GREAT LAKES DEER GROUP MEETING - 1989

The 1989 meeting was held on September 25-27 at the Ralph A. MacMullan Conference Center on Higgins Lake near Grayling Michigan. This DNR facility provided good lodging, meals and meeting rooms. Attendees from Ontario were Dennis Voigt, Jim Broadfoot and Fiona McKay from Wildlife Research, Wayne Lintack from Central Region and Linda Sober from Bracebridge District. Approximately 30-40 others attended from Michigan, Minnesota and Wisconsin. There was no attendee from Manitoba this year. In addition to the usual provincial and state reports on deer seasons, habitat improvement and research, there were three seminars this year: 1. Buck Management, 2. Winter Feeding of Deer, and 3. Deer Management Models.

1. <u>1988 Deer Season Updates</u>

Minnesota - Mark Lenarz
Minnesota herd regulation is achieved primarily through adjustment of antlerless permits. Minnesota is divided into deer management units similar to the deer management areas in Wisconsin and Michigan and proposed for Ontario. Tables 1 and 2 (attached) give statistics on the 1988 harvest success and number of hunters. Northern Minnesota has harvest and hunter densities more similar to Ontario than any of the other Great Lakes States. Due to a severe winter in 1988-89, it is anticipated that the 1989 harvest will be lower in all the deer management units.

Wisconsin - Carl McIlquham
Wisconsin continues to have a very large harvest of deer. Details on the 1988 hunting season are given in the attached Wisconsin Deer Status report by Keith McCaffery. Carl McIlquham, as the Wisconsin representative, gave further details on the 1988 season. One change that occurred last year in Wisconsin was a system to give landowners a preference in hunter choice permits. Carl also reviewed the mandatory registration system which works so effectively in Wisconsin. Cooperators, local gas stations or stores, provide a network of deer check stations such that the average hunter needs to drive less than 15 miles to get to a station. The DNR pays $.25 per deer to each station owner to process deer. Personal phone calls to registration stations after 2 days of the 9 day deer season allows Wisconsin DNR managers to calculate the harvest to within 2% of the actual kill since 60% of the harvest is registered by that time.

Ontario - Jim Broadfoot
The attached handout summarizes the '88 season.

Michigan - Ed Langenau
Michigan has simplified seasons of October 1-November 14 for archery, November 15-November 30 for rifle hunters, December 1-December 10 in the upper peninsula for muzzle-loaders, and December ~~11~~ 8-December ~~20~~ 19 in the lower peninsula for muzzle-

Summary compilation of Deer Weight and attached from the Ontario Ministry of Natural Resources.

loaders. In 1988 the harvest was 380,000 deer with an archery harvest of 71,990. Bow hunting continues to be extremely popular in Michigan with over 270,000 bow hunters. [redacted]. High deer densities on private land have created problems in Michigan and a communication plan with the public was effective in moving hunters from state land to private land where deer densities were higher. This year hunters can buy a bonus antlerless tag on their first licence if they fill it with a buck, plus they can buy a second licence. The result of this is that it is possible for hunters to harvest two deer with a bow, two with a gun, and a bonus on one of those licences for a total bag limit of 5 deer. Another management strategy that was implemented was the use of block permits for landowners with a documented history of crop damage. The decision on whether permits would be given to a landowner or the number is made by district biologists based on the history of complaints in the area. After receiving block permits, the farmers can issue these permits as they see fit. Thus the crop damage complaints are dealt with primarily through recreational hunting during the regular open season. Michigan still retains kill permits for farmers to remove deer during the summer in crop damage areas but this has traditionally caused problems. The positive side of the block permit system is that the DNR has a better control of permit numbers; they believe it may reduce illegal killing during the summer. Another advantage is that it involves the farming community and sportsmen in a coordinated effort to deal with crop damage. On the negative side, commercialization of wildlife is being indirectly promoted since some farmers will resell licences for more dollars. There is suspicion that some farmers are planting crops closer to forest edges to get in on the program and in the past, damage claims have been made for deer bait crops. Deer baiting is extremely popular and prevalent in Michigan and while we were at this meeting it was commonplace for many gas stations and small stores in communities and along roadsides to advertise the sale of deer bait. This is primarily carrots, sugar beets, apples, pumpkins and corn. Many tons of this deer bait are put in the forest each fall starting in late summer.

2. <u>State and Provincial Research Updates</u>

Wisconsin
See attached Deer Status Report. In addition a report is being completed on 26 years of deer management in the Sandhill Wildlife study area. This study was designed to develop wildlife habitat guidelines for other parts of Wisconsin. In this area, a trophy buck program was also developed. It is interesting to note that a negative effect of too much conifer was documented; deer densities were higher in 20% conifer than in 50% conifer areas.

Wisconsin University Research - Tim Lewis outlined his graduate work on the effect of recreational feeding on deer. This radio-

tagging study is looking at the effects of supplementary feeding during both winter and summer. The study is also producing information on the migration and dispersal of deer. Fieldwork is still continuing and will be for the next year.

