24 August 1988

TO: Members of the Great Lakes Deer Group

FROM: William A. Creed

SUBJECT: Merger of GLDG and Midwest Deer-Turkey Groups

My purpose in writing this brief letter is to urge the GLDG to seriously consider merging with the Midwest Deer and Turkey Group, and also broadening the focus of the expanded group to include Forest Wildlife in general.

For a number of years through the early 1970's, our Wisconsin delegation repeatedly recommended that the GLDG be expanded to include emphasis on some other species such as ruffed grouse, bear, and moose. This proposal was rejected by the Group, primarily because some individuals felt that by broadening the base of interest, their regular attendance would potentially be limited. This is a valid point, but it's not necessarily in the best interests of member agencies.

In some respects, the Midwest Deer-Turkey Group and the GLDG are redundant, except for the attention given to northern deer problems by the GLDG, and to farmland deer and turkeys by the Midwest Group. I feel the GLDG has been too limited in its perspective on forest wildlife problems. I also think this has been reflected by the lack of interest shown by some biologists in member agencies. Certainly our Wisconsin attendance has been small in recent years, even when there were opportunities for more personnel to participate.

There would be some advantages in merging the two groups:

1) The frequency of hosting annual meetings would be reduced for member agencies.

2) Numbers of potential papers and panel choices would increase, thereby insuring programs of greater diversity and interest. Host states could be more selective in choosing program content.

3) The larger membership would likely gemerate more formality (better papers, more specific program goals, and perhaps publication of annual transactions). I think these all would be generally good.

4) If more tangible products were produced by this larger and more diversified group, I believe agency administrators would be prone to approve greater attendance.

If this merger seems unacceptable to the GLDG, I'd still like to see the Group formally expand it's interests to include forest wildlife in general.

William A. Creed
8/24/88

(AD 75)

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Date: 22 September 1988

TO: Bureau and District Wildlife Staff

FROM: Keith McCaffery

SUBJECT: Notes from the Great Lakes Deer Group

Appended are some notes of what I think I heard at the Meeting. Notes were not taken on most presentations by Wisconsin DNR representatives. People in attendance from Wisconsin included Bill Meier, Sam Moore, Jon Gilbert (GLIFWC), Tim Lewis (UW), Norm Weiland (USFS-Cheq.), and me. I should add that Dr. Ray Stefanski (Ontario provincial deer biologist) is originally from Armstrong Creek. If you have any questions on the notes or wish personal reactions, feel free to contact one of the above individuals.

In addition to the formal program, we were able to participate in a number of interesting side discussions on pine management practices in NC Minn., carrying capacity expressions and measurement, our deer Workbook, canned slide presentation on Minn. deer management, rewrite of Ontario wildlife policy, and habitat management priorities.

A disappointment this year was the absence of representatives from Manitoba and Michigan. Personnel changes and last minute health problems resulted in the cancelations. Both agencies have been major contributors of new information at past meetings.

Staff supervisors, please route these minutes to interested Area personnel.

cc: Jon Gilbert
Bill Meier
Sam Moore
Norm Weiland
Ed Langenau
Dennis Voigt
Bob Dumke
Frank Haberland
Forest Stearns
John Kubisiak
John Huff
Bill Creed

MINUTES

Great Lakes Deer Group
Hackensack, Minnesota
29 Aug-1 Sep, 1988

DEER HARVESTS

Ray Stefanski (Ontario): Greenhouse effect may make much of Ontario into prime deer range! Deer are expanding northward to latitudes not seen since the 1930's. Have about 140,000 hunters, issue about 75,000 validation (antlerless) tags, up from about 20,000 in 1980. Harvest has grown from 10,000 in 1980 to 38,000 in 1987. Winter feeding is limited to severe conditions. Season opens first Monday in November. Controlled hunting is limited to central and southwest Ontario where agriculture is concentrated. May have deer population of 300,000.

Leroy Rutske (Minnesota): Minnesota fears they may be establishing a tradition in that the hunter map has been relatively unchanged for 5-6 years! 415,000 gun licenses, 135,000 kill. Fifty-eight percent of harvest was adult bucks. Four zones: (16-day season in northeast) 51 percent success on antlerless tags in northeast Minnesota; 52 percent (2+4 day hunts w/HC in both) success in farmland. Archers = 68,000; kill 7,700. Muzzleloaders (2,000-2,5000) have 16 days after the regular season.

