant.

Buffalo are usually always in good demand. The chief markets are Chicago and New York. White carp and suckers when caught during the colder months of the year have a fair demand on the Chicago fish markets and sometimes live suckers are shipped to the New York markets. The few dogfish taken are sold along with live carp shipments. Eelpout are sold locally for human consumption and are in good demand especially in the Lake Winnebago area where they are caught. We have not found a market for garfish as yet and these fish are being buried.

The sale of fish caught by contract fishermen is handled by the contractor, who by a provision of the contract is appointed to handle such sales as an agent of the Conservation Department and is required to obtain the best price to protect the state's interests. As the contract fisherman is no longer required to pay a supervision charge, 10 percent of the gross sales is collected by the state.

ROUGH FISH PROCESSING PLANT

The Conservation Department canning plant is now located at the Wisconsin Dells fish management station. This plant is equipped to process 4,800 pounds of carp a day. Holding ponds are located adjacent to the cannery where the live carp are held prior to canning. A raceway which runs from the ponds into the canning plant makes it comparatively easy to direct the carp into the plant where they are removed from the water with a large dip net operated by an electric hoist. Prior to being placed into Number 10 cans, the whole carp is run through a hammer mill, mixed with cereal and fortified with Vitamin B powder. Four retorts are used to cook the canned fish. A large warehouse joins the cannery and here the cans of carp are neatly piled up to the ceiling in pallets. Each pallet holds 195 cans and is lifted and moved with a fork lift tractor. Canned carp is sent out from this station to the twelve state trout hatcheries operating throughout Wisconsin. A small amount of this product is also used by Conservation Clubs operating cooperative trout rearing ponds.

GREAT LAKES FISHERIES

A great improvement in the relations with commercial fishermen was made by the appointment of a Great Lakes Advisory Committee in 1951. In order to adequately cover the territory and also all phases of the industry the composition of the committee is as follows: Lake Superior is represented by two fishermen and an alternate; Southern Green Bay, by two fishermen and an alternate; Lake Michigan and Northern Green Bay, by two fishermen and an alternate and the wholesale fish dealers are represented by one individual. This makes a working committee of seven plus three alternates. In view of the fact that there is considerable angling in the outlying waters,

sportsmen have suggested that they have a representative on this committee and the committee itself recommended two sportsmen be represented so that there be better coverage of this area.

The purpose of the advisory committee is as the name implies to be advisory to the Conservation Commission in reference to regulations in commercial fishing. In addition the Committee is to serve as liaison between the Commission and other fishermen. The committee is also working on an educational program to put a better, fresher product on the market and also to stimulate the use of fresh water fishes.

The only major change in fishing regulations was the reduction of the size limit on perch from Southern Green Bay from eight to seven and one-half inches. Studies carried on by the Fish Management Division in cooperation with the U. S. Fish and Wildlife Service showed that the perch of Southern Green Bay were slow in growth and only a small percent of the mature population were available for harvest under the eight inch limit. Since this was a relaxation of regulations and was considered by many to be a backward step the Conservation Commission was reluctant to adopt the new size limit and did so only after long deliberation and on the basis that it be tried for a two year period during which time studies on abundance, rate of growth, age and size distribution, etc., for consideration of the proper size limit at the end of the trial period.

Very few people of the state realize the size of the Great Lakes fishery and the amount of food produced. There were 519 licenses sold during 1951, which means that there were approximately 2,000 individuals engaged in the actual operation of catching fish since the crews are made up of three to five men each. In addition, employment is given to shore help, processors, dealers, transportation, etc. Commercial fishermen, like other industries or businesses, need a constant or steady flow of materials for use in their work. In addition to boats and nets, fishermen need a large variety of items such as rope, gas, oil, boxes, ice, etc. Therefore, commercial fishing on the Great Lakes does play a very important role in the economic structure of the community.

As is mentioned in previous reports, the lake trout in Lake Michigan have declined to the point that they no longer enter into the commercial catch in any significant numbers. The sea lamprey is cited as the principle cause of the decline. For the past several years the states cooperating with the U. S. Fish and Wildlife Service have been carrying on investigations regarding the most effective and economic methods to control this pest.

WATERSHED MANAGEMENT

The watershed management program of the division was inaugurated a few months before the end of the last biennium. The approved overall program involved an organization within five areas and fifteen districts. Initial manpower requirements were recruited and indoctrinated into the various aspects of watershed management, in which the emphasis is necessarily concerned with soil and water relationships intended to slow run-off and erosion and stabilize conditions in the watershed and waterway. The activity

during the first year was slow in gaining momentum, however, action was initiated on seven demonstration watersheds intended to point up the problems and methods of solution. The formation of watershed associations is encouraged at all times to assure strong, continued, positive action in a delineated area, the watershed. Three associations have been formed through efforts of the program and others are in various stages of formation. In addition, seventeen cooperative projects were planned and approved for activity by interested sportsmen's clubs and civic groups. The labor and most of the materials needed are furnished by the group. Cooperative projects are encouraged at all times since manpower and educational activity are of prime necessity to make any substantial progress in slowing the destruction and losses now occurring in all areas of the state. By the end of the biennium, there were twenty-seven active cooperative projects with others in various stages of planning. The demonstration watershed units had been increased from seven to twelve, principally due to the impetus given by Dingell-Johnson federal aid funds.

For many years, the Pittman-Robertson program which is financed by an excise tax on arms and ammunition has benefited the game management work in the various states. Such assistance for fish management was not available until August 9, 1950, when the fisheries program was set up under terms of the Dingell-Johnson Act. Funds for the Dingell-Johnson program are derived from an excise tax of 10 percent on fishing equipment. The funds are allocated to the various states in accordance with a formula involving the number of fishing licenses sold and the area of a state. On this basis, the Wisconsin quota was approximately \$117,000 and since each \$3.00 of federal money must be matched with \$1.00 of state money, the total available for D-J fisheries work amounts to \$157,000. The individual states originate their own D-J projects which are submitted for federal approval. The bulk of the allocation to Wisconsin is being used for the watershed management program.

During the first year of the biennium approximately twelve miles of protective zone was acquired along various waterways by gift, leases, or purchase. The protective zone was increased during the second year to approximately fifty miles, which approaches the objective for annual acquisition. Almost 330,000 trees have been planted, plus many thousand shrubs and willows used for stream bank protection.

In all watershed management activity it is necessary to work very closely in planning and execution with, not only other divisions of our department, but also with various federal, state and county agencies. Cooperation has been extremely close with the soil conservation service and county agents.

CONSERVATION CONGRESS

The Conservation Congress, an advisory body to the Conservation Commission, which is composed of three regular delegates and two alternates from each county of the state, has been working in close cooperation with the Conservation Department and the Fish Management Division thereof.

The executive council of the Congress has appointed a fish committee and a trout committee consisting of five and six members respectively who are selected from the regular delegates of the Congress by the executive council and approved by the Congress. These committees are working in close cooperation with the Fish Management Division and have made studies relative to watershed management, beaver-trout relationship, ice fishing, and many other problems. Information gained from these studies have materially assisted in their recommendations for changes in fishing regulations and fish management policies.

At the annual session of the Conservation Congress which is held in June each year, a full set of recommendations for changes in fishing regulations are promulgated and submitted to the Conservation Department. These are studied by the joint fishery and law enforcement boards and if approved are then submitted to the Conservation Commission for their approval after which they are incorporated into a proposed Conservation Commission order which is sent to the Governor for final approval and signature.

Through this approach, it has been possible to formulate sound recommendations which have resulted in greater simplification and streamlining of our inland waters fishing regulations.

FISHERY BIOLOGY

Through lake surveys it became evident that in most southeastern Wisconsin lakes there were large populations of largemouth bass of all sizes. Although seemingly large populations were present, these fish were not being angled successfully. In two lakes in particular the bulk of the population consisted of slow growing and undersized bass which were unavailable to the angler with present regulations. On the basis of these facts experimental regulations have been instituted on Browns Lake and Turtle Lake to test the value of opening the season concurrent with that of other gamefish and removing the minimum size to make bass of all sizes available to the angler.

Rough fish studies have been striving to obtain basic information on the carrying capacity of rough fish in lakes where they have become abundant. In such circumstances there has long been a question about how many and what type of gamefish were able to prosper. Eliminating the population in a small lake in Rock County furnished many answers to these questions. It was found that the gamefish carrying capacity was similar to that of other southern Wisconsin waters, but that it was poor in quality, consisting mostly of crappies. The 325 pounds per acre of gamefish compared with 394 pounds per acre rough fish. The conclusions to be drawn from these experiments are as follows: (1) The presence of rough fish does not decrease the ability of a body of water to support gamefish. (2) Through habitat-destruction the quality of gamefish has become poor. (3) Fertile waters will carry 400 pounds of rough fish per acre and any harvest with nets is a fraction of this amount.

Sampling the trout streams throughout Wisconsin with the use of electrical shocking equipment yielded valuable information on trout popula-



Forest planting by Milwaukee school children, Scuppernong unit, Kettle Moraine State Forest.

tions. It was found that where brook trout were sampled their size was generally small, seldom exceeding the legal size of six inches. Sampling of brown trout streams yielded both large and small fish. These findings indicate that the brown trout withstand heavy fishing pressure much better than the brook trout. Therefore, it appears that when stocking for the creel, brooks stand the best chance of being angled successfully. This stream shocking furnished evidence of "indicator" organisms also. The cold streams were usually the better trout streams and as a general rule they had few foreign fish. Only cottids were to be found in these waters. The warm streams had abundant minnows of many species and suckers as well.

Improvement of the canned carp product from unsaleable rough fish was desired because unimproved carp was deficient, particularly in thiamine. Fortification with food products such as yeast proved to be too costly to bring vitamin assays up to the desired level. The addition of chemical thiamine was found to be most economical and biological assays with trout proved it to be a successful supplement. Fortification has now become standard practice in carp canning.

Law Enforcement

OBJECTIVES

Our goal in the law enforcement division is to give maximum protection of our resources and people, which calls for a condition where a minimum number of arrests would be necessary. Financial restrictions limit the size of the warden force, but we believe the effectiveness of the force rather than its size is of first importance.

Conservation progress is measured by how well the people appreciate that wildlife is their property and that no man has a better claim to it than any other.

The law enforcement division is geared to a two-way program aimed hopefully at reducing the arrest list.

- (1) Education of the youth, both by contact in the field and in meetings with youth groups.
- (2) A crack-down on the habitual and repeater-type violator.

Relative to the first large phase of our program where it has to do with the youth program of the division, we wish to point out that in the interest of improved conservation law enforcement it is recognized that the youth must be considered on a state-wide basis as they are future hunters, fishermen and trappers. Nothing can long endure, our wildlife, our soils, our forests, our democracy, unless we build up in those who follow a consciousness and a conviction that these heritages must not be abused. Unless a tree is fed from the bottom up, it will die from the top down.

We believe that the conservation warden by his attitude and actions can come to be considered as a friend and educator. So much good can be accomplished by expending time and effort in inspiring in youth, respect for the humble creatures of the wild, how to sustain the yield by creating habitats, and how to be a good sportsman. Wardens have been instructed when they find youngsters out in the field violating the law to identify themselves and to sit down with these teenagers and explain to them the why and wherefor of conservation laws and the conservation department program in general. Then they contact the parents and ask for their cooperation, and they encourage the youngster and the parents to have the boy join the Boy Scouts, junior conservation club, or any other youth program wherein they will be expending their energies for something constructive rather than for something destructive. They take these boys on field trips where they plant fish or stock game and the wardens try to enter into a planned program wherein the youngsters will take an interest, and possibly a tree-planting project is started in the particular warden's area with other juveniles participating.

We ask for cooperation from local teachers and civic-minded persons who can help us in this program. We also go to the schools and try to teach conservation to school groups, as we sincerely believe that if we can make a better conservationist of the youth that we are also making a better citizen of him.

The second part of our program is that wardens have been instructed to use good judgment in the enforcement of the conservation laws, and we particularly stress a crack-down on the habitual or repeater-type violator as he is the individual who is most destructive. We would like to say in this connection that the legislature, the district attorney, and the courts have generally cooperated on this phase of the program very well. As a part of our conservation planning, we have set up in this state a process of orderly public harvesting of surplus fish and game. Seasons are set when this can be done and bag limits are established. These are necessary restrictions to permit the continuance of wildlife production to assure a permanence to hunting and fishing as well as trapping. These calculations are upset where any considerable number of people refuse to abide by the general rules. A law-abiding citizen should resent illegal inroads on public property. He should render whatever assistance he can to suppress poachers who limit his own rights to outdoor enjoyment. We believe it is a major part of our job to impress upon the public their responsibilities in this regard as good citizens.

MODERN IMPROVEMENTS

During the last biennium, we had installed 20 more two-way radio mobile units in our officers' automobiles. This brings the total number now to 60. Also, we have purchased a new patrol boat for Lake Superior to police the outlying waters in that area where Wisconsin has jurisdiction. We also have provided our warden force with new uniforms which, in our opinion, have long been needed and will result in increased efficiency and prestige to the force. This new uniform is protection for the public as well as for our own men. Many times in the past, wardens have been hospitalized and some men have been killed, and we believe one of the major reasons is that they have not been clothed in uniform and, consequently, the persons being arrested did not have the respect for our officers.

It has been our basic thinking at all times that any law enforcement agency should have a program of prevention as well as a program of apprehension in order to accomplish the best possible results and also to create good will with the public so as to have public support for the program we have outlined for ourselves. There is a constant public demand for additional wardens, but the policy of our division is to have the most effective law enforcement program with a minimum of personnel. This policy calls for the employment of the highest caliber men available to fill warden positions, and to train and equip them with the best possible modern facilities to carry on our work. We have initiated a training program of our own as there are no colleges or universities which have a course in conservation law enforcement. We have 105 personnel in the division with 5 area field supervisors stationed in districts throughout the state. We are making the best possible use of modern techniques applied to law enforce-



Wisconsin conservation warden in new uniform.