Minnesota
Research continues in three stations of farmland, wetland and forest wildlife populations. Major projects are the completion of Todd Fuller's Deer/Wolf Wildlife monograph, bear research nearing completion, and new funding of a deer project under RIM (Re-Invest in Minnesota). This latter work is comparing three methods of creating openings, one mechanical and two chemical. Deer use is being monitored using infra-red movement triggered cameras. Other proposals using RIM money include a study of winter survival as a function of winter severity wherein Minnesota will look at the role of components of the WSI index and a study on the effect of clear-cut size and shape on survival and movements. One of the problems with the RIM money is that it is two-year funding and the research initiatives planned should go on for more than two years.

Ontario
This update on research was given by Fiona McKay in which the Cooperative Deer Study was outlined as well as the objectives of the Canonto Deer Study. (See attached.) Wayne Lintack reviewed his Huronia District road-kill and productivity studies wherein he is looking at the correlation between the hunter harvest and road-killed deer. He also described reports in progress on fetal sex/ratio breeding dates, parturition dates, yearling antler/beam diameters and lactation rates of Central Region deer.

3. <u>Habitat Management Updates from States and Provinces</u>

Minnesota
Two methods of funding are used for habitat improvement, 1. a deer habitat improvement program using $2 from each deer licence, and 2. RIM, Re-Invest in Minnesota. This latter program is bonding money which must be used for contracts and development projects. The licence dollars this year raised $800,000. and all of this money went to salaries and support costs. Last year over 50,000 acres of habitat were assessed, 15,000 acres of openings created, and 700 trails constructed or maintained.

RIM money can be used in forestry for an aspen recycling program and prescribed burning. Minnesota does not do a lot of prescribed burnings specifically for deer but a lot does occur on marshland and this does indirectly benefit deer.
The RIM money is used in a critical habitat program wherein money donated privately is matched by the state. This is used for deer yard, sharp-tail grouse management, etc. There has been much emphasis on brushland management primarily for sharp-tail grouse but this has an indirect effect on deer. In Minnesota, as in

Ontario, with increased forest cutting, there is increased concern by environmentalists. RIM money can also be used for land acquisition.

Michigan $1.50
As in Minnesota, $2 is allocated from each deer licence for habitat improvement. In the past this money has been used to purchase critical deer habitat. As of this year, all state land has been inventoried and assessed. This was a 10 year program in which 10% of the state was inventoried each year. Major efforts now are made through integration with forestry operations and existing timber sales. There have been some complaints about the recent trend in this program since the DNR is now less visible to the average hunter in their habitat work. An evaluation of habitat improvement work, though, has shown an improvement in deer numbers and hunter success and dollars brought in, showing that this work was cost-effective. The lesson recently learned was that it is important to continue advertising the habitat work in progress so that people realize the accomplishments. Michigan is quite concerned with the current deer yard situation; high numbers of deer and mild winters have led to a situation where many of the yards are in poor condition. There was considerable discussion about cedar, hemlock and aspen management in northern areas, especially the upper peninsula of Michigan. Bob Wood described methods of managing cedar on the upper peninsula; he believes that a lack of fire has limited cedar regeneration in these areas. Burning gets rid of vole, rodent and snowshoe hare populations and allows seedlings to establish. Some mechanical disturbance is usually necessary if fire does not occur. In the large deer yards in the upper peninsula, high deer densities limit cedar regeneration, so one strategy is to remove large portions of the yard to produce an area unfavourable for deer. They will re-inhabit these areas when the cedar is reestablished at a higher height.

Wisconsin
The development of the forest habitat guidelines was reviewed by Carl McIlquham. The original primary focus of these guidelines was towards aspen maintenance and creation of openings of 1-10 acres. Carl stated that they discouraged openings of less than 1 acre because frost would not settle in these small openings to kill out woody vegetation. Virtually all of the Wisconsin habitat programs occur in the northern 1/3 of the state. As elsewhere, much of the cutting is done by timber companies but there is often additional cost for aspen maintenance. Currently the aspen program is less in vogue and effort is directed only to those sites where there is trouble regenerating aspen because of water table changes after large cuts. Carl also expressed concern about the Wisconsin deer yards that have not been given much attention in recent mild winters. He predicted that severe winters will show the importance of these conifer areas in the future. The efforts of Minnesota to produce spring and fall

range were also described including the mowing of openings to maintain them. In the last 10 years, over 2000 openings have been created in northern Wisconsin and these show good evidence of being used heavily.