Mark Lenarz (Minnesota): 1987 buck harvest exceeded projections by 13-64% by unit. Antlerless harvest was very close to expectations. High buck kill was ascribed to mild winter and spring. Warm, dry season openers correlated (r^2 = .92) with increased buck exploitation. Buck kill trends alone are not a very good index to population in forested zone of northeast Minnesota.

John Gilbert (GLIFWC): 2,800 deer kill. 1,500 hunters. 100-day season from start of State bow season through December 31. Additional carcass tags are issued upon registering kills. Permits good for 2 weeks. Units are closed when quota reached. Tribes have endorsed Wisconsin deer system, but want to be part of system. Allocation based on demonstrated harvest (in part). Tribal leaders know it is unwise deer management to ask for quotas greatly above what they can take.

Jim Ziegler (White Earth I.R.): 800 kill is no big deal, but it still provokes controversy. Herd density is 1/3-1/2 that of surrounding units. 54% adult bucks in kill. Most hunting during regular season: 7-15 times hunting effort during State season than other hunting time.

Ed Langenau (Michigan, submitted report): 712,520 gun hunters; 257,000 kill. 254,000 archers; 72,000 kill. 82,000 muzzleloading; 8,400 kill. Total 1987 kill of 338,000. Present deer population is 1.5 million; 1988 kill should exceed 400,000 deer. About 9 million hunter days recreation in 1987.

HABITAT PROGRAMS

Leroy Rutske (Minnesota): $2/license for habitat program. RIM (Reinvest in Minnesota) adds $177,000 matching and $300,000 enhancing funds. Coordinators evaluated 1.1 million acres; 78 M acres of forest practices reviewed; 1,170 acres of opening construction or maintenance. Habitat specialists in most northern offices coordinate timber activities to maximize benefits. Opening construction = $140-$250/ac. Chem. maintenance = $64-$86/ac. Roads $1,300-$2,500/mile. "Evaluation" done on 4 mi^2"HIU". Goal is to maintain 45-65% intolerant upland type, including 35% aspen (25% in less than age 10), 5% opening; less than 20 winter cover. We overlook young plantation as effective opening, etc. Ontario habitat ranking is similar. Pounds/acre by type has little to do with summer carrying capacity (Voigt). Guidelines provide priorities and direction for program (Dave Dickey); fine tuning can come later. Jay Janecek: Much of RIM money is going into personnel. $819,000 have been used in Jay's area. RIM is expiring and will require legislative renewal. Much of work is for sharptails.

Sam Moore (Wisconsin): Feed 'em grass in the summer and lead in the fall! Habitat program focus is on aspen, openings, and trail access for timber work and hunting. P-R money provided for preroading sale areas to foster better regulation of sales (smaller sales, clean cutting). Combining of post-sale clearing with sales is now well accepted. Recent Habitat Review Committee recommended keeping aspen wherever it occurs. Openings construction is slowing due to maintenance commitment. Herbicide use is continuing concern on openings program. Habitat Program is guided by composition guides. Guidelines were a quantification of early arguments that were used less effectively. $302,000 PR spent on Habitat Program in 1987. (Bill Meier) we have 2 tractors mowing solid for 2 months on trails and openings on a 96,000-acre forest. We've reached the limit of our mowing capability.

Ray Stefanski (Ontario): Had up to $1.5 MM for habitat when deer were scarce in 1980. These funds have, in large part, dried up. (Wayne Lintack) We try to be as efficient as possible by focussing on coordination activities. Losing wintering areas to subdivisions and resorts in southern Ontario.

RESEARCH PROGRAMS

Dennis Voigt (Ontario): Two major studies: Coop Deer Study and Canonto Analyses (Hepburn/Hussel). Latter report on harvest/population trends will be out this fall. Check station data showed body measurements, etc., are density dependent as well as range dependent (Journal ms.). Coop Deer Study is near final. Next 2+ years for analysis and writing. Nine projects and $200,000 annual budget. Winter feeding, feeding devices, nutritional needs guidebook, deer migration (350 tagged deer), determining carrying capacity, deer management model for Ontario by hybridizing existing models, mortality and reproduction studies of radio tagged deer, assessment of deer condition using many indices, and coordination of deer information systems. We also have regional and District research/management studies on nonharvest mortality, reproduction, road kill index, deer condition (Lintack). Bill Darby is completing remote sensing study at Kenora.