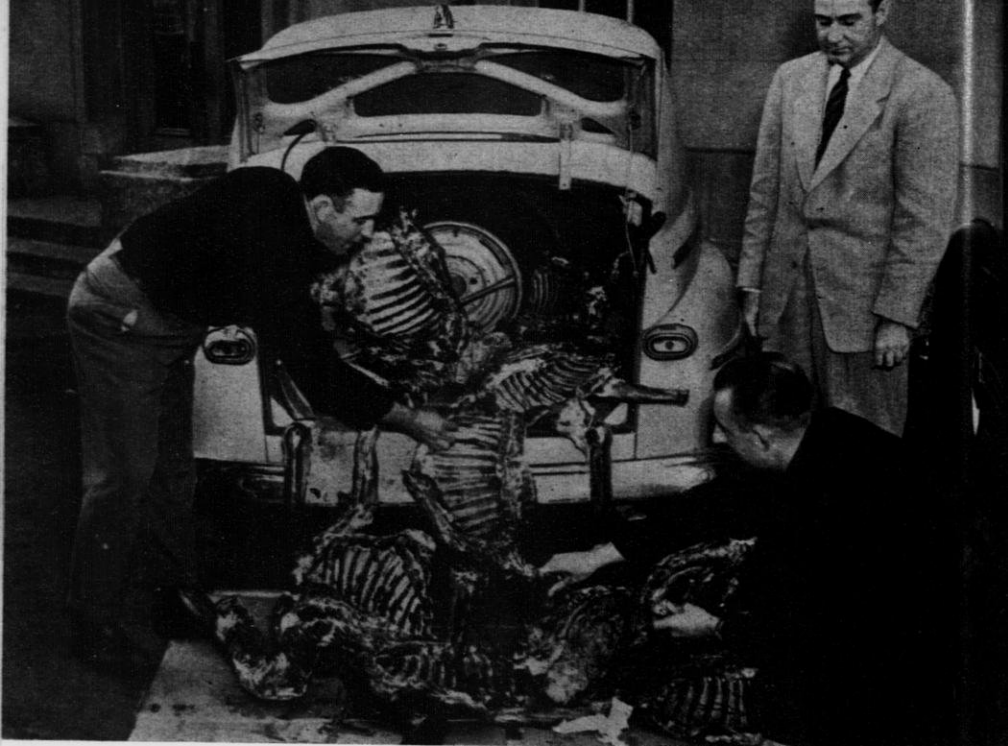


Wardens with catch of fur bootleggers' booty.

ment. Guns and ammunition are examined by ballistics experts to determine whether or not certain ammunition has been fired from certain guns which are used in violation. By getting this expert evidence, we are better equipped to prepare our cases for court, and many cases are prosecuted which heretofore have not been brought into court due to lack of proper evidence. We also are using the services of various laboratories in the analysis of game and wild animals which determines the species and the time which has elapsed since they were killed. These cases have proven highly successful in obtaining convictions. A modern warden is no longer operating as an individual, but as a part of a highly-developed law enforcement unit.

ARREST RECORDS

For the biennium ending June 30, 1952, 6,703 persons were arrested. Our records show that we have a 99 plus percentage of game law convictions. We are not giving the arrest record here with the thought in mind that a great number of arrests is one of our objectives. We are giving it only for the purpose of being factual and not because we are proud of this record. As stated before, emphasis is placed on prevention, and our whole program is geared in line with that thought. Wardens are not rated on the number of arrests they make in given periods of time.



Loot of commercialized "venison ring" seized by wardens.

DEER AND BEAR DAMAGE CLAIMS

Under a specified section of the statutes, the conservation department is required to pay actual damage caused by deer and bear to agricultural groups and for livestock. The ceiling which the legislature has placed on these payments is \$40,000 in any one year. We investigate and process all deer and bear damage claims and also all other damage claims, even though there is no payment made for such claims.

BEAVER CONTROL

We have had three permanent state beaver trappers on our payroll. A specified section of the law provides that whenever any property owner or lessee of any lands makes complaint in writing to the department relative to beaver damage, the department shall investigate and take action either by removing the beaver by dead trapping or by live trapping and restocking them in areas where they will do no harm. The beaver in the past biennium have been on the increase and as a result the damage complaints have also increased. It is the department's policy to try to keep a proper balance by having a short open season each year to keep down the beaver damage complaints and also to let enough seed stock remain so that trappers can take advantage of a season each year.

We have placed emphasis on the live trapping of beaver rather than the dead trapping, even though it involves more time and money, as we are of the firm conviction that we should save as many animals as we can so that the general public can harvest these animals during the legal open season.

We have taken steps to remove beaver from our better trout streams, especially in the northeastern area of the state, as in too many instances the beaver have taken over and as a result the trout streams have deteriorated. Beaver have their place in the game picture as well as any other animal, but in some instances they have proved to be detrimental, especially in our better trout streams. Consequently, we now have a program to remove beaver from these areas in order to perpetuate the better trout habitat.

GREAT LAKES ENFORCEMENT

In addition to the enforcement problems within the land boundaries of the state, we are charged with the enforcement of commercial fishing regulations on the Great Lakes wherein the state has jurisdiction. This water area is equal to approximately 1/11 the size of the state land area. A year ago we purchased a 55 ft. steel patrol boat from a commercial fisherman for approximately half of the cost to build it. It was only three years old. We outfitted her for patrol purposes and stationed her at Bayfield on Lake Superior. Keeping in mind that efficient, economical service is necessary, we transferred one of our men from Lake Michigan and Green Bay waters, who was assigned to the patrol boat "Barney Devine", to the new patrol boat in Lake Superior waters. Also, the warden stationed at Bayfield was placed in charge of not only the patrol boat, but also remained responsible for inland duties, and we hired only one new person, who was an engineer, for the crew of this patrol boat. This boat named "Hack Noyes" now patrols all of our waters in Lake Superior, while the "Barney Devine" patrols our waters of Lake Michigan and Green Bay.

SUMMARY

During the last biennium, there has been a reduction in the number of arrests of approximately 1,000. Our main objective, as stated before, is to prevent as many violations as we possibly can, and we are pleased to note this reduction. Conservation law enforcement is, in our opinion, one of the most difficult jobs of enforcement there is. The broad nature of the work is such that it demands the highest type personnel, coupled with aggressiveness, resourcefulness, human understanding, leadership, fairness and the ability to work well with the people besides knowing these three essentials: (1) the law, (2) the public's rights, and (3) the officer's own rights.

Engineering

With progressive growth and development of the Conservation Department over the past years, engineering problems and requirements have greatly increased. In the past, needed engineering services were provided by individual engineers assigned directly within the various operating divisions. However, as the requirements of each division grew the department was faced with either providing several engineering specialists in the various categories required in each division, or else centralizing all engineering in one organized team of engineers which would provide all engineering services for all divisions. After exhaustive study and investigation the Conservation Commission employed a Chief Engineer effective August 1, 1950 and instructed him to make necessary studies and a recommendation for the organization of an engineering division.

In brief the recommendation offered by the Chief Engineer proposed the centralized control of all engineering planning, the withdrawal of all engineering personnel from the several conservation divisions, and their organization into four primary teams according to individual talents and training. It was proposed to head each of these teams with a section chief who would report directly to the Chief Engineer. The four engineering sections or teams were respectively to specialize in Topographic and hydrological engineering, Mechanical equipment problems, Structural designs, and Electrical and communications problems. After study by the Commission and department the engineering reorganization plan was adopted as submitted. Instructions were issued to carry out the reorganization as rapidly as possible consistent with setting up the necessary administrative procedures, moving personnel, and sustaining the continuity of departmental activities in process.

The Topographic and Hydrology section was activated on October 1, 1950. Following this both the Electrical and Communications, and the Mechanical sections were activated on November 1, 1950. A review of available personnel indicated that the three sections named included sufficient trained personnel to carry on effectively but that before organizing the structural engineering section it would be necessary to hire a structural engineer to act as chief of the section. This was done and the section was organized effective June 4, 1951.

Simultaneously with the organization of an engineering division several other steps were taken which became practicable by virtue of the engineering organization. They were as follows:

1. An engineering project approval system was established such that the department director and his staff are assured of the opportunity to approve or reject any contemplated engineering planning before any engineering efforts are expended.

2. A centralized engineering file has been set up together with a standard drawing system so that engineering plans in connection with any design are rendered available for modification and reuse on subsequent similar designs wherever possible.

3. A cost accounting and records system has been provided whereby all engineering labor and materials are charged to the particular project concerned, and these total costs in turn are charged against the particular development which required the engineering service.

4. Engineering tasks are divided according to the specialized requirements of each task and assignments to engineers made accordingly so that individual engineers progressively develop into specialists in their particular line of engineering.

The general functions of the four engineering sections which must embrace all types of engineering carried on within the Conservation Department are as follows:

TOPOGRAPHIC AND HYDROLOGY SECTION

This section provides all necessary land surveys and topographic surveys. It carries on all departmental mapping, provides necessary geological services, and conducts hydrological studies and makes necessary engineering recommendations relative to water impoundments, water table, and runoff. With the establishment of Pittman-Robertson and Dingell-Johnson federal aid for the development of game and fish habitat, the demands for surveying, mapping, and hydrological studies have greatly increased to where this section is called upon to do a great amount of engineering work. In addition, they are called upon to coordinate their activities with the Public Service Commission, the U. S. Geological Survey, the University of Wisconsin and such other agencies as carry on related work.

MECHANICAL SECTION

In order to carry on required activities, the department owns and operates approximately 435 trucks together with numerous tractors, trailers, fire plows, pumpers and many other mechanical devices. The efficient use, purchase, development, and, in some cases, manufacture of such equipment poses many mechanical engineering problems which require solution and continuous observation and study. These are carried on and, in addition, many heating and refrigeration problems arise which must be handled. The mechanical section is required to be on the alert to insure that most up-to-date and proper equipment is used to attain maximum efficiency in the various operations carried on by the department.

ELECTRICAL AND COMMUNICATIONS SECTION

To fulfill its responsibilities especially with respect to fire fighting, the department owns, operates and maintains approximately 2,300 miles of telephone line, 20 switch boards, many telephone instruments and associated telephone gear. To supplement this point-to-point communications net and

operate to mobile units or directly to remote field locations, approximately 250 radio stations are used. The resulting communications engineering demands, both from the standpoint of operation and maintenance, is great. The Electrical and Communications Section assumes this responsibility. In addition, they must make continued studies to insure that the department keeps up-to-date in this rapidly developing field. Also, they provide such electrical power and lighting engineering service as arises and maintain required liaison with the Public Service Commission, Federal Communications Commission and other related agencies.

STRUCTURAL SECTION

Throughout the department's several divisions, it owns and maintains approximately 1,500 buildings of varying sizes and located in all parts of the state. The resulting structural engineering problems resulting from the standpoint of maintenance, disposal and new construction are numerous. The structural section is called upon in cooperation with the topographic and hydrology section to design dam structures for water impoundments required in connection with game and fish habitat developments and for recreational developments. They must also maintain necessary liaison with the State Bureau of Engineering, the Wisconsin Industrial Commission, and such Federal Aid engineering offices as designated in connection with expenditures of Federal aid funds for construction.

Since the organization of the engineering division and up to June 30, 1952, approximately 500 specific engineering assignments have been handled by all engineering sections. The assignments have ranged in size from minor tasks requiring only a few hours to major undertakings requiring hundreds of hours of study, planning and design work. Most assignments have been completed, some are continuing tasks, and some are now in process of completion. The average number of engineering personnel since all four sections have completed organization has been seventeen.

Information and Education

From year to year there is increasing stress on information and education as a tool of conservation and the field has broadened to take in many specialized fields of activity. In general the job calls for informing people as to day to day developments in the human effort to live with nature and an explanation of the processes called for to make the most of available resources. There is a special effort to help people enjoy their outdoor opportunities.

In the last two decades the information and education effort has grown from a planless program of an occasional speech or news release to a multiplicity of special efforts to meet insistent public demands. Newspaper services have expanded, there are now two monthly publications, a speakers' bureau is in operation, moving pictures and other visual aids have grown in importance, special pamphlets are vital services, there is an effort to meet the growing demands as conservation education in the schools advances, needs for adult schools are met, there are many exhibits to be planned, placed and serviced, there is a law requiring recreational advertising and publicity that is complied with, and there are tours and demonstrations. Much of the work of the division has to do with attempting to meet with many requests that come from individuals and groups with special interests in conservation subjects.

The chief effort of the division in the last biennium has been to stretch available personnel as far as possible over the expanding field rather than add additional workers. Considerable has been accomplished by closer coordination between the various activities. Personnel has been assigned additional jobs to take care of the speakers' bureau, help out on moving picture planning and writing and other tasks for which no specialized help is available. As best it can the division tries to meet radio demands without specialized help. The division works in close cooperation with the rest of the department in an attempt to make the most of informational opportunities. Many public demands are not met as the division finds it necessary to restrict its efforts largely to a wholesale level where the needs of most people can be met with the funds and personnel available.

If possible, the division would materially step up its news and mat services; it would step up its special pamphlet production; it would speed up its moving picture and other visual aid productions on Wisconsin subjects; it would supply a specialized radio program and would supply more help in many special fields. The expansions of activities during the biennium have been made possible entirely by closer planning to make the most of available man-hours.

INFORMATION

Newspaper Services

Hundreds of pages of copy are sent out annually to press and radio carrying information as to hunting and fishing seasons and department operations. A limited mat service supplements this. An average of 50 conservation wardens report to the division each week during the summer as to fishing conditions in their respective areas and these reports are supplied to newspapers and radio stations each week during the season. Another specialized service is a weekly column of conservation notes that supplies background material on which the activities of the conservation department are based. Press and radio demands for copy continue to increase. As far as possible the division attempts to meet the daily special requests that come from various news outlets.