Ontario

Dennis Voigt discussed the Ontario Deer Habitat Standards and Guidelines. He described the history of most earlier work being concentrated on winter ranges with more recent interest in spring and fall ranges. This has involved the seeding of logged areas or the planting of cool season forages, especially through programs like CWIP (Community Wildlife Involvement Program). Winter ranges on private land continue to be a problem since there is little control over what the landowner can do; however, some OMB (Ontario Municipal Board) hearings have been successful in allowing the Ministry to identify the importance of critical winter habitat. Dennis described how, in general, Ontario winter yards have sufficient conifer cover, in some cases perhaps too much crown closure, too little food supplies and how efforts have been made to encourage foresters to maintain portions of the area in early successional forests with sufficient conifer cover to intercept snow. Dennis also described the development of new Standards and Guidelines for Habitat Management and Assessment which is undergoing field review this fall.

4. Buck Management Seminar

John Ozoga from the Northern Michigan Cusino Studies described the long history of work on penned deer. The Cusino studies are unique in that annual control and census of the entire deer herd is achieved through annual trap-outs in March. Pregnancy rates of all does are obtained by x-raying and some deer are radio-collared to study movements and behaviour. Deer were provided supplemental feed all year. This study provided data on the effect on deer behaviour of crowding rather than the density of deer relative to nutritional carrying capacity unless it is assumed the feeding created a constant K. However, deer did not use supplemental feed during the spring green-up but consumption of supplemental feed grew throughout the summer, peaking in the early fall. There was decreased consumption during the rut and during the mid-winter period, but at all times during the year deer also utilized natural forage. Studies on bucks involved trying to answer the question of whether a population of yearling males can yield the same reproductive efficiency as a population containing adult males. The population was culled in March to remove either yearling or adult bucks for 3 consecutive years. Deer were culled to densities of 30/square mile. There were no demonstrable differences in the percentage of does bred or the mean breeding dates between years when yearling bucks were present vs years when adult males did the breeding. Yearling males were not as efficient in their approach and testing of

estrous does and appeared to expend greater amounts of energy in pursuit of does and in fighting among bucks.

5. Quality Deer Management Studies in Mississippi

This was reviewed by Harry Jacobson. Quality in this study was based on antler development and the relative contributions of nutrition, age and genetics was discussed. Peak antler development was found at 5-1/2 to 7-1/2 years but body weights peaked at 4-1/2 years. They found a high correlation between nutrition (primarily protein but energy also important) and antler size. Generally they were not able to predict antler size on a given buck between years, suggesting that condition within the growing season was very important. The genetics of antler development is complex; however, they found marginally better prediction of a buck's ultimate antler size and conformation by following bucks born of individual does vs individual bucks. Yearlings with small antlers often produced large antlers at maturity and Jacobson discounted the idea of culling inferior deer as yearlings based on their antlers. One of the considerations in the southern areas is that breeding occurs over a long, extended period and fawn birth may occur from June through late fall. This in turn has an effect on the yearling antler size the subsequent year. A highly successful management system was described in which hunters selected does and those bucks with antlers over 13". This harvest strategy reduced the population level relative to carrying capacity and allowed yearling bucks to survive to older ages. To achieve herd reduction, the per hunter bag limit was 8 (3 of these had to be does). The effect was an increase in the total harvest and an increase in antler and body size to meet objectives of management.

In the discussion that ensued on buck management, it was generally agreed that a relatively large harvest of does is necessary to control population levels and achieve larger deer. In states like Wisconsin where 70-80% of the bucks are harvested each year, there is little opportunity for the development of large antlers because there are so few older bucks. In places like Ontario where a much smaller percentage of the buck population is harvested, many more deer reach ages greater than 1-1/2 and large antlered deer make up a larger proportion of the harvest. High densities of deer relative to carrying capacity result in many yearlings with small antlers, either spikes or even sub-legal in many of the states.

Generally, the presentations by both Jacobson and Ozoga described principles that agree with results of the CDS in Ontario. Furthermore, our population model agrees with the principles described by these researchers and would predict similar results.

6. Deer Population and Habitat Models

Elaine Carlson of Michigan described some state efforts to introduce Pop II as a training tool for managers and to get managers to learn computer operating systems and develop confidence in the application of models as a tool of management. Pop II has also been used for elk management in Michigan and was successful in predicting population changes that had correspondence to field data.

Lew Pinder described the development of a deer habitat suitability model. He described the logic and assumptions underlying a habitat suitability index that he and John Haufler are developing. The index ranks an area as year-round deer range based on the amount of and relative quality of thermal cover, hiding cover, fall food and agricultural crops. Attempts will be made to correlate index values with deer use and abundance.

Mark Lenarz described the deer management model being used in Minnesota - FORESTDR. He described how forestry areas are used by the state to allocate harvest. This model was designed to project what next year's harvest should be to achieve management area objectives. He cautioned against the use of this kind of model for projections many years into the future.

Harry Taylor, Queen's University, described his study of a comparison of selected deer management models. Models compared were Pop II, FORESTDR, DeerCAMP and RAMASA. Attempts were made to construct an input population which was directly equatable across all 4 models. Models were run for 5 years and selected output data were compared. The major message was that, given the same input population, each model produced a different output. DeerCAMP and FORESTDR were most similar in their predicted trend but Pop II and RAMASA projected different outcomes. Harry described how these models could be used to emulate density dependent carrying capacity constrained models although none were originally designed with this basic principle in mind.

Dennis Voigt described the logic and assumptions of the Ontario Deer Model which has just been completed. The development of a documentation user's guide is underway prior to field implementation. This model uses both summer and winter carrying capacity as its basis and includes density dependence of reproduction and mortality as well as the ability to determine allowable harvest and its effects. The principles and logic behind this model are outlined in the handout "Biology and Management of Deer in Algonquin Region" which was available at the meeting.

7. Winter Feeding of Deer Seminar

Simulation of the Effects of Emergency Winter Feeding of Whitetail Deer - Mark Lenarz, Minnesota DNR

Minnesota had a large-scale emergency feeding program last winter in which over 4,000 tons of pelleted ration were delivered to deer. This cost between $700,000 - $1,000.000 for feed alone. Mark conducted a population simulation to project the benefits of the feeding program. He used estimates of the percentage of the herd fed and the effects of feeding and not feeding on winter mortality and post-natal fawn survival. He demonstrated that the most sensitive parameter is the percentage of the deer herd fed. His conclusion was that after spending close to $1 million on feeding they could have achieved the same result by adopting a conservative doe harvest for virtually no cost. The simulation of feeding 10% of the herd resulted in a potential harvest of .15 bucks per square mile, or an increase of only 4% in the pre-harvest population.

Nutritional Aspects of Supplementary Feeding - Dr. Duane Ullrey

Dr. Ullrey reviewed the many years of study at the Houghton Lake research facility of Michigan State University. He reviewed the research comparing cedar and aspen which showed that cedar was more preferred, had more digestible energy, more utilizable nitrogen and maintained a larger population of rumen protozoans. He also showed the effect of supplement blocks which produced a lower percentage weight loss. Their studies have also shown that Michigan winter browse is deficient in digestible energy, protein, phosphorus, sodium, cobalt, copper, iodine, selenium, zinc, vitamin A and vitamin E. He suggested that year-round, their deer have mineral deficiencies in phosphorus, sodium, cobalt, copper, iodine, selenium and zinc. Dr. Ullrey also reviewed the development of fat reserves in deer and showed how the period from August through November is a period of high lipogenesis.

Dennis Voigt described the Cooperative Deer Study and Emergency vs Supplemental Winter Feeding, and reviewed the differences in management objectives, techniques and diets for these two types of winter feeding. The details of this research are given in the previously mentioned handout - Biology and Management of Deer in Algonquin Region.

Wounding of Deer

A presentation was given by Rob Wegner, the editor of 'Deer and Deer Hunting'. He is preparing a Hunter Education slide presentation designed to teach bow hunters where to place shots to ensure quick kill and how to track deer once shot.

SECOND NOTICE

1989 GREAT LAKES DEER GROUP MEETING DRAFT AGENDA
RALPH A. MACMULLEN CONFERENCE CENTER
HIGGINS LAKE, MICHIGAN

September 24 through 27, 1989

Sunday, September 24 — Arrival, Registration, and Social

Monday, September 25

I. Seminar on Buck Management--Jonathan B. Haufler, Moderator
Michigan State University

8:30 a.m. to 12:00 p.m. Research Reports and Discussion

A. "Comparative Breeding Behavior in Yearling versus Mature Bucks"--John J. Ozoga, Michigan DNR

B. "Quality Deer Management"--Harry A. Jacobson
Mississippi State University

12:00 p.m. to 1:00 p.m. Lunch

II. Discussion on Deer Population, Habitat, and Participation Models--Carl L. Bennett, Jr., Moderator

1:30 p.m. to 5:00 p.m. State/Provincial Reports and Discussion

A. "FORESTDR, A Simulation Model of Northern Minnesota Deer"--Mark Lenarz, Minnesota DNR

B. "An Ontario Deer Management Population Model"--Dennis Voigt
Ontario MNR

Tuesday, September 26

I. State and Provincial Reports on Deer Seasons, Habitat Improvement, and Research--Ed Langenau, Moderator

8:30 a.m. to 12:00 p.m.