Wisconsin Conservation Bulletin

Increasing demands for the monthly Bulletin are probably a measure of the growing interest in conservation. Its circulation increased from 51,000 to 67,500 during the biennium, entirely in response to direct requests of prospective subscribers. All applications were screened and many were turned down, particularly requests from students (who are expected to use the copies in their libraries), residents of other states, and those who applied in behalf of others. The Bulletin's sole attraction is its contents and it continues as a plain, small, cheap publication. There were no marked changes in the Bulletin but an effort was made to increase its educational value by devoting an even higher proportion of space to basic conservation. Soil conservation, watershed management, game habitat restoration and forestry received increasing attention.

Activities Progress Report

The Activities Progress Report summarizes actions of the conservation commission and other conservation developments in some detail for the benefit of (1) those who have a direct responsibility in conservation, and (2) those who handle information in this field, including newspapers, radio stations and free-lance writers. Under this plan its circulation is restricted, but it increased from 3,600 to 4,129 during the biennium. The report is published by the economical multilith process. In April, 1952, the Activities Progress Report was revamped to make it more useful and easier to read. The wordage was reduced, improved makeup introduced, and its contents planned to eliminate some of the less essential material formerly carried to make room for area reports from the five conservation department field stations.

Other Publications

The department continued to issue various routine publications, including summaries of fishing regulations (1,400,000 copies in 1951-1952), hunting regulations (650,000), waterfowl regulations (issued separately in 125,000 copies because the information is received too late to include in hunting regulations), and trapping regulations (60,000). Some progress was made

in making these folders more legible despite the necessity of using small type for economy.

New publications include the following: Wisconsin Lakes, Wisconsin Fish Management, Wisconsin Water Trails (50 cents a copy), Wisconsin's Forests, Wisconsin Mammals, and the Twenty-Second Biennial Report of the Wisconsin Conservation Commission. Various articles from the Conservation Bulletin were printed as separates in small editions.

Publications that were revised and reprinted as supplies were exhausted included: The Wisconsin Forest Crop Law, Christmas Tree Dealer's License Law, Visual Aid Material, Current and Selected References on Conservation, Wisconsin Wildlife, Winter Feeding for Wildlife, Wisconsin Trout Streams, Wisconsin State Experimental Game and Fur Farm Guide, Distribution of Forest Trees from State Nurseries, Wisconsin State Parks and Forests, and various state park folders.

An attempt was made to promote adherence to publication distribution practices which are recognized as economical and effective. In particular, this was done by supplying free only single copies to persons interested enough to place their own requests, and by refusing requests for quantity lots except for an established price.

Handbook of Policies and Procedures

In March of 1952 a project was started to develop for use of department field stations and key field personnel a handbook of policies and procedures. This handbook is planned to supplement existing divisional manuals and will be kept up-to-date continuously. To determine the most desirable system for the department, a study has been made of similar handbooks of other state and national public and private agencies. A general plan of action and a basic outline for study has been prepared.

EDUCATION

The education section carries all the activities of the visual aid activity, exhibits within the state and services to schools, clubs and camps. The section acts as the department's representative in all educational matters dealing with educational institutions and other governmental agencies.

School Program

Special attention is given to assisting teachers with conservation education. Providing materials and information on available aids constitute the major portion of assistance. During the past biennium, several new booklets have been prepared and distributed. Two hundred thousand copies of the booklet, "Wisconsin's Forests," were printed and through the cooperation of the county superintendents, practically every rural school pupil received a copy.

An educational section is prepared for the Wisconsin Conservation Bulletin during the school term. This section keeps the teacher informed as to school activities in the conservation field.



Trained conservation personnel substituted for regular teachers on Conservation Day in northern Wisconsin high schools.

Conservation institutes were held at all the state colleges during the winter of 1951 and with most of the county normals during both 1951 and 1952.

Conservation workshops for vocational agriculture instructors and farm trainers were conducted at the Trees for Tomorrow Conservation Camp at Eagle River during the summers of 1951 and 1952. One hundred and sixty attended these in groups of 40 each. Sessions lasted three days.

Junior conservation clubs, 4-H clubs, FFA groups, boy scouts, girl scouts, and other youth groups engaged in conservation projects and programs were assisted by the education section through conferences with club leaders and officers, organizational planning, program planning of general interest and projects of special local interest, talks, motion picture showings and in various other ways.

During the past winter a "Conservation Day" program was arranged for the high schools of the northeast area of the state. Thirty-five schools were visited and the conservation information in the field of forestry, fish, game and law enforcement was explained by 35 field men from the conservation department.

Services to Clubs and Organizations

An adult education program has been carried out through talks and motion picture showings before service clubs, women's organizations, conservation clubs, and various other groups.



Office of the visual aid section, information and education division, including film library.

Wisconsin's 602 sportsmen's organizations were given assistance by this section during the past biennium. Suggestions were made to the groups as to practical types of projects and programs in which they could participate.

Emphasis was placed on the need for better understanding between the farmer and the sportsman. This was accomplished by the use of posters, postcards and news letters, suggesting methods and means by which these two groups can work together.

Visual Aids

During the past biennium the department's photographic section has continued to organize a visual library of subjects designed to effect a better understanding of conservation and the objectives and activities of the department. Visual aids help inform people about forest, wildlife and fish management and related subjects. A library has been developed for loan purposes consisting of 65 films on these subjects. They are available to any Wisconsin group or organization free of charge, except return transportation charges to Madison.

Twelve scenic and recreational motion picture films have been made showing Wisconsin's fine fishing waters, state parks, canoe trips, winter sports and natural vacation areas. These films are of interest to citizens of the state as well as to the tourist public from other states. Because of the

ever-increasing nation-wide demand for our department films, slides and display sets, it has been necessary to limit distribution to the nine states of Minnesota, Iowa, Missouri, Kansas, Illinois, Michigan, Indiana, Ohio, and Kentucky. These states comprise the greatest potential area upon which the Wisconsin tourist industry chiefly depends for visitors to the state.

Four copies of each of our films are deposited with the Milwaukee Public Museum film library. All film requests from the Milwaukee area are referred to this agency. In the past biennium the Milwaukee Museum has made 4,644 distributions of our films.

During the biennium production of three new sound, color films was completed. A Place to Hunt is a public hunting grounds film made for the game division. Beaver Story is another game division film showing the life habits of the beaver. Scenic Apostle Islands is a recreational publicity film showing the scenic and fishing attractions of the Apostle Island area.

In addition, 30 16mm copies of eight film subjects were purchased or donated and made available for free distribution from the department library. They are, Adventure of Junior Raindrop, color sound film; Trees to Paper, black and white sound film; Web of Life, color sound film; Pond Life, black and white sound film; Behind the Flyways, color sound film; Pipeline to the Clouds, color sound film; Maple Syrup, color silent film; and Shooting Safety, color sound film.

The visual aids library now contains 456 reels of 65 different subjects, over one-half of these are colored sound films. Reports of film, slide and display set showings totalled 28,080 for the biennium, an increase of 40 percent over the previous biennium.

Records of speeches delivered by department representatives are maintained in this section and show a total of 4,108 during the biennium; 1,180 used department movies with their talks.

The still photographic file contains 12,857 black and white and 3,002 color transparencies of conservation subjects and scenic views about the state. Newspapers, magazines and state publications utilized 22,734 of these photographs during this period.

Exhibits

The exhibit program during the biennium included county fairs, conservation shows for sportsmen's club events, municipal celebrations, community festivals, and teachers' conventions. Diaramas, action panels, information and literature booths were many times used with the wildlife set at large shows and in single or multiple units at educational group meetings.

The 1950 exhibit season included 51 conservation shows and the existing facilities of the exhibit section in 1951 were stretched to make possible 71 exhibit appearances. The principal exhibits in 1951 were as follows: State Farm and Home Convention, Madison; Bow and Arrow Hunters Convention, Milwaukee; International Wildlife Conference, Milwaukee; Institute of Public Libraries Management, Madison; Sport Show, Wisconsin Rapids; Home Show, Waterloo; Home and Sport Show, Waupun; Sport Show, Watertown; Paul Bunyan Roundup, Green Lake; Milwaukee Sentinel Sport and Vacation Show, Milwaukee; Fox River Sports and Outdoor Show, Fond



Part of a Conservation Department exhibit at the
Monroe County Fair, Tomah.

du Lac; Rotary Clubs Sports Show, Beaver Dam; State PTA Convention, Fond du Lac; Sports Show, Middleton; Milwaukee County Scout O'Rama, Milwaukee; Potawatomi Area Boy Scout Show, Waukesha; YMCA Circus, Beaver Dam; Memorial Day Celebration, Oconto Falls; Wisconsin School Safety Patrol Congress, Wisconsin Dells; Conservation Congress, Madison; Lions Club Convention Parade, Manitowoc; Mid-City Outdoor Theater, Kenosha; International Master Furriers Trade Fair, Milwaukee; VFW Convention Parade, Edgerton; Mid-City Outdoor Theater, Janesville; Sport Show, Spooner; Fourth of July Celebration, Milton; Fourth of G-I, Evansville; Keno Drive-In Theater, Kenosha; Black Hawk Picnic, Woodford; Sportsman's Club Annual Field Day, Three Lakes; Northern Wisconsin District Fair, Chippewa Falls; Douglas County Fair, Superior; Jefferson County Fair, Jefferson; Monroe County Fair, Tomah; St. Croix County Fair, Glenwood City; Marinette County Fair, Wausaukee; Garden Club Show, Sturgeon Bay; Art Hobby Show, Fish Creek; Washburn County Fair, Spooner; Wisconsin State Fair, Milwaukee; Rusk County Fair, Ladysmith; Jackson County Fair, Black River Falls; Central Burnett County Fair, Webster; Rosholt Free Community Fair, Rosholt; Mount Horeb Fall Festival, Mount Horeb; Polk County Fair, St. Croix Falls; Fort Atkinson Fall Festival, Fort Atkinson; Osceola Fair, Osceola; Fall Jamboree, Green Bay; Annual Fall Festival, Amery; Waupaca County Fair, Weyauwega; VFW Fall Festival, Antigo; Oconto Corn and Potato Festival, Oconto;

Indiana Street Celebration, Sheboygan; Dairy Festival, Reedsburg; Sears Fall Display, Madison; Wisconsin Education Association Convention, Milwaukee; Sportsman's Home Opening, Madison; American Legion Conservation Week Sports Show, Eau Claire; Scout O' Rama, Appleton; and the Chamber of Commerce Christmas Event, Sun Prairie.

At the state fair in 1950 and 1951 live fish, game animals and birds, many in their 2½ acres of natural habitat, continued to be a star conservation attraction. Sound movies, color slides, photo murals, translites and educational panels housed in the two log structures highlighted the many aspects of the conservation program. The importance of shrub planting for game cover was emphasized in both the 1950 and 1951 fairs in an outdoor replica of a department nursery and actual plantings around the grounds. The attendance at the 1951 state fair exhibit reached a record of 350,000 visitors.

Recreational Publicity

Wisconsin's extensive program of advertising and publicity prescribed and financed by statute "to attract tourists from outside the state to this state" was in its sixteenth and seventeenth years of operation during the biennium. The appropriation which finances this program was increased from \$110,000 to \$200,000 annually by the 1951 legislature.

Efforts to attract vacation guests to Wisconsin featured advertising in newspapers and magazines, frequent news releases, magazine articles, photographic releases and exhibits at outdoor sports and travel shows. Special publicity was given to events, festivals, pageants, boat regattas, winter frolics and numerous other outdoor recreational attractions.

Display advertising appeared from March through June 14 in 14 leading outdoor and other nationally circulated magazines. The increased appropriation made possible the use of four-color ads in 1951-1952. Newspaper ads were scheduled to appear from late April through June in travel pages of 33 metropolitan newspapers largely within Wisconsin's potential zone of vacation appeal, the northcentral states, with special concentration in the Chicago area.

Inquiries in record numbers resulted from the invitational message in our ads, from news stories and photographic releases, and from our participation in out-of-state travel shows. Friendly and cooperative relations with travel editors and outdoor editors were extended. Close contacts were maintained with motor clubs, travel agents, railroads, bus and airlines, steamship companies and auto ferries. Our program brought 72,449 inquiries in 1951 and 72,302 to June 30 this year. All inquiries were promptly serviced with packets of vacation literature and maps, often supplemented by personal letters.

During June of 1952 our second Travel Editors' Tour of Wisconsin was conducted in cooperation with the Wisconsin State Chamber of Commerce, the Wisconsin State Hotel Association and the Greyhound Bus Corporation. On the eight day tour of many of our state's vacation centers, 24 leading travel editors from other states traveled 1,472 miles gathering information to serve as subject matter for articles about the vacationlands of Wonderful Wisconsin.



Clerical personnel in the Conservation Department
office at Madison.

Clerical

The clerical division, as a service division, must render services to the department in accordance with the programs of the other divisions.

Expansion within the department in the line divisions increased the work in all sections—mail ad supply, typing, stenographic and filing. During the biennium there was a rapid turnover of personnel and it was difficult to recruit replacements. Most replacements were high school graduates with little or no experience. Considerable time had to be spent training these employees.

The difficulties experienced in recruiting help and the rapid turnover, particularly in the stenographic section, brought about the appointment of a supervisor for that section. This has resulted in more efficient operation within the section through proper training of new employees and the assignment of special tasks to persons particularly well qualified for the work.

To supplement the regular clerical division force, University students were employed on a part-time emergency basis for routine typing and collating work and for assignments in the mail and supply section.

The scarcity of clerical workers made it imperative that we explore the market for labor-saving equipment which would supplement the staff and

enable us to keep abreast with the work. This was particularly true in the typing section where data, booklets, letters, Conservation Commission orders, informational material on policies and procedures, and forms were reproduced to be distributed among the personnel and to the public. Old equipment which was in need of costly repairs was traded out on the purchase of new equipment which not only saved labor but through new methods of reproduction saved paper and postage in mailing.

Every effort has been made to keep the clerical division employees provided with the best operating equipment possible. Each year, ten old typewriters were traded out and they were replaced with the newest models. The newer machines were assigned to the clerical employees and the older models were transferred to field men. Posture chairs have not been provided for all members of the division.

The five area offices are well organized and functioning efficiently. An additional stenographer has been employed in each of the following offices: Black River Falls, Oshkosh, Campbellsport, and Horicon. One clerical employee is now stationed at Hayward.

The destruction of obsolete records and correspondence in the field offices progressed satisfactorily. Records are being examined carefully to determine which should be microfilmed, not from the standpoint of destroying the originals but from the standpoint of safety in the event the originals might be destroyed by fire or by some other cause. Forms FP-12, Forest Fire Report, from 1925 through 1949 and all forest crop records were microfilmed.

Death from injuries received in an automobile accident claimed the life of Paul Bielfuss, an employee of the mail and supply section, in December of 1951.

Finance

FINANCIAL REPORT 1950-1951

CONSERVATION FUND

Exhibit A

BEGINNING AND ENDING BALANCES AND TRANSACTIONS OF THE OVERALL CONSERVATION FUND FOR THE FISCAL YEAR 1950-1951

	<i>Balance Forwarded from 1949-50</i>	<i>Plus: Revenue 1950-51</i>	<i>Minus: Disbursements 1950-51</i>	<i>Plus: Transfers</i>	<i>Minus: Transfers</i>	<i>Balance Forwarded to 1951-52</i>
					(a) \$ 9,500.00	
					(b) 6,000.00	
					(c) 37,500.00	
					(d) 37,000.00	
					(e) 30,000.00	
					(f) 50,000.00	
					(g) 40,000.00	
					(h) 170,000.00	
				(i) \$ 2,124.25		
				(l) 254,597.08		
Fish and Game	\$ 353,692.78	\$2,894,138.25	\$2,656,120.80	(n) 58,771.42		\$ 527,202.98
U. of Wis. Wildlife Education			9,500.00	(a) 9,500.00		—
Water Regulatory Board			6,000.00	(b) 6,000.00		—
Water Pollution Board			37,500.00	(c) 37,500.00		—
Conservation Warden Pension			37,000.00	(d) 37,000.00		—
Bounties (½ Fox)			27,875.75	(e) 30,000.00	(i) 2,124.25	—
Deer Feeding and Deer Yard Acquisition	127,071.71	150,478.88	114,485.87		(j) 92,000.00	71,064.72
Public Hunting and Fishing Grounds	85,420.02	287,524.94	333,308.61	(m) 144,034.06	(j) 10,000.00	173,675.41
C.W.C.A.—Black River Falls	14,372.45	13,679.22	27,057.88			983.79
C.W.C.A.—Meadow Valley	77.14	6,897.11	2,871.20			4,103.05
Cancelled Drafts	2,223.65	5,589.77	5,399.29			2,414.13
Fire Loss	1,377.10	3,854.02	1,748.19			3,482.93
Recreational Advertising	65.46		50,065.46	(f) 50,000.00		—
Federal Aid						
Clarke-McNary	47,318.31	316,732.84			(k) 364,051.15	—
Pittman-Robertson	126,258.88	272,372.26			(l) 254,597.08	—
Rough Fish Control	7,311.49	177,508.17	126,048.24		(m) 144,034.06	—
Forestry					(n) 58,771.42	—
					(j) 173,000.00	
Forestry	525,673.93	2,067,616.92	1,956,738.72	(q) .92	(o) 150,000.00	497,604.20
So. Wis. Forests (Kettle Moraine)	66,533.69	14,114.31	167,585.34	(k) 364,051.15	(p) 180,000.00	63,062.66
County Forestry Aid			179,999.08	(o) 150,000.00		—
Forestry Reserve	300,000.00			(p) 180,000.00	(q) .92	300,000.00
Deer and Bear Damage			40,000.00	(g) 40,000.00		—
Raccoon Propagation	12,383.01	7,973.93	8,750.39			11,606.55
State Parks	58,480.43	157,543.68	377,590.02	(h) 170,000.00		8,434.09
Flambeau Land Purchase		182,115.63	457,115.63	(j) 275,000.00		—
Total Conservation Fund	\$1,728,260.05	\$6,558,139.93	\$6,622,755.47	\$1,808,578.88	\$1,808,578.88	\$1,663,644.51

- (a) \$9,500.00 Transferred from Fish and Game Appropriation to U. of Wis. Wildlife Education and Research in accordance with statutes.
- (b) \$6,000.00 Transferred from Fish and Game Appropriation to Water Regulatory Board in accordance with statutes.
- (c) \$37,500.00 Transferred from Fish and Game Appropriation to Water Pollution Board in accordance with statutes.
- (d) \$37,000.00 Transferred from Fish and Game Appropriation to Conservation Wardens' Pension Fund in accordance with statutes.
- (e) \$30,000.00 Transferred from Fish and Game Appropriation to cover the payment of ½ of the Fox Bounties.
- (f) \$50,000.00 Transferred from Fish and Game Appropriation to Recreational Advertising Appropriation.
- (g) \$40,000.00 Transferred from Fish and Game Appropriation to Deer and Bear Damage Appropriation in accordance with the statutes.
- (h) \$170,000.00 Transferred from Fish and Game Appropriation to State Parks Appropriation.
- (i) \$2,124.25 Lapsing balance of ½ of Fox Bounty Appropriation transferred to Fish and Game Appropriation.
- (j) \$92,000.00 From Deer Feeding and Deer Yard Acquisition Appropriation, \$10,000.00 from Public Hunting and Fishing Grounds Appropriation and \$193,000.00 from Forestry Appropriation transferred to Flambeau Land Purchase Appropriation.
- (k) \$364,051.15 Transferred from Clarke-McNary, Federal Aid to Forestry Appropriation.
- (l) \$254,597.08 Transferred from Pittman-Robertson, Federal Aid to Fish and Game Appropriation.
- (m) \$144,034.06 Transferred from Pittman-Robertson, Federal Aid to Public Hunting and Fishing Grounds Appropriation.
- (n) \$58,771.42 Lapsing balance of Rough Fish Control Appropriation transferred to Fish and Game Appropriation.
- (o) \$150,000.00 Transferred from Forestry Appropriation to Southern Wisconsin Forests (Kettle-Moraine) Appropriation.
- (p) \$180,000.00 Transferred from Forestry Appropriation to County Forestry Aid Appropriation.
- (q) \$0.92 Lapsing balance of County Forestry Aid Appropriation transferred to Forestry Appropriation.

CONSERVATION FUND
REVENUE

	<i>Net 1950-51 Revenue</i>
<i>Fish and Game</i>	
Fishing Licenses	
Fish Shipping Coupons	\$ 2,409.90
Nonresident Family Fishing Licenses	135,647.55
Nonresident Fishing Licenses	972,438.65
Resident Fishing Licenses	666,918.68
Clamming Licenses	10.00
Great Lakes Commercial Fishing Licenses	14,629.60
Mississippi River Commercial Fishing Licenses	6,445.25
Private Fish Hatchery Licenses	190.00
Slat Net Licenses and Tags	1,196.50
Wholesale Fish Dealer Licenses	4,750.00
Bank Pole Fishing Licenses	137.60
Cisco Licenses	429.00
Set Line Licenses and Tags	3,100.75
Sturgeon Tags	3,104.00
Game Licenses	
Resident Hunting Licenses	410,068.70
Deer Tags	115,854.10
Nonresident Hunting Licenses	187,468.75
Nonresident Hunting Licenses—Archer	11,969.30
Nonresident Hunting Licenses on Shooting Preserve	930.00
Shooting Preserve Licenses and Tags	824.60
Settler's Hunting Licenses	438.90
Trapping Licenses	14,585.40
Trap Tags	37,780.89
Beaver Trapping Licenses and Pelt Tags	18,934.50
Deer Farm Licenses and Tags	2,031.85
Game Farm Licenses and Tags	1,542.59
Muskrat Farm Licenses and Tags	6,932.00
Beaver Farm Licenses and Tags	230.53
Otter—Raccoon—Skunk Farm Licenses and Tags	728.26
Fur Dealer Licenses	5,096.00
Fur Auctioneer Licenses	250.00
Sportsmen's Licenses (Hunting—Fishing—Trapping)	80,126.50
Other Licenses	
Christmas Tree Dealer Licenses and Tags	6,056.96
Duplicate Licenses	2,181.50
Guide Licenses	943.00
Scientist Certificates	32.00
Taxidermist Licenses	540.00
Miscellaneous	
Interest on Investments	32,201.11
Interest on Deposits	1,067.51
Warden Fees	6,193.58
Rent and Rentals	594.70
Accommodation Services	196.00
Activity Services	1,082.62
Supervision Services	2,150.95
Convenience Services	1.10
Sale of Resources	47,907.38
Sale of Confiscations and Seizures	12,873.47
Sale of Produced or Processed Items	7,752.01
Sale of Equipment	2,386.66
Sale of Supplies	303.24
Sale of Buildings and Structures	2,501.00
Sale of Signs	509.36
Sale of Salvage and Scrap	1,298.43
Sale of Other Products	6.00
Gifts and Donations	18.50
Occupational Tax—Mink	4,904.21
Other Revenue	53,236.61
Total Fish and Game	\$2,894,138.25

CONSERVATION FUND—REVENUE—Continued

	<i>Net 1950-51 Revenue</i>
<i>Deer Feeding and Deer Yard Acquisition</i>	
Deer Tags.....	\$ 144,686.50
Sale of Resources.....	5,712.11
Sale of Salvage and Scrap.....	80.17
Other Revenue.....	.10
Total Deer Feeding and Deer Yard Acquisition.....	\$ 150,478.88
<i>Public Hunting and Fishing Grounds</i>	
Resident Hunting Licenses.....	\$ 227,816.50
Settlers' Hunting Licenses.....	220.50
Sportsmen's Licenses (Hunting-Fishing-Trapping).....	49,535.43
Civil Action Damages.....	925.00
Rent and Rentals.....	1,789.26
Sale of Resources.....	4,181.20
Sale of Produced or Processed Items.....	14.66
Sale of Buildings and Structures.....	2,850.00
Sale of Salvage and Scrap.....	60.00
Other Revenue.....	132.39
Total Public Hunting and Fishing Grounds.....	\$ 287,524.94
<i>C.W.C.A.—Black River Falls</i>	
Sale of Resources.....	\$ 13,494.62
Sale of Produced or Processed Items.....	179.60
Sale of Salvage and Scrap.....	5.00
Total C.W.C.A.—Black River Falls.....	\$ 13,679.22
<i>C.W.C.A.—Meadow Valley</i>	
Sale of Resources.....	\$ 6,897.11
Total C.W.C.A.—Meadow Valley.....	\$ 6,897.11
<i>Cancelled Drafts</i>	
Cancelled Drafts.....	\$ 5,589.77
Total Cancelled Drafts.....	\$ 5,589.77
<i>Fire Loss</i>	
State Insurance Fund Re-imburements.....	\$ 3,854.02
Total Fire Loss.....	\$ 3,854.02
<i>Federal Aid</i>	
Pittman-Robertson	
Co-ordination.....	\$ 13,474.02
Pheasant-Quail Research.....	11,687.91
Deer Research.....	14,615.09
Fur Research.....	22,684.10
Fox Research.....	1,191.51
Waterfowl Research.....	20,753.66
Grouse Research.....	16,193.50
Capercallie and Black Grouse Research.....	1,835.77
Game Survey.....	5,235.54
Pathology Study.....	4,527.09
Food Habits Research.....	1,211.93
Development Projects.....	63,226.86
Horicon Marsh Maintenance.....	5,547.69
Land Acquisition.....	90,187.59
Total Federal Aid—Pittman-Robertson.....	\$ 272,372.26

CONSERVATION FUND—REVENUE—Continued

	<i>Net 1950-51 Revenue</i>
<i>Federal Aid</i>	
Clarke-McNary	
Co-operative Forest Fire Fighting.....	\$ 279,769.50
Co-operative Forest Tree Planting.....	22,668.84
Co-operative Forest Management.....	14,294.50
Total Federal Aid—Clarke-McNary.....	\$ 316,732.84
<i>Rough Fish Control</i>	
Accommodation Services.....	\$ 17.25
Supervision Services.....	5,829.40
Sale of Rough Fish.....	159,066.10
Commission on Sale of Rough Fish.....	3,639.82
Sale of Equipment.....	1,333.00
Sale of Supplies.....	7,394.82
Sale of Salvage and Scrap.....	223.78
Sale of Other Items.....	4.00
Total Rough Fish Control.....	\$ 177,508.17
<i>Forestry</i>	
Campsite Fees.....	\$ 295.50
Rent and Rentals.....	1,168.11
Accommodation Services.....	5,472.92
Fire Suppression.....	5,330.23
Activity Services.....	96.31
Convenience Services.....	58.38
State Forest Roads.....	2,000.53
Other Services.....	29.12
Sale of Resources.....	1,138.33
Sale of Resources (Timber Harvest).....	535.34
Sale of Produced or Processed Items.....	104,663.16
Sale of Equipment.....	788.96
Sale of Supplies.....	151.60
Sale of Salvage and Scrap.....	445.89
Sale of Other Items.....	3.80
Gifts and Donations.....	35,409.00
Other Revenue.....	186.68
2/10 Forestry Mill Tax.....	1,833,602.25
Lanham Act.....	1,039.43
4/5 Severance Tax.....	74,722.04
Withdrawal F.C.L.....	479.34
Total Forestry.....	\$2,067,816.92
<i>Southern Wisconsin Forests (Kettle Moraine)</i>	
Campsite Fees.....	\$ 1,114.55
Rent and Rentals.....	5,071.35
Accommodation Services.....	114.00
Convenience Services.....	35.25
State Forest Roads.....	5,912.54
Other Services.....	110.22
Sale of Resources.....	1,360.96
Sale of Equipment.....	32.40
Sale of Buildings and Structures.....	18.70
Sale of Salvage and Scrap.....	251.00
Other Revenue.....	93.34
Total Southern Wisconsin Forests.....	\$ 14,114.31
<i>Raccoon Propagation</i>	
Raccoon Tags.....	\$ 7,973.93
Total Raccoon Propagation.....	\$ 7,973.93