12:00 p.m. to 1:00 p.m. Lunch

II. 1:30 p.m. to 5:00 p.m. Continuation of State and Provincial Reports
5:00 p.m. to 6:00 p.m. Social
6:00 p.m. to 7:00 p.m. Dinner

Wednesday, September 27

I. Seminar on Artificial Feeding of Deer--George E. Burgoyne, Jr., Moderator

8:30 a.m. to 12:00 p.m. State/Provincial Reports and Discussion

A. "Simulation of the Effects of Emergency Winter Feeding of White-Tailed Deer"--Mark Lenarz, Minnesota DNR

B. "Nutritional Aspects of Supplemental Feeding"--Duane E. Ullrey
Michigan State
University

C. "Emergency versus Supplemental Winter Feeding"--Dennis Voigt
Ontario MNR

12:00 p.m. to 1:00 p.m. Lunch

II. Departure

WISCONSIN DEER STATUS REPORT-1989

Keith R. McCaffery

HUNTING SEASONS

The gun deer season in Wisconsin has traditionally been 9-days including two weekends beginning the Saturday before Thanksgiving. Most of the state is open to bucks-only (>3" antler) plus prescribed quotas of antlerless deer. The exception is a 2+7 (2-day anydeer, plus 7-day bucks only) in some units adjacent to the Mississippi River. About 3.2 million hunter days of recreation are exercised during the 9-day hunt.

The archery deer season begins the 3d Saturday of September and continues through 31 December with a break beginning 5 days before the gun deer season until 5 days after. Season length provides about 83 days of bowhunting. Archers reported 4.1 million hunts during 1985.

Deer populations have been increasing and reached a record preseason population of about 1.15 million in 1988 (Fig. 1). The farmland deer herd increased about 6 fold from 1962 to 1985. The herd had been slowly growing, but seemed to surge beginning in about 1980. Reasons for this are numerous, but included cumulative errors in population estimates plus a change in the fine for illegal possession of a deer to almost $2,000. The latter resulted in much higher recovery of antlerless deer to the legal harvest. It took a couple of years to appreciate what was happening. Meanwhile, the herd "ran away".

By 1984, herds were well above our established goals, so recent seasons were designed to reduce the herd. Despite record harvests, the herd remains higher than desired in part because of recent mild winters. The combined gun and archery harvest has been near 300,000 deer since 1984 (Table 1). In addition to the legal harvest, we have about 30,000 recorded roadkills annually.

TABLE 1. Recent deer harvests and license sales in Wisconsin.*

	Gun Hunting			Bowhunting		
Year	Adult Bucks	Harvest Total	Licensed Hunters	Adult Bucks	Harvest Total	Licensed Archers
1984	117.2	255.9	658.0	17.0	38.9	205.1
1985	112.7	274.3	670.3	19.4	40.7	215.9
1986	117.9	259.2	662.5	19.1	40.4	216.2
1987	116.9	250.5	660.4	21.3	42.7	208.3
1988	121.4	263.4	653.8	22.1	42.4	210.5

* Harvests based on mandatory registration. All numbers in 1,000s.

Following the 1988 hunt, overwinter population estimates indicated that only 20 of 55 farmland units remained significantly above goals. However, there were an additional 31 of 42 Northern Forest units that were above goals. Deer populations in the

Northern Forest have been prospering. There have been only four severe winters during the past 16 years. Normally severe winters occur every 3-4 years. Two consecutive mild winters beginning with a record mild winter in 1986-87 have given the herd great momentum for increase. Growing interest in recreational feeding of deer is also contributing to herd increase in the forested zone. In some units, it has been necessary to issue two permits (one hunter's choice and one which must be antlerless) to hunters. The 1989 harvest should be a new record with about 285,000 deer taken by firearm and 43,000 by archers.

DEER RESEARCH

We annually age deer at about 75 of our 475+ registration stations. Over 21,800 deer were aged in 1988. Deer populations are then calculated for each of the 114 deer management units. These density estimates relative to established goals provide the basis for setting antlerless quotas for the following fall.

A recently completed study of deer reproduction indicated statewide gross productivity averaged 1.65 fetuses/pregnant doe which compared favorably with earlier Wisconsin studies. The percent of fawns breeding ranged from 3% in the North to 50% in the South. The sex ratio of all 1,803 fetuses was 109 males per 100 females. Estimates of gross productivity of all does ranged from 1.10 in the North to 1.26 in the South.

A study of forest openings and a number of studies on the Sandhill enclosure are in the writing phase. Analyses on these studies are continuing, so not much can be said about results.

POPULATION ESTIMATES

The following description of our most current population reconstruction technique is an oversimplification, but puts the concept in a nutshell. A stable season framework helps! A manual detailing specifics and exceptions has been prepared and has been distributed to all wildlife managers in the state.

Yearling Buck Percents: The YB% (among adult bucks 1.5 yr and older) estimates the total mortality rate on adult bucks when the herd is stable. A herd is never stable, so we use a longterm (10 yr) mean YB% to estimate mortality in each unit.
Yearling Doe Percents: The YD% (among adult does 1.5 yr and older) is a product of the recruitment to age 1.5 and therefore is relatively unaffected by changing mortality rates. I.e., the herd could be shot to extinction without significantly changing the age structure so long as hunting affected all ageclasses equally. However, when the herd is stable, mortality matches recruitment. Thus, we use the longterm YD% as an estimate of doe mortality.
Adult Sex Ratios: If bucks and does are born in approximately equal numbers (110 b/100 d) and we have estimates of their mortality rates, an adult sex ratio can be estimated by dividing the buck mortality rate by the doe mortality rate (See Severinghaus and Maguire (1955) NY Fish Game J.).

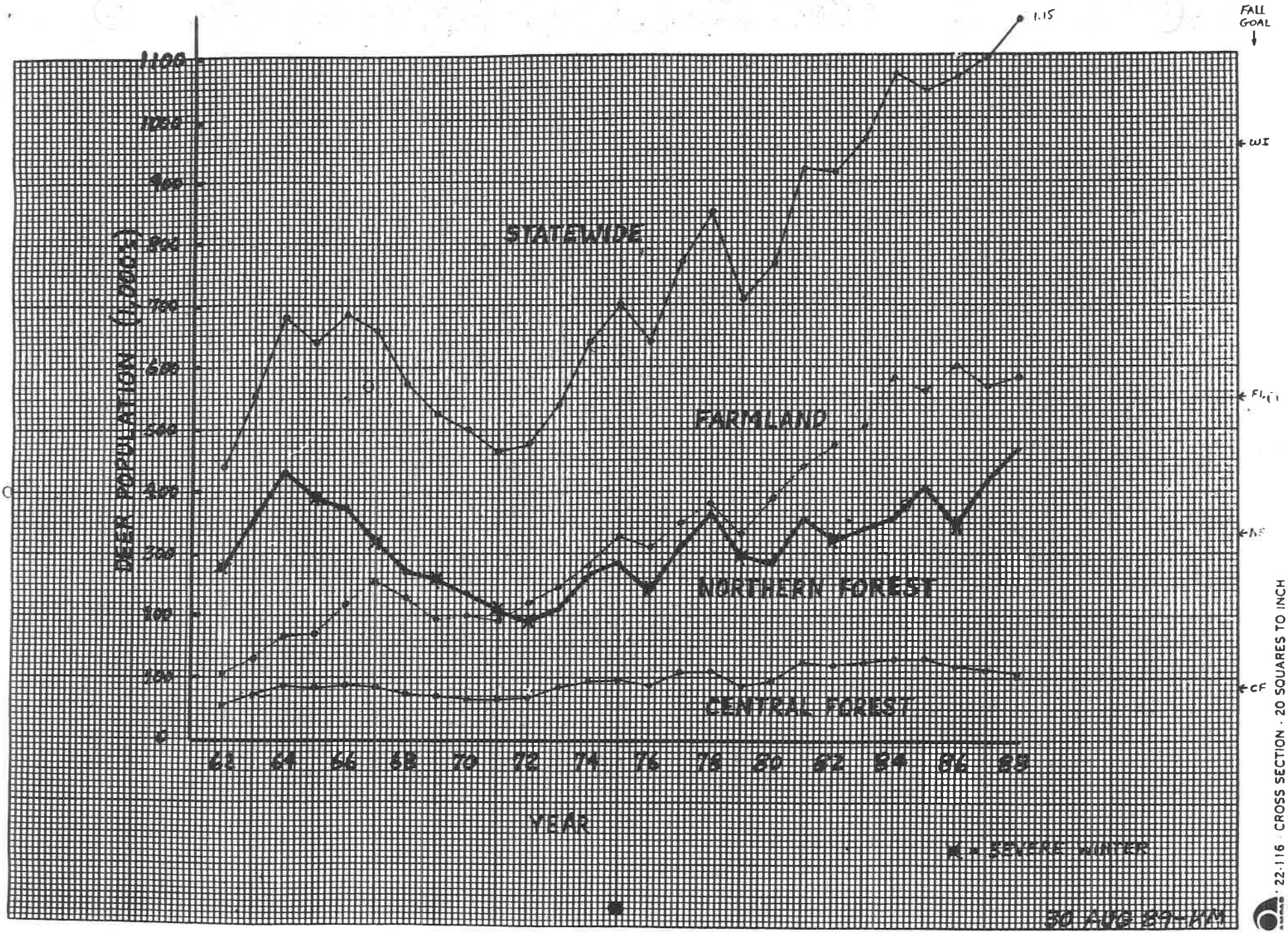
Fawn Production: Net fawn production is approximated by direct observations. Some areas are adjusted by using YD%.
Herd Ratio: With mortality directed primarily on adult bucks the above information will normally result in a ratio of about 1 adult buck to 2 adult does and 2 fawns, but varies depending on buck mortality and fawn production.
Buck Harvest Mortality: If one can make an estimate of nonharvest losses of adult bucks (e.g., 20% nonharvest loss), the recovery rate (80%) times the buck mortality rate equals harvest mortality.
Expansion Factor: The herd ratio divided by the harvest mortality provides a factor that can be multiplied times the adult buck harvest to produce a preseason deer population estimate. In our farmland, this factor ranges from 6.5 to about 8. In extensively forested zones, the factor may range from 8 to more than 20 depending on hunting effort (harvest exploitation).