CONSERVATION FUND—REVENUE—Continued

	<i>Net 1950-51 Revenue</i>
<i>State Parks</i>	
Campsite Fees.....	\$ 8,411.10
Golf Green Fees.....	13,012.00
Rent and Rentals.....	22,788.00
Accommodation Services.....	155.53
Convenience Services.....	1,734.98
State Park Roads.....	8,045.69
Other Services.....	1,198.10
Sale of Resources.....	1,086.93
Sale of Equipment.....	75.00
Sale of Buildings and Structures.....	890.00
Sale of Salvage and Scrap.....	145.80
Other Revenue.....	.55
General Fund Receipt.....	100,000.00
Total State Parks.....	\$ 157,543.68
<i>Flambeau Land Purchase</i>	
General Fund Receipt.....	\$ 182,115.63
Total Flambeau Land Purchase.....	\$ 182,115.63
GRAND TOTAL CONSERVATION FUND.....	\$6,558,139.93

CONSERVATION FUND
DISBURSEMENTS

		1950-51 Disbursements
<i>Fish and Game</i>		
Central Administrative Transfers.....		\$ 86,359.24
General Administration		
Administration.....	\$ 56,095.98	
Personnel.....	7,255.24	
Legal.....	4,560.93	
Conservation Congress.....	5,196.94	
Forestry Advisory Committee.....	8,590.12	
Office Rent.....	21,271.80	\$ 102,971.01
Less Administrative Disbursements Pro-rated to Forestry, Deer Feeding and Deer Yard Acq., Public Hunting and Fishing Grounds, C.W.C.A., Rough Fish Control, Raccoon Propagation and State Parks.....		42,993.33
		—59,977.68
Finace		
Administration.....	\$ 9,878.94	
Cashier.....	2,678.77	
General Accounting.....	25,717.88	
Cost Accounting.....	24,872.87	
License Sales.....	80,517.97	
Procurement.....	7,070.53	
Statistical.....	2,910.29	\$ 153,647.25
Less Administrative Disbursements Pro-rated to Forestry, Deer Feeding and Deer Yard Acq., Public Hunting and Fishing Grounds, C.W.C.A., Rough Fish Control, Raccoon Propagation and State Parks.....		118,826.36
		—41,820.89
Engineering.....		19,403.64
Fish Management		
Fish Management Administration		
General Fish Administration.....	\$ 33,680.35	
N.E.A. Coordinator.....	5,479.19	
N.W.A. Coordinator.....	5,163.16	
S.A. Coordinator.....	4,550.13	\$ 48,872.83
Fishery Operations		
N.E.A. Headquarters.....	\$ 109,460.97	
Crystal Springs Hatchery.....	18,165.01	
Lakewood Hatchery.....	10,268.96	
Langlade Hatchery.....	10,458.01	
Thunder River Hatchery.....	9,870.52	
N.W.A. Headquarters.....	124,839.39	
Bayfield Hatchery.....	19,763.85	
Brule Hatchery.....	10,446.44	
Hayward Hatchery.....	17,787.57	
Osceola Hatchery.....	31,645.08	
St. Croix Falls Hatchery.....	21,148.55	
S.A. Headquarters.....	125,928.76	
Delafield Hatchery.....	16,005.79	
Hartman's Creek Hatchery.....	12,516.86	
Nevin Hatchery.....	23,157.08	
Westfield Hatchery.....	21,946.04	
Wildrose Hatchery.....	37,693.26	
Cannery.....	25,309.74	645,961.88
Fishery Biology		
N.E.A.....	\$ 22,071.01	
N.W.A.....	18,187.70	
S.A.....	35,119.62	
Mississippi River Survey.....	—69.14	\$ 75,309.19
Rough Fish Control (Transferred from Sec. 20.20-9).....		105,000.00
Great Lakes Commercial Fishing.....		10,121.37
		\$ 885,265.27

CONSERVATION FUND—DISBURSEMENTS—Continued

		1950-51 Disbursements
Game Management		
Game Management Administration	\$ 30,234.16	
General Game Management		
Administration	\$ 18,148.25	
Engineering	18.10	
Area I	14,769.80	
Area II	11,776.10	
Area III	15,215.36	
Area IV	16,434.24	
Area V	22,740.63	
Nursery	10,967.65	
	110,070.13	
Game and Fur Farm	296,779.21	\$ 437,083.50
Pittman-Robertson		
Co-ordination	\$ 18,465.52	
Deer Research	22,877.31	
Waterfowl Research	29,311.82	
Pheasant-Quail Research	20,090.08	
Grouse Research	21,985.60	
Game Survey	7,978.18	
Fur Research	18,345.31	
Pathology Study	3,182.61	
Capercallie and Black Grouse Research	1,576.76	
Horicon Maintenance	16,836.22	
Regional Development	21,121.86	
Horicon Marsh Development	1,216.12	
Rock County Habitat Improvement	3,487.44	
Muskrat-Waterfowl Habitat Development	2,612.29	189,087.32
Law Enforcement		
Administration	\$ 17,149.20	
Law Enforcement		
Area I	\$ 153,895.90	
Area II	117,877.83	
Area III	102,704.36	
Area IV	101,355.32	
Area V	83,577.88	
	559,411.29	
Mississippi River Supervision		
Area III	\$ 18,023.84	
Area V	5,330.11	23,353.95
Beaver Control		20,176.52
Outlying Waters Enforcement		20,516.09
Special Investigation		17,158.31
Radio Dispatching		47,294.64
Undersize Fish Purchases		974.51
		706,034.51
Information and Education (also under Forestry)		
Administration	\$ 3,706.50	
Information		
Publications	\$ 25,185.34	
Newspaper Service	3,216.64	28,401.98
Education		
Education	\$ 13,967.39	
Visual Aid	10,654.37	
Exhibits	14,901.38	39,523.14
		\$ 71,631.71
Land Purchases		3,882.45
State Employees' Retirement		3,449.64
Wisconsin Retirement		69,625.38
Workmen's Compensation Awards		1,336.16
Unemployment Compensation		7,713.19
Rivers Survey (also under Forestry)		5,980.60
Insurance on Deposits		1,417.22
Dodge County—25% Sale of Fur—Horicon Marsh		2,764.38
Investment Expense		10,266.90
Total Fish and Game		\$2,656,120.80

CONSERVATION FUND—DISBURSEMENTS—Continued

		<i>1950-51</i> <i>Disbursements</i>
<i>U. of Wis. Wildlife Education</i>		
To General for Wildlife Research and Education.....		\$ 9,500.00
Total U. of Wis. Wildlife Education.....		\$ 9,500.00
<i>Water Regulatory Board</i>		
General Fund for Water Regulatory.....		\$ 6,000.00
Total Water Regulatory Board.....		\$ 6,000.00
<i>Water Pollution Board</i>		
General Fund for Water Pollution.....		\$ 37,500.00
Total Water Pollution Board.....		\$ 37,500.00
<i>Conservation Wardens' Pension</i>		
Wardens' Pension.....		\$ 37,000.00
Total Conservation Wardens' Pension.....		\$ 37,000.00
<i>Bounties—½ Fox</i>		
Bounties.....		\$ 27,875.75
Total Bounties—½ Fox.....		\$ 27,875.75
<i>Deer Feeding and Deer Yard Acquisition</i>		
<i>Deer Feeding</i>		
Administration.....	\$ 828.98	
Area I.....	52,104.31	
Area II.....	25,771.98	
Area III.....	10,814.11	89,519.38
<i>Deer Yard Acquisition</i>		
Area I.....	\$ 4,222.16	
Area II.....	8,624.85	
Area III.....	4,793.06	17,640.07
Administrative Disbursements Pro-rated from General Administration, Finance and Clerical.....	7,326.42	\$ 114,485.87
Total Deer Feeding and Deer Yard Acquisition.....		\$ 114,485.87
<i>Public Hunting and Fishing Grounds</i>		
<i>Public Hunting and Fishing</i>		
Administration.....	\$ 1,846.69	
Engineering.....	1,072.77	
Area I.....	17,214.74	
Area II.....	13,748.36	
Area III.....	35,932.77	
Area IV.....	62,079.91	
Area V.....	68,996.78	
Nursery.....	388.50	201,280.52
<i>Pittman-Robertson</i>		
C.W.C.A.—B. R. F. Development.....	\$ 11,320.36	
C.W.C.A.—M.V. Development.....	14,828.88	
Crex Meadows Development.....	28,681.74	
Totogatic Development.....	898.72	
Bahr Creek Acquisition.....	10.60	
Crex Acquisition.....	6,294.45	
Fish Lake Acquisition.....	113.87	
Horicon Acquisition.....	31.28	
Mud Lake Acquisition.....	31.44	
New Munster Acquisition.....	14,193.18	
Princess Point Acquisition.....	2,168.11	
Storr's Lake Acquisition.....	8.31	
Ten Mile Creek Acquisition.....	210.70	
Totogatic Acquisition.....	1,639.78	
Vernon Marsh Acquisition.....	1,962.15	
Yellowstone Acquisition.....	31,313.45	113,707.02
Administrative Disbursements Pro-rated from General Administration, Finance and Clerical.....	18,316.07	\$ 333,303.61
Total Public Hunting and Fishing Grounds.....		\$ 333,303.61

CONSERVATION FUND—DISBURSEMENTS—Continued

		1950-51 Disbursements
<i>C.W.C.A.—Black River Falls</i>		
Black River Falls Unit	\$ 25,226.27	
Administrative Disbursements Pro-rated from General Administration, Finance and Clerical	1,831.61	\$ 27,057.88
Total C.W.C.A.—Black River Falls		\$ 27,057.88
<i>C.W.C.A.—Meadow Valley</i>		
Meadow Valley		\$ 2,871.20
Total C.W.C.A.—Meadow Valley		\$ 2,871.20
<i>Cancelled Drafts</i>		
Cancelled Drafts		\$ 5,399.29
Total Cancelled Drafts		\$ 5,399.29
<i>Fire Loss</i>		
Fire Loss		\$ 1,748.19
Total Fire Loss		\$ 1,748.19
<i>Recreational Advertising</i>		
Advertising		\$ 50,065.46
Total Recreational Advertising		\$ 50,065.46
<i>Rough Fish Control</i>		
Rough Fish Control		
Field Headquarters	\$ 24,378.53	
Contract Fishing Supervision	13,944.73	
Burlington	31,228.45	
Fond du Lac	36,093.47	
Horicon	31,502.91	
McFarland	45,751.54	
Oshkosh	37,158.96	
Less Disbursements Transferred to Fish and Game	—105,000.00	115,058.59
Administrative Disbursements Pro-rated from General Administration, Finance and Clerical	10,989.65	\$ 126,048.24
Total Rough Fish Control		\$ 126,048.24
<i>Forestry</i>		
Central Administrative Transfers		\$ 76,085.90
Clerical	\$ 206,467.95	
Less Administrative Disbursements Pro-rated to Fish and Game, Deer Feeding and Deer Yard Acq., Public Hunting and Fishing Grounds, C.W.C.A., Rough Fish Control, Raccoon Propagation and State Parks	—119,258.00	87,209.95
<i>Forest Protection</i>		
Administration	\$ 15,062.80	
Engineering	16,195.57	
Tomahawk Warehouse	9,380.12	
Tomahawk Headquarters	181,215.58	
Central Area Headquarters	5,607.55	
District No. 9	64,865.81	
District No. 10	63,612.57	
Northern Area Headquarters	6,173.49	
District No. 3	66,036.82	
District No. 6	57,914.36	
District No. 8	63,930.94	
Northeast Area Headquarters	5,572.03	
District No. 4	82,329.87	
District No. 5	67,988.28	
Northwest Area Headquarters	9,878.27	
District No. 1	67,899.96	
District No. 2	69,544.43	
District No. 7	77,683.66	930,892.11

CONSERVATION FUND—DISBURSEMENTS—Continued

		<i>1950-51 Disbursements</i>
Fire Suppression.....		\$ 14,636.15
Cooperative Forestry		
Administration.....	\$ 20,060.49	
County Forestry.....	66,667.21	
Farm Forestry.....	49,999.88	
Insect Control.....	7,986.27	
State Forest Inventory.....	100,476.82	245,190.67
Forest Nurseries		
Administration.....	12,244.61	
Gordon Nursery.....	15,770.73	
Griffith Nursery.....	108,859.53	
Hayward Nursery.....	38,877.75	
Trout Lake Nursery.....	30,833.35	206,585.97
State Forests		
Administration.....	9,280.02	
Northern Highland State Forest.....	71,926.89	
Flambeau State Forest.....	30,182.83	
Council Grounds State Forest.....	3,147.81	
Brule River State Forest.....	11,730.47	
American Legion State Forest.....	11,020.82	
Trout Lake Administration.....	1,720.09	139,008.93
Forestry Research		
Forest Insect Research.....	12,733.64	
Tree Disease Research.....	17,880.33	
Blister Rust Control.....	8,879.97	
Forest Soils Research.....	16,485.12	
Forest Genetics.....	8,671.45	64,650.51
Information and Education (also under Fish and Game)		
Administration.....	\$ 3,709.45	
Information		
Publication.....	\$ 27,363.93	
Newspaper Service.....	3,493.01	30,856.94
Education		
Education.....	\$ 14,092.00	
Visual Aid.....	10,758.40	
Exhibits.....	15,025.08	39,875.48
Land Purchases.....		15,141.07
Wisconsin Retirement.....		75,688.48
Workmen's Compensation Awards.....		2,071.78
Unemployment Compensation.....		18,270.38
River Survey (also under Fish and Game).....		5,978.24
Timber Harvest.....		886.71
Total Forestry.....		<u>\$1,956,738.72</u>
Southern Wisconsin Forests—Kettle Moraine		
Administration.....	\$ 21,474.45	
Northern Purchase Unit.....	45,773.80	
Southern Purchase Unit.....	26,908.55	
Point Beach.....	17,522.82	
Lake Geneva.....	10,989.61	
Land Purchases.....	44,916.11	167,585.34
Total Southern Wisconsin Forests.....		<u>\$ 167,585.34</u>
County Forestry Aid		
County Forestry Aid.....		\$ 179,999.08
Total County Forestry Aid.....		<u>\$ 179,999.08</u>

CONSERVATION FUND—DISBURSEMENTS—Continued

		1950-51 Disbursements
<i>Deer and Bear Damage</i>		
Bear Damage.....	\$ 2,427.84	
Deer Damage.....	37,572.16	\$ 40,000.00
Total Deer and Bear Damage.....		\$ 40,000.00
<i>Raccoon Propagation</i>		
Raccoon Propagation.....	\$ 6,918.78	
Administrative Disbursements Pro-rated from General Administration, Finance and Clerical.....	1,831.61	\$ 8,750.39
Total Raccoon Propagation.....		\$ 8,750.39
<i>State Parks</i>		
Administration.....	\$ 34,515.91	
Apple River State Park.....	300.00	
Aztalan State Park.....	788.52	
Brunet Island State Park.....	12,434.78	
Castle Mound State Park.....	1,196.30	
Copper Falls State Park.....	15,477.41	
Cox Hollow State Park.....	30.15	
Cushing Memorial State Park.....	1,007.03	
Devils Lake State Park.....	52,113.63	
First Capitol State Park.....	1,808.55	
Interstate State Park.....	22,324.74	
Lost Dauphin State Park.....	1,999.42	
Lucius Woods State Park.....	5,400.72	
Merrick State Park.....	9,993.80	
Mill Bluff State Park.....	1,386.73	
Nelson-Dewey State Park.....	7,487.53	
New Glarus Woods State Park.....	1,617.33	
Ojibwa State Park.....	1,847.10	
Pattison State Park.....	17,951.20	
Peninsula State Park.....	34,194.88	
Perrot State Park.....	17,666.03	
Potawatomi State Park.....	11,151.69	
Rib Mountain State Park.....	19,074.91	
Rocky Arbor State Park.....	2,328.47	
Rochi A Cri State Park.....	1,557.86	
Terry Andrae State Park.....	12,224.35	
Tower Hill State Park.....	6,754.21	
Wildcat Mountain State Park.....	349.49	
Wyalusing State Park.....	19,408.43	
Golf Course—Peninsula Park.....	26,922.05	
Cooperation—State Historical Society.....	3,823.55	
Cooperation—Aztalan Exploration.....	2,705.99	
Land Purchases.....	11,431.19	
	359,273.95	
Administrative Disbursements, Pro-rated from General Administration, Finance and Clerical.....	18,316.07	\$ 377,590.02
Total State Parks.....		\$ 377,590.02
<i>Flambeau Land Purchase</i>		
Flambeau Land Purchase.....		\$ 457,115.63
Total Flambeau Land Purchase.....		\$ 457,115.63
GRAND TOTAL CONSERVATION FUND.....		\$6,622,755.47

REFORESTATION FUND

Beginning and Ending Balances and Transactions of the Reforestation Fund
for the Fiscal Year 1950-51

	<i>Balance Forwarded from 1949-50</i>	<i>Plus Revenue 1950-51</i>	<i>Minus Disbursements 1950-51</i>	<i>Balance Forwarded to 1951-52</i>
<i>Reforestation</i>	\$241,864.78	\$71,961.91	\$25,529.95	\$288,296.74
Total Reforestation Fund	\$241,864.78	\$71,961.91	\$25,529.95	\$288,296.74

Note: Reforestation fund balance of \$288,296.74 includes—Investments—\$180,000.00.

Schedule B-1

REFORESTATION FUND—REVENUE

	<i>Net 1950-51 Revenue</i>
<i>Reforestation</i>	
Interest on Investments	\$ 2,336.30
Interest on Deposits	93.21
Rent and Rentals	2,860.50
Sale of Timber	65,752.40
Sale of Land	919.50
Total Reforestation	\$ 71,961.91

Schedule B-2

REFORESTATION FUND—DISBURSEMENTS

	<i>1950-51 Disbursements</i>
<i>Reforestation</i>	
State Aid	\$ 16,440.10
Land Purchases	2,832.78
Investment Expense	123.42
Pittman-Robertson	
Boscobel Nursery	6,133.65
Total Reforestation	\$ 25,529.95

Exhibit C

GENERAL FUND—DISBURSEMENTS

	Appropriation	Minus Disbursements 1950-51	Balance
<i>Lapsing Balances</i>			
Forest Crop			
Administration—Conservation Dept.-----	\$ 4,386.92	\$ 4,386.92	
Dept. of Taxation-----	1,162.52	1,162.52	
Forest Crop Aid-----	225,000.00	224,797.77	\$ 202.23
*Forest Crop Withdrawals-----	1,659.95	1,659.95	
*Forest Crop Severance Tax-----	2,431.55	2,431.55	
Bounties			
*1/2 Fox Bounties-----	27,875.75	27,875.75	
*Bounties on Other Animals-----	60,225.00	60,225.00	
Advertising Wisconsin-----	62,196.00	58,343.42	3,852.58
State Parks-----	100,000.00	**100,000.00	
Flambeau Land Purchase-----	182,115.63	**182,115.63	
*Sum sufficient.			
**Listed disbursement is payment to Conservation Fund. Actual disbursement is included with Conservation Fund's disbursement for same purpose.			
<i>Non-Lapsing Balances</i>			
Wildcat Mountain			
1949-50 Balance-----	\$18,863.30		
1950-51 Bonus-----	1,617.53		
1950-51 Basic Sal. Adj.-----	78.18	20,559.01	14,728.91
			5,830.10

NON-APPROPRIATED REVENUE

		Net 1950-51 Revenue
<i>Bounties</i>		
1/2 Fox Bounties-----	\$ 235.25	\$ 235.25
Total Bounties-----		\$ 235.25
<i>Forest Crop</i>		
Forest Crop Withdrawals-----	2,102.75	
Forest Crop Severance Tax-----	27,116.20	29,218.95
Total Forest Crop-----		\$ 29,218.95

FINANCIAL REPORT 1951-1952

CONSERVATION FUND

Exhibit

BEGINNING AND ENDING BALANCES AND TRANSACTIONS OF THE OVERALL CONSERVATION FUND FOR THE FISCAL YEAR 1951-1952

	Balance Forwarded from 1950-51	Plus Revenue 1951-52	Minus Disbursements 1951-52	Plus Transfers 1951-52	Minus Transfers 1951-52	Balance Forwarded to 1952-53
					(a) \$ 9,500.00 (b) 6,000.00 (c) 37,000.00 (d) 40,000.00 (e) 100,000.00 (f) 246,812.00 (g) 190,968.00 (h) 175.00 (i) 32,373.50 (j) 5,000.00	
Fish and Game.....	\$ 527,202.98	\$3,637,157.22	\$2,896,778.88	(k) \$112,224.01		\$ 711,970.15
U. of W. Wildlife Education.....			9,500.00	(a) 9,500.00		—
Water Regulatory Board.....			6,000.00	(b) 6,000.00		—
Conservation Warden Pension.....			37,000.00	(c) 37,000.00		—
Bounties (½ fox).....			32,373.50	(i) 32,373.50		—
Deer Feeding and Deeryard Acquisition.....	71,064.72	133,775.80	126,779.31	(k) 637.50		78,690.91
Public Hunting and Fishing Grounds.....	173,675.41	265,117.77	355,188.91	(k) 79,995.12		163,599.27
C.W.C.A.—Black River Falls.....	993.79	28,058.10	28,064.66	(k) 3,454.95		4,441.92
C.W.C.A.—Meadow Valley.....	4,103.05	12,488.96	5,415.00			11,177.01
Cancelled Drafts.....	2,414.13	796.65	77.86			3,132.92
Fire Loss.....	3,482.93	1,669.11	1,364.26			3,787.78
Recreational Advertising.....			99,020.23	(e) 100,000.00 (i) 5,000.00		973.77
Imprest Fund.....						5,000.00
Federal Aid—Pittman—Robertson.....		196,466.89			(k) 196,311.58	155.31
Federal Aid—Clarke—McNary.....		338,299.89			(l) 338,299.89	—
Rough Fish Control.....			225,719.19	(f) 246,812.00		21,092.81
					(m) 200,000.00	
Forestry.....	497,604.20	2,400,512.93	1,911,017.41	(l) 338,299.89 (m) 200,000.00 (o) 66,667.00	(n) 180,000.00	945,390.51
So. Wis. Forests—Kettle Moraine Oper.....	63,062.66	14,755.57	138,584.60			72,233.63
So. Wis. Forests—Kettle Moraine—land			35,918.20	(o) 66,667.00		30,748.80
County Forestry.....			180,000.00	(n) 180,000.00		—
Forestry Reserve.....	300,000.00					300,000.00
Deer and Bear Damage.....			25,827.39	(d) 40,000.00		14,172.61
Raccoon Propagation.....	11,606.55	9,447.55	7,612.40			13,441.70
State Parks.....	8,434.09	217,723.08	407,988.97	(g) 190,968.00		9,198.20
Chapter 671, Laws 1951.....			175.00	(h) 175.00		—
Total Conservation Fund.....	\$1,633,644.51	\$7,256,269.52	\$6,530,405.77	\$1,649,106.97	\$1,649,106.97	\$2,389,508.71

Schedule A

- (a) \$9,500.00 transferred from Fish and Game Appropriation to University of Wisconsin Wildlife Education and Research in accordance with statutes.
- (b) \$6,000.00 transferred from Fish and Game Appropriation to Water Regulatory Board in accordance with statutes.
- (c) \$37,000.00 transferred from Fish and Game Appropriation to Conservation Wardens Pension fund in accordance with statutes.
- (d) \$40,000.00 transferred from Fish and Game Appropriation to Deer and Bear Damage Appropriation in accordance with statutes.
- (e) \$100,000.00 transferred from Fish and Game Appropriation to Recreational Advertising Appropriation.
- (f) \$246,812.00 transferred from Fish and Game Appropriation to Rough Fish Control Appropriation.
- (g) \$190,968.00 transferred from Fish and Game Appropriation to State Parks Appropriation.
- (h) \$175.00 transferred from Fish and Game Appropriation to Chapter 671, Laws of 1951.
- (i) \$32,373.50 transferred from Fish and Game Appropriation to cover the payment of ½ of the Fox Bounties.
- (j) \$5,000.00 transferred to Fish and Game Appropriation to Imprest Fund Appropriation.
- (k) \$112,224.01 transferred to Fish and Game Appropriation, \$637.50 transferred to Deer Feeding and Deeryard Acquisition Appropriation, \$79,995.12 transferred to Public Hunting and Fishing Grounds Appropriation and \$3,454.95 transferred to C.W.C.A.—Black River Falls Appropriation from Pittman—Robertson Federal Aid.
- (l) \$338,299.89 transferred from Clarke—McNary Federal Aid to Forestry Appropriation.
- (m) \$200,000.00 transferred from Forestry Appropriation to So. Wisconsin Forests (Kettle Moraine) Appropriation.
- (n) \$180,000.00 transferred from Forestry Appropriation to County Forestry Aid Appropriation.
- (o) \$66,667.00 transferred from So. Wis. Forests Appropriation to Kettle Moraine Land Appropriation.