Formula:

Herd Ratio = 1 (each adult buck) + Adult Sex Ratio (number of adult does per buck) + [Fawns Per Doe X Adult Sex Ratio]

$$\text{Expansion Factor} = \frac{\text{Herd Ratio}}{\text{Buck Harvest Mortality}}$$

Fall Population = Expansion Factor X Registered Buck Harvest


1.15
FALL GOAL
1100
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DEER POPULATION (1,000's)
STATEWIDE
FARMLAND
NORTHERN FOREST
CENTRAL FOREST
WI
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61 64 66 68 70 72 74 76 78 80 82 84 86 88
YEAR
* = SEVERE WINTER
22-116 · CROSS SECTION · 20 SQUARES TO INCH

TABLE I-1. Wisconsin white-tailed deer harvest and hunters, 1959 through 1987.

	Gun Season				Archery Season			
Year	Antlered Bucks	Antlerless	Total[a] Harvest	Licensed Hunters	Antlered Bucks	Antlerless	Total Harvest	Licensed Hunters[b]
1959	52,673	51,850	105,596	346,556	285	1,035	1,320	
1960	32,838	27,839	61,005	335,238	236	855	1,091	
1961	38,364	408	38,722	305,402	251	912	1,163	
1962	41,050	4,725	45,835	331,667	341	1,272	1,613	
1963	50,820	14,200	65,020	360,552	503	1,691	2,194	
1964	65,052	28,140	93,445	386,519	711	2,453	3,164	
1965	60,994	37,337	98,745	405,023	1,134	3,861	4,995	63,964
1966	67,362	42,352	110,062	432,111	1,357	4,629	5,986	85,144
1967	71,302	56,836	128,597	470,782	1,714	5,878	7,592	101,573
1968	62,521	57,456	119,986	503,190	1,924	5,010	6,934	114,975
1969	52,655	44,728	98,008	506,526	1,576	4,411	5,987	106,699
1970	50,308	22,162	72,844	501,799	1,775	4,745	6,520	101,573
1971	48,994	21,220	70,835	509,447	1,696	4,826	6,522	100,206
1972	49,416	24,917	74,827	517,724	1,956	5,131	7,087	98,720
1973	57,364	23,919	82,105	514,626	2,594	5,862	8,456	105,875
1974	67,312	32,408	100,405	556,815	3,390	9,124	12,514	119,960
1975	73,373	43,257	117,378	582,113	4,439	9,149	13,588	133,775
1976	69,510	52,067	122,509	589,590	4,775	8,861	13,636	133,318
1977	82,762	48,072	131,910	617,109	5,993	10,797	16,790	146,760
1978	87,397	62,488	150,845	644,594	6,472	11,641	18,113	157,838
1979	76,550	48,087	125,570	617,109	6,203	9,815	16,018	144,511
1980	81,041	57,848	139,624	618,333	8,950	12,004	20,954	155,386
1981[c]	99,293	67,142	167,396	629,034	11,920	17,147	29,199	173,874
1982	97,857	82,587	183,394	635,637	12,897	17,897	30,967	189,524
1983	97,209	100,103	198,309	648,451	14,244	18,604	32,965	196,367
1984	117,582	138,206	256,887	657,752	17,103	21,748	39,033	205,132
1985	112,908	161,952	275,536	670,064	19,402	21,369	40,897	215,900
1986	117,511	134,175	259,637	662,771	19,113	21,253	40,475	216,186
1987[d]	116,881	133,393	250,530	660,401	21,219	21,177	42,504	208,309
1988	121,428	141,763	263,424	653,790	22,125	20,268	42,393	210,069

[a] Total includes deer of unknown sex and age.

[b] Separate archer's license not required until 1965.

[c] 1981-87 include deer shot at Fort McCoy.

[d] 1987 includes bonus and damage deer.

(The gun harvest figures were corrected December 1988 to account for antlerless deer shot with regular hunting licenses in the either sex zones.)

Table 1. Statewide license sales, harvests, and success rates for 1988 Firearms deer season.[1]

Firearms licenses sold[2] (3-16-89 report)	407,775
Corrected total	
Statewide registered Firearms deer harvet	138,946
Statewide registered Buck[3] harvest	80,065
Buck proportion of total kill	57.6%
Statewide registered Antlerless harvest	58,881
Antlerless proporation of total kill	42.4%
Antlerless permits offered, statewide[4]	111,175
Bonus licenses offered, statewide	1,953
Antlerless permits issued, statewide	109,994
Bonus licenses issued, statewide	678
Buck-only hunters (License minus permits and bonus licenses)[5]	297,103
Overall firearms hunter success by registration	34.1%
Antlerless permit holder success by registration[6]	53.0%
Buck-only hunter success by registration	27.0%

1 Harvest figures include deer taken during the Special Muzzleloader Season.

2 Includes Special Muzzleloader as well as Regular Firearms licenses.

3 Bucks include adult males and unidentified deer. Adult females and all fawns classed as antlerless deer.

4 See Table 3 for antlerless quotas, additional permits, etc.

5 Includes Special Muzzleloader Season hunters.

6 Includes success for only those antlerless permit and bonus license holders taking antlerless deer. Does not include bucks taken by antlerless permit or bonus license holders.