CONSERVATION FUND

REVENUE

	Net 1951-52 Revenue
<i>Fish and Game</i>	
Fishing Licenses	
Fish Shipping Coupons	\$ 1,763.60
Nonresident Fishing Licenses	1,024,681.30
Nonresident Combination 10 Day Fishing Licenses	153,588.30
Resident Fishing Licenses	646,674.60
Great Lakes Commercial Fishing Licenses	12,002.50
Mississippi River Commercial Fishing Licenses	5,683.25
Bank Pole Fishing Licenses	496.65
Cisco Fishing Licenses	327.00
Private Fish Hatchery Licenses	1,110.00
Slat Net Licenses and Tags	1,516.00
Wholesale Fish Dealer Licenses	4,525.00
Bait Dealer Licenses	5,160.00
Set Line Licenses and Tags	3,433.30
Sturgeon Tags	4,701.00
Game Licenses	
Resident Small Game Hunting Licenses	470,082.20
Resident Big Game Hunting Licenses	494,361.10
Nonresident Hunting Licenses	174,412.75
Nonresident Hunting Licenses—Archers	13,343.80
Nonresident Hunting Licenses and Shooting Preserves	965.00
Shooting Preserve Licenses and Tags	725.95
Settler's Hunting Licenses	900.00
Trapping Licenses	13,580.80
Trap Tags	44,728.74
Beaver Trapping Licenses	4,555.00
Beaver Pelt Tags	10,395.00
Deer Farm Licenses and Tags	1,691.90
Game Farm Licenses and Tags	1,486.60
Muskrat Farm Licenses and Tags	7,357.18
Beaver Farm Licenses and Tags	227.64
Otter—Raccoon—Skunk Farm Licenses	439.07
Fur Dealer Licenses	4,931.00
Fur Auctioneer Licenses	250.00
Sportsmen Licenses—(Hunting, Fishing, Trapping)	135,574.00
Other Licenses	
Christmas Tree Dealer Licenses and Tags	7,046.21
Duplicate Licenses	1,631.25
Guide Licenses	898.00
Scientist Certificates	52.00
Taxidermist Licenses	570.00
Miscellaneous	
Interest on Investments	32,601.90
Interest on Deposits	762.73
Warden and Witness Fees	4,570.52
Rent and Rentals	1,410.00
Accommodation Services	138.31
Activity Services	1,647.08
Supervision Services	3,226.97
Sale of Resources	47,628.58
Sale of Confiscations and Seizures	11,982.14
Sale of Produced or Processed Items	4,715.95
Sale of Equipment	5,110.30
Sale of Supplies	5,593.40
Sale of Buildings and Structures	110.00
Sale of Signs	426.83
Sale of Salvage and Scrap	986.52
Sale of Other Products	6.00
Sale of Rough Fish	144,648.70
Commission on Sale of Rough Fish	10,392.50
Gifts and Donations	3.00
Occupational Tax—Mink	4,875.00
Other Revenue	453.10
Highway Commission Contribution—Rec. Adv.	100,000.00
Total Fish and Game	\$3,637,157.22

CONSERVATION FUND—REVENUE—Continued

	<i>Net 1951-52 Revenue</i>
<i>Deer Feeding and Deeryard Acquisition</i>	
Resident Big Game Hunting Licenses.....	\$ 130,058.50
Settler's Hunting Licenses.....	123.00
Sale of Resources.....	3,508.29
Sale of Salvage and Scrap.....	75.00
Prepayment of Taxes.....	11.01
Total Deer Feeding and Deeryard Acquisition.....	<u>\$ 133,775.80</u>
<i>Public Hunting and Fishing Grounds</i>	
Resident Small Game Hunting Licenses.....	\$ 167,840.00
Settlers Hunting Licenses.....	114.50
Sportsmen Licenses (Hunting, Fishing, Trapping).....	82,107.50
Civil Action Damage.....	2,565.00
Rent and Rentals.....	1,940.80
Activity Services.....	580.00
Sale of Resources.....	4,816.41
Sale of Buildings and Structures.....	4,463.27
Sale of Salvage and Scrap.....	70.00
Prepayment of Taxes.....	620.29
Total Public Hunting and Fishing Grounds.....	<u>\$ 265,117.77</u>
<i>C.W.C.A.—Black River Falls</i>	
Sale of Resources.....	\$ 27,826.46
Sale of Produced or Processed Items.....	33.00
Sale of Salvage and Scrap.....	195.20
Prepayment of Taxes.....	3.44
Total C.W.C.A.—Black River Falls.....	<u>\$ 28,058.10</u>
<i>C.W.C.A.—Meadow Valley</i>	
Sale of Resources.....	\$ 12,125.13
Sale of Produced or Processed Items.....	363.83
Total C.W.C.A.—Meadow Valley.....	<u>\$ 12,488.96</u>
<i>Cancelled Drafts</i>	
Cancelled Drafts.....	\$ 796.65
Total Cancelled Drafts.....	<u>\$ 796.65</u>
<i>Fire Loss</i>	
State Insurance Fund—Reimbursements.....	\$ 1,669.11
Total Fire Loss.....	<u>\$ 1,669.11</u>
<i>Federal Aid</i>	
<i>Pittman—Robertson</i>	
Co-ordination.....	\$ 7,531.10
Pheasant—Quail Research.....	9,692.93
Deer Research.....	10,050.80
Fur Research.....	9,255.15
Game Census and Survey Research.....	6,439.30
Waterfowl Research.....	14,334.80
Grouse Research.....	12,743.88
Capercallie and Black Grouse Research.....	1,151.75
Pathology Study.....	1,712.72
Regional Development.....	14,483.95
Rock County Habitat Development.....	1,081.92
Muskrat and Waterfowl Habitat Development.....	1,820.28
C.W.C.A.—Black River Falls Development.....	8,909.92
C.W.C.A.—Meadow Valley Development.....	12,992.52
State and Federal Forests Development.....	637.50
Crex Meadows Development.....	23,064.67
Yellowstone Development.....	602.10
Totogatic Development.....	15,907.94
Horicon Marsh Maintenance.....	22,080.74
Land Acquisition.....	21,972.92
Total Federal Aid—Pittman—Robertson.....	<u>\$ 196,466.89</u>

CONSERVATION FUND—REVENUE—Continued

	<i>Net 1951-52 Revenue</i>
<i>Federal Aid</i>	
Clarke-McNary	
Co-operative Forest Fire Fighting.....	\$ 301,897.49
Co-operative Forest Planting Stock.....	10,079.00
Co-operative Forest Management.....	26,323.40
Total Federal Aid—Clarke-McNary.....	\$ 338,299.89
<i>Forestry</i>	
Campsite Fees.....	\$ 297.00
Rent and Rentals.....	858.50
Accommodation Services.....	5,488.27
Activity Services.....	2,152.11
Activity Services—Fire Suppression.....	8,627.92
State Forest Road Services.....	2,742.76
Sale of Resources.....	5,957.02
Sale of Resources (Timber Harvest).....	307.00
Sale of Produced or Processed Items.....	1,707.13
Sale of Produced or Processed Items—Nursery Stock.....	120,557.73
Sale of Equipment.....	1,055.16
Sale of Supplies.....	122.68
Sale of Salvage and Scrap.....	1,970.53
Gifts and Donations.....	53,849.22
2/10 Forestry Mill Tax.....	2,091,879.59
Lanham Act.....	882.88
4/5 Severance Tax.....	101,638.26
Withdrawal F.C.L.....	220.04
Prepayment of Taxes.....	46.25
Other Revenue.....	152.88
Total Forestry.....	\$2,400,512.93
<i>Southern Wisconsin Forests—Kettle Moraine</i>	
Campsite Fees.....	\$ 1,450.73
Rent and Rentals.....	5,478.93
Accommodation Services.....	72.50
Activity Services.....	287.92
Convenience Services.....	9.75
State Forest Road Services.....	5,530.31
Sale of Resources.....	598.50
Sale of Produced or Processed Items.....	44.20
Sale of Equipment.....	5.00
Sale of Buildings and Structures.....	1,006.00
Sale of Salvage and Scrap.....	270.15
Other Revenue.....	1.58
Total Southern Wisconsin Forests.....	\$ 14,755.57
<i>Raccoon Propagation</i>	
Raccoon Tags.....	\$ 9,447.55
Total Raccoon Propagation.....	\$ 9,447.55
<i>State Parks</i>	
Campsite Fees.....	\$ 8,950.85
Golf Green Fees.....	18,632.50
Rent and Rentals.....	21,081.64
Accommodation Services.....	143.60
Activity Services.....	94.68
Convenience Services.....	1,997.65
State Park Road Services.....	13,991.51
Sale of Resources.....	2,670.27
Sale of Produced or Processed Items.....	1.00
Sale of Equipment.....	25.00
Sale of Salvage and Scrap.....	119.90
Prepayment of Taxes.....	9.53
Other Revenue.....	4.95
General Fund Receipt.....	150,000.00
Total State Parks.....	\$ 217,723.08
GRAND TOTAL CONSERVATION FUND.....	\$7,256,269.52

CONSERVATION FUND
DISBURSEMENTS

		<i>1951-52 Disbursements</i>
<i>Fish and Game</i>		
Central Administrative Transfers.....		\$ 108,257.82
General Administration		
Administration.....	\$ 51,783.10	
Personnel.....	9,284.84	
Legal.....	7,463.51	
Forestry Advisory Committee.....	10,056.25	
Office Rent.....	21,053.68	
State Forester.....	9,452.29	
		\$ 109,093.67
Less Administrative Disbursements Pro-rated to Forestry, Deer Feeding and Deeryard Acquisition, Public Hunting and Fishing Grounds, C.W.C.A., Raccoon Propagation and State Parks	—58,880.15	\$ 50,213.52
Finance		
Administration.....	\$ 13,573.38	
Cashier.....	3,470.69	
General Accounting.....	29,744.73	
Cost Accounting.....	31,212.87	
License Sales.....	99,651.79	
Procurement.....	7,674.02	
Statistical.....	1,967.00	
		\$ 187,294.48
Less Administrative Disbursements Pro-rated to Forestry, Deer Feeding and Deeryard Acquisition, Public Hunting and Fishing Grounds, C.W.C.A., Raccoon Propagation and State Parks	—47,765.27	139,529.21
Engineering.....		29,668.07
Fish Management		
Fish Management Administration		
General Fish Administration.....	\$ 42,689.70	
Area I Coordinator.....	5,524.99	
Area II Coordinator.....	5,804.76	
Area III Coordinator.....	2,392.77	
Area IV Coordinator.....	2,511.48	
Area V Coordinator.....	5,594.96	
		\$ 64,518.66
Fishery Operations		
Area I Headquarters.....	\$ 133,381.49	
Bayfield Hatchery.....	17,887.66	
Brule Hatchery.....	12,032.60	
Hayward Hatchery.....	18,889.94	
Osceola Hatchery.....	34,078.33	
St. Croix Falls Hatchery.....	24,839.55	
Area II Headquarters.....	101,537.35	
Crystal Springs Hatchery.....	16,744.13	
Lakewood Hatchery.....	11,155.49	
Langlade Hatchery.....	10,717.84	
Thunder River Hatchery.....	11,019.99	
Area III Headquarters.....	3,871.80	
Area IV Headquarters.....	7,856.96	
Hartman's Creek Hatchery.....	14,206.52	
Westfield Hatchery.....	15,746.14	
Wild Rose Hatchery.....	51,384.81	
Area V Headquarters.....	89,119.25	
Delafield Hatchery.....	12,449.23	
Nevin Hatchery.....	34,482.40	
Cannery.....	444.63	
		621,846.11
Fishery Biology		
Area I.....	\$ 20,518.64	
Area II.....	21,635.54	
Area III.....	3,226.94	
Area IV.....	3,755.20	
Area V.....	43,295.68	
		92,432.00

CONSERVATION FUND—DISBURSEMENTS—Continued

		<i>1951-52 Disbursements</i>	
Watershed Management			
Area I.....	\$ 25,972.47		
Area II.....	30,168.17		
Area III.....	19,133.23		
Area IV.....	4,489.96		
Area V.....	20,347.45	100,111.28	
Great Lakes Commercial Fishing.....			
Dingel-Johnson.....		\$ 9,241.96	
Co-ordination.....	\$ 49.95		
Area I Water Stabilization.....	39,156.47	39,206.42	\$ 927,356.43
Game Management			
Game Management Administration.....			
		\$ 26,215.06	
General Game Management			
Administration.....	\$ 19,131.16		
Area I.....	18,290.65		
Area II.....	16,740.54		
Area III.....	20,803.65		
Area IV.....	18,138.79		
Area V.....	21,681.32		
Nursery.....	11,510.74	\$ 126,296.85	
Game and Fur Farm.....			
		\$ 309,099.76	\$ 461,611.67
Pittman-Robertson			
Co-ordination.....		\$ 37,754.49	
Deer Research.....		17,521.29	
Waterfowl Research.....		24,159.82	
Pheasant-Quail Research.....		17,917.38	
Grouse Research.....		21,378.57	
Census Game Survey.....		17,606.65	
Fur Research.....		18,027.99	
Capercallie and Black Grouse Research.....		792.72	
Pathology Study.....		4,473.98	
Horicon Maintenance.....		24,860.22	
Regional Development.....		43,731.56	
Horicon Marsh Development.....		86.22	
Muskrat-Waterfowl Habitat Development.....		7,166.98	
Rock County Habitat Improvement.....		1,652.08	236,957.51
Law Enforcement			
Administration.....			
		\$ 31,050.15	
Law Enforcement			
Area I.....	\$ 133,391.59		
Area II.....	123,787.06		
Area III.....	141,256.53		
Area IV.....	113,652.14		
Area V.....	101,970.45	\$ 614,057.77	
Beaver Control.....		23,538.58	
Outlying Waters Enforcement.....		35,897.53	
Radio Dispatching.....		46,016.39	
Undersize Fish Purchases.....		568.11	751,128.53
Information and Education (also under Forestry)			
Administration.....			
		\$ 4,226.90	
Information			
Publications.....	\$ 25,874.31		
Newspaper Services.....	3,588.50	29,462.81	
Education			
Schools.....	\$ 7,253.96		
Clubs.....	2,913.55		
Visual Aid.....	12,975.80		
Exhibits.....	12,820.93		
Conservation Congress.....	6,466.23	42,430.47	76,120.18

CONSERVATION FUND—DISBURSEMENTS—Continued

		<i>1951-52 Disbursements</i>
Land Purchases.....		\$ 6,673.53
State Employees Retirement.....		2,904.24
Wisconsin Retirement.....		81,307.98
Workmen's Compensation Awards.....		1,438.50
Unemployment Compensation.....		7,587.12
Rivers Survey (also under Forestry).....		5,498.03
Insurance on Deposits.....		769.82
Dodge County—25% Sale of Fur—Horicon Marsh.....		8,692.83
Investment Expense.....		1,063.89
Total Fish and Game.....		\$2,896,778.88
<i>Chaper 671 Laws of 1951</i>		
Walter Jandre Damages.....		\$ 175.00
Total Chapter 671 Laws of 1951.....		\$ 175.00
<i>Wildlife Education</i>		
To General Fund for Wildlife Research and Education.....		\$ 9,500.00
Total Wildlife Education.....		\$ 9,500.00
<i>Water Regulatory Board</i>		
To General Fund for Water Regulatory.....		\$ 6,000.00
Total Water Regulatory.....		\$ 6,000.00
<i>Conservation Warden's Pension</i>		
Warden's Pension.....		\$ 37,000.00
Total Conservation Warden's Pension.....		\$ 37,000.00
<i>Bounties—½ Fox</i>		
Bounties.....		\$ 32,373.50
Total Bounties—½ Fox.....		\$ 32,373.50
<i>Deer Feeding and Deeryard Acquisition</i>		
Deer Feeding		
Area I.....	\$ 42,765.62	
Area II.....	17,806.76	
Area III.....	5,295.33	\$ 65,867.71
Deeryard Acquisition		
Area I.....	\$ 14,132.15	
Area II.....	5,994.04	
Area III.....	19,527.13	39,653.32
Pittman—Robertson		
Forest Habitat Improvements		
Area I.....	\$ 5,749.62	
Area II.....	7,675.99	13,425.61
Deer Food Rev. Adm.....		359.84
Administrative Disbursements Pro-rated from General Administration, Finance and Clerical.....		7,472.83
		\$ 126,779.31
Total Deer Feeding and Deeryard Acquisition.....		\$ 126,779.31
<i>Public Hunting and Fishing Grounds</i>		
Public Hunting and Fishing		
Administration.....	\$ 789.57	
Area I.....	13,175.20	
Area II.....	19,003.83	
Area III.....	34,111.36	
Area IV.....	43,548.24	
Area V.....	59,746.31	\$ 170,374.51

CONSERVATION FUND—DISBURSEMENTS—Continued

		1951-52 Disbursements
Pittman—Robertson		
C.W.C.A.—Black River Falls Development.... \$	248.30	
C.W.C.A.—Meadow Valley Development.....	18,051.89	
Browtown Development.....	1,072.86	
Crex Meadows Development.....	45,536.74	
Totogatic Development.....	21,244.60	
Wood County Development.....	45.37	
Yellowstone Development.....	15,400.79	
Browtown Acquisition.....	13,224.19	
Crex Meadows Acquisition.....	6,506.81	
Eldorado Marsh Acquisition.....	1,366.18	
Fish Lake Acquisition.....	696.29	
Jackson Marsh Acquisition.....	10.31	
New Munster Acquisition.....	3,618.19	
Princess Point Acquisition.....	5,335.25	
Rice Bed Creek Acquisition.....	48.72	
Tiffany Acquisition.....	2,090.85	
Totogatic Acquisition.....	1,664.96	
Vernon Marsh Acquisition.....	28,834.13	
Yellowstone Acquisition.....	305.58	
		\$ 165,302.01
Administrative Disbursements Pro-rated from Clerical, Finance and General Administration.....	19,512.39	\$ 184,814.40
Total Public Hunting and Fishing Grounds.....		\$ 355,188.91
C.W.C.A.—Black River Falls		
Pittman—Robertson		
Black River Falls.....	24,328.24	
Administrative Disbursements Pro-rated from General Administration, Finance and Clerical.....	3,736.42	\$ 28,064.66
Total C.W.C.A.—Black River Falls.....		\$ 28,064.66
C.W.C.A.—Meadow Valley		
Meadow Valley.....		\$ 5,415.00
Total C.W.C.A.—Meadow Valley.....		\$ 5,415.00
Cancelled Drafts		
Cancelled Drafts.....		\$ 77.86
Total Cancelled Drafts.....		\$ 77.86
Fire Loss		
Fire Loss.....		\$ 1,364.26
Total Fire Loss.....		\$ 1,364.26
Recreational Advertising		
Advertising.....		\$ 99,020.23
Total Recreational Advertising.....		\$ 99,020.23
Rough Fish Control		
Rough Fish Control		
Field Headquarters.....	\$ 25,427.46	
Contract Fishing Supervision.....	4,185.70	
Fond du Lac Camp.....	37,104.66	
Horicon Camp.....	36,184.22	
McFarland Camp.....	51,994.89	
Newville Camp.....	37,671.12	
Oshkosh Camp.....	33,151.14	
		\$ 225,719.19
Total Rough Fish Control.....		\$ 225,719.19

CONSERVATION FUND—DISBURSEMENTS—Continued

		1951-52 Disbursements
<i>Forestry</i>		
Central Administrative Transfers.....		\$ 84,491.93
Clerical.....	\$ 237,929.30	
Less Administrative Disbursements Pro-rated to Fish and Game, Deer Feeding and Deeryard Acquisition, Public Hunting and Fishing Grounds, C.W.C.A., Raccoon Propagation and State Parks.....	-137,998.99	99,930.31
Forest Protection		
Protection		
Administration.....	\$ 16,191.32	
Tomahawk Warehouse.....	3,778.79	
Tomahawk Headquarters.....	203,600.49	
Central Area Headquarters.....	5,872.39	
District No. 9.....	72,239.29	
District No. 10.....	66,114.99	
Northern Area Headquarters.....	7,099.25	
District No. 3.....	72,320.77	
District No. 6.....	65,403.08	
District No. 8.....	72,792.67	
Northeast Area Headquarters.....	6,620.13	
District No. 4.....	85,482.27	
District No. 5.....	71,256.38	
Northwest Area Headquarters.....	5,981.56	
District No. 1.....	81,495.02	
District No. 2.....	73,732.59	
District No. 7.....	86,625.46	996,606.45
Suppression.....		25,283.37
Cooperative Forestry		
Administration.....	\$ 22,009.92	
County Forestry.....	72,823.57	
Farm Forestry.....	52,167.43	
Insect Control.....	11,423.09	
State Forest Inventory.....	118,102.47	276,526.48
Forest Nurseries		
Nursery Expenditures for 1951-52 under Reforestation Fund		
State Forests		
Administration.....	\$ 10,214.17	
Northern Highland State Forest.....	76,239.17	
Flambeau State Forest.....	43,643.44	
Council Grounds State Forest.....	3,694.45	
Brule River State Forest.....	4,647.88	
American Legion State Forest.....	13,084.91	
Trout Lake Administration.....	10,263.20	161,787.22
Forestry Research		
Forest Insect Research.....	\$ 15,350.01	
Tree Disease Research.....	21,760.30	
Blister Rust Control.....	8,814.26	
Forest Soil Research.....	20,447.73	
Forest Genetics.....	11,127.61	77,499.91
Information and Education (also under Fish and Game)		
Administration.....	\$ 4,225.20	
Information		
Publications.....	\$ 25,863.97	
Newspaper Services.....	3,587.06	29,451.03
Education		
Schools.....	\$ 7,251.03	
Clubs.....	2,912.39	
Visual Aid.....	12,970.62	
Exhibits.....	12,815.81	35,949.85
		\$ 69,626.08

CONSERVATION FUND—DISBURSEMENTS—Continued

		1951-52 Disbursements
Land Purchases.....		\$ 3,873.20
Wisconsin Retirement.....		86,981.80
Workmen's Compensation.....		1,869.23
Unemployment Compensation.....		21,036.22
River Survey (also under Fish and Game).....		5,498.03
Timber Harvest.....		7.18
Total Forestry.....		\$1,911,017.41
<i>Southern Wisconsin Forests—Kettle Moraine</i>		
Administration.....	\$ 20,248.58	
Northern Purchase Unit.....	52,981.06	
Southern Purchase Unit.....	28,905.65	
Point Beach.....	20,812.34	
Big Foot Beach (formerly Lake Geneva).....	15,636.97	\$ 138,584.60
Total Southern Wisconsin Forests.....		\$ 138,584.60
<i>Kettle Moraine Land</i>		
Kettle Moraine Land.....		\$ 35,918.20
Total Kettle Moraine Land.....		\$ 35,918.20
<i>County Forestry Aid</i>		
County Forestry Aid.....		\$ 180,000.00
Total County Forestry Aid.....		\$ 180,000.00
<i>Deer and Bear Damage</i>		
Deer Damage.....	\$ 21,396.55	
Bear Damage.....	4,430.84	\$ 25,827.39
Total Deer and Bear Damage.....		\$ 25,827.39
<i>Raccoon Propagation</i>		
Raccoon Propagation.....	\$ 7,197.24	
Administrative Disbursements Pro-rated from General Administration, Finance and Clerical.....	415.16	\$ 7,612.40
Total Raccoon Propagation.....		\$ 7,612.40
<i>State Parks</i>		
Administration.....	\$ 37,935.57	
Apple River State Park.....		
Aztalan State Park.....	138.04	
Brunet Island State Park.....	10,386.82	
Castle Mound State Park.....	2,715.24	
Copper Falls State Park.....	13,388.65	
Cox Hollow State Park.....	4,647.46	
Cushing Memorial State Park.....	786.53	
Devil's Lake State Park.....	60,851.33	
First Capitol State Park.....	1,647.06	
Interstate State Park.....	19,546.53	
Lost Dauphin State Park.....	2,812.00	
Lucius Woods State Park.....	6,768.28	
Merrick State Park.....	13,188.47	
Mill Bluff State Park.....	1,773.81	
Nelson-Dewey State Park.....	8,975.17	
New Glarus Woods State Park.....	1,488.80	
Ojibwa State Park.....	1,707.03	
Pattison State Park.....	16,859.51	
Peninsula State Park.....	48,703.82	
Perrot State Park.....	14,144.30	
Potawatomi State Park.....	11,635.92	
Rib Mountain State Park.....	20,407.36	
Rocky Arbor State Park.....	2,923.52	

CONSERVATION FUND—DISBURSEMENTS—Continued

		<i>1951-52 Disbursements</i>
Roche a Cri State Park.....	\$ 1,690.61	
Terry Andrae State Park.....	12,440.63	
Tower Hill State Park.....	6,374.57	
Wildcat Mountain State Park.....	10,296.13	
Wyalusing State Park.....	17,094.68	
Golf Course—Peninsula Park.....	22,438.85	
Cooperation—State Historical Society.....	3,788.23	
Cooperation—Aztalan Exploration.....	2,841.65	
Land Purchases.....	6,834.54	
		\$ 387,231.11
Administrative Disbursements Pro-rated from General Administration, Finance and Clerical.....	20,757.86	\$ 407,988.97
Total State Parks.....		\$ 407,988.97
GRAND TOTAL CONSERVATION FUND.....		\$6,530,405.77

Schedule B-1

REFORESTATION FUND—REVENUE

	<i>Net Revenue 1951-52</i>
<i>Reforestation</i>	
Interest on Investments.....	\$ 3,025.10
Interest on Deposits.....	176.72
Rent and Rentals.....	2,005.50
Sale of Timber.....	141,690.17
Sale of Land.....	840.00
Federal Aid—Pittman—Robertson.....	24,346.17
Total Reforestation.....	\$ 172,083.66

Schedule B-2

REFORESTATION FUND—DISBURSEMENTS

	<i>1951-52 Disbursements</i>
<i>Reforestation</i>	
State Aid.....	\$ 35,422.54
Land Purchases.....	1,200.00
Investment Expenses.....	241.73
Forest Nurseries	
Administration.....	\$ 11,494.06
Gordon Nursery.....	16,278.34
Griffith Nursery.....	97,761.36
Hayward Nursery.....	39,454.72
Hugo Sauer Nursery.....	26,750.12
Trout Lake Nursery.....	34,862.14
	226,600.74
Pittman—Robertson	
Boscobel Nursery.....	67,061.01
	\$ 330,526.02

REFORESTATION FUND

Exhibit 3

Beginning and Ending Balances and Transactions of the Reforestation Fund
for the Fiscal Year 1951-52

	<i>Balance Forwarded from 1950-51</i>	<i>Plus Revenue 1951-52</i>	<i>Minus Disbursements 1951-52</i>	<i>Balance Forwarded to 1952-53</i>
<i>Reforestation</i>	\$ 288,296.74	\$ 172,083.66	\$ 330,526.02	\$ 129,854.38
Total Reforestation Fund.....	\$ 288,296.74	\$ 172,083.66	\$ 330,526.02	\$ 129,854.38

Note: Reforestation Fund Balance of \$129,854.38 includes investments—\$330,000.00.

GENERAL FUND—DISBURSEMENTS

Exhibit C

	Appropriation	Minus Disbursements 1951-52	Unexpended Balance
<i>Lapsing Balances</i>			
Forest Crop Law			
Administration—Conservation Department.	\$ 4,883.55	\$ 4,883.55	—0—
—Dept. of Taxation.....	1,182.36	1,182.36	—0—
Forest Crop Aid.....	235,000.00	232,946.37	\$ 2,053.63
Forest Crop Withdrawals.....	605.20*	605.20	—0—
Forest Crop Severance Tax.....	3,558.44*	3,558.44	—0—
Bounties			
1/4 Fox Bounties.....	\$ 32,373.50*	\$ 32,373.50	—0—
Bounties on Other Animals.....	58,880.00*	58,880.00	—0—
Advertising Wisconsin.....	\$ 103,302.67	\$ 58,617.82	\$ 44,684.85
State Parks.....	\$ 150,000.00	\$150,000.00**	—0—
*Sum Sufficient.			
**Listed Disbursement is payment to Conservation Fund. Actual disbursement is included with Conservation Fund's disbursement for the same purpose.			
<i>Non-Lapsing Balances</i>			
Wildcat Mountain			
1950-51 Balance.....	\$ 5,830.10		
1951-52 Bonus.....	1,976.64	\$ 7,806.74	—0—

NON-APPROPRIATED REVENUE

Advertising Wisconsin.....	\$ 222.66
Forest Crops	
Forest Crop Withdrawals.....	\$ 1,753.43
Forest Crop Severance Tax.....	30,501.81
Total Forest Crop.....	\$ 32,255.24