Table 2. Statewide Firearms, Archery, and Muzzleloader harvests, license sales, and success rates 1981-1988.

	1981	1982	1983	1984	1985	1986	1987	1988
REGULAR FIREARMS								
Res. Lic. Sales	369,425	369,018	391,099	396,074	408,056	412,079	412,429	402,167[1]
Non-Res. Lic. Sales	2,973	3,038	3,611	4,307	4,961	4,473	4,930	5,608[1]
Total Lic. Sales	372,398	372,056	394,710	400,381	413,017	416,555	417,358	407,775[1]
Registered Buck Kill[2]	60,034	54,305	62,481	58,966	62,603	60,980	77,619	80,065
No. Antlerless Permits	84,405	89,925	156,350	150,375	167,725	130,519	109,731	109,994
Registered AL Kill	32,993	38,740	69,976	73,076	75,462	68,790	57,384	58,881
Registered Total Kill	93,027	93,045	132,457	132,042	138,065	129,770	135,003	138,946
Registered % Successful	25.0	25.0	33.6	33.0	33.4	31.2	32.4	34.1
ARCHERY								
Res. Lic. Sales	50,063	54,062	55,803	61,576	66,724	67,745	68,809	66,174[1]
Non-Res. Lic. Sales	906	848	470	583	589	547	604	737[1]
Total Lic. Sales	50,969	54,910	56,273	62,159	67,313	68,292	69,413	66,911[1]
Registered Kill	5,535	5,566	5,977	6,390	7,575	7,610	7,535	8,262
Registered % Successful	10.9	10.1	10.6	10.3	11.3	11.1	10.9	13.1
MUZZLELOADER								
Registered Kill	385	441	652	532	563	593	535	686
TOTAL Registered Kill	98,947	99,052	139,086	138,941	146,203	137,923	143,073	148,394

1 Estimate as of 03/16/89.

2 Bucks include adult males and unidentified deer.

1989 GREAT LAKES DEER GROUP MEETING

ONTARIO UPDATE

HERD STATUS

- Deer herd estimated at 300,000
- Population increasing
- Range expansion evident in north
- Populations are at or have exceeded winter carrying capacity in most areas
- Crop damage complaints increasing

HARVEST 1988

- 1988 Mail Survey Results:

Deer Hunters	= 137,406 (1987 = 131,258)
Licences sold	= 151,184 (1987 = 145,556 up 3.9%)
Harvest	= 41,513 (1987 = 37,911)
Success rate	= 30.21% (1987 = 28.9%)
Hunter density	= 1 per 8 km^2

- Harvest Breakdown:

Antlered harvest	= 18,610 or 44.8% (1987 = 44.7%)
Antlerless harvest	= 22,903 or 55.2% (1987 = 55.3%)
- Female fawn	= 3,752
- Male fawn	= 6,412
- Female adult	= 12,739
- Male adult	= 18,610

- New for 1989:

  - Huronia district to have a split controlled hunt season (4 days early Nov. followed by 4 days early Dec.) Three other districts started doing this in 1988
  - Controlled hunt in Prince Edward County set for early December (3 days)
  - Archery season extended in several Wildlife Management Units
  - Special hunt on Long Point (Lake Erie) designed to dramatically reduce deer numbers (habitat damage). Coordinated by Canadian Wildlife Service

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USER GROUPS 1988

- Ontario residents made up 99.4% of all hunters, greater percentage of non-residents in North West
- Resident licence cost $17.50, Non-resident $80.00
- Bowhunting increasing in popularity (about 16% of hunters)
- About 1% of hunters use muzzle loaders
- Winter supplementary deer feeding by private interest groups continues

RANGE AND CARRYING CAPACITY

- Limited habitat improvement work is being done
- Efforts are initiated by districts and may be aided by interest groups (money and manpower)
- Most effort involves using commercial logging to open up hardwood canopy to release browse
- Emphasis is on winter range improvement through; browse plot cutting, protection of conifer shelter areas and prescribed burns (limited use)
- Loss of winter range to urban development in southern districts is common
- Some fall/spring habitat improvement is done by planting log landings with cool season grasses/legumes

PROVINCIAL DEER PROGRAM

- Undergoing major revision
- Deer policy group preparing document which defines program goals and objectives
- Deer Management Areas have been delineated
- Standards and Guidelines for deer management under revision
- Ontario Deer Model (ODM) and information System (ODIS) under development. Intended to standardize management rational and data collection across the province