Mark Lenarz (Minnesota): Modeling habitat management. Focus is on openings construction. Built 5 openings using randomized complete block design: each 2-acre opening 1/3 mechanical, 1/3 Roundup, 1/3 Spike. Motion sensitive infra-red camera records activity by date and time. Deer use (pellets and photo) will define deer preferences for method and vegetation. Cameras and device cost $900 each. May not be able to use during hunting season for fear of theft. Could not use Spike due to labelling restriction.

Tim Lewis (Univ. Wis.): Originally wanted to study population parameters, test whether food is limiting and when, and how might information be used. Radio tagged 89 deer. Direct observation at feeders to document frequency, family groups, sex ratios. Only 12 mortalities so far, 7 by hunting. Migrations of up to 20-25 miles and dispersals of up to 45 miles. Relating long-term changes in vegetation to deer herd trends using old air photos. "Adopt a Deer" program has raised $20,000, mostly from hunting groups.

WINTER/SUMMER HABITAT PRIORITIES PANEL (McCaffery, Moore, Lenarz, Voigt)

Sam Moore (WI): Problems of deer yard planning: don't know when or how many deer will come. Hard to schedule sales. Deer died on tons of cedar boughs when physiological limits exceeded. Best winter range management is summer range management and active timber cutting. Don't schedule timber sale before February 1 to avoid premature yarding and to coordinate food with metabolic upturn. Main concern is integrity of cover. Don't worry about food within premier cover area.

Dennis Voigt (OMNR): Short history of range work in Ontario. Almost all past work has been done on winter range. More recently, log landings have been seeded. Browse plots (hand-cut and dozer) have been focus as well as no-cut of conifers. Deer density is causing a cedar reproduction problem in some yards. Only funds available are for designated yards. Deer are migratory throughout Ontario - weather driven. 20 cm of snow precipitates deer movement to yards. When snow gets down to a couple inches, there is a sudden exodus. Deer often "stage" within 1/2 mile of yard before being driven in by more severe weather. Summer and fall range is critical for lipogenesis which begins in October. One in 8-10 years is really severe in prime Ontario deer range. Aspen is a minor component of southern Ontario Laurentian Hardwoods. Deer have increased as well in hardwoods as in aspen areas. Acid rain, drought, gypsy moth are causing extensive mortality of maples. Many yards have only 15% confiers (fir, w. spruce, w. pine). 85-90% canopy closure causes 0 forage. Below 80%, there is good forage production. This applies equally to hardwood and conifers. Aspen and birch canopies are characteristically open. Deer are highly selective feeders in summer and fall. Measuring forage availability seems impossible. Deer choose 14% protein and 80% digestibility. Eat flowers and fresh growth. Estimating carrying capacity by food availability is difficult. Better try condition indices. Summer range and fall range are synonymous. Third week of December is typical time deer move toward winter range. Winter range can be determined by aerial search in severe winter. Rest is summer/fall range. Wolves tend to concentrate deer into yards. I tend to believe thermal cover has been oversold. "Yards" can be 500 km^2 (Loring) and conifer patches can be 15 trees to 20 acres. Deer come from 2,000 mi^2.

Mark Lenarz (MN): We have migratory deer in extreme northeast Minnesota; rest of north is like Wisconsin. Focus is on summer range. In far northeast, we believe it might be moose range. Habitat Management goal in Minnesota is perhaps to increase deer numbers, but goals are unclear.

OTHER REPORTS

Tom Engel (Minnesota): 13.7 mm acres CFL in Minnesota, over 1/2 is public, 2.7 mm acres of State land. Wildlife and Forestry Divisions do not have common administrative boundaries in Minnesota. Planning issues: old growh, fragmentation--good to have a coordinator to avoid local "deals". Major deemphasis in pine conversion. Aspen is elevated to a major priority. NH and oak will also be getting more attention, especially on private lands.

Lee Westfield (Contractor): GIS includes polygons (stands), lines (roads), and points (eagle nests, section number, etc.). Data bases can be tied to each of these features. Landsat or Spot information is available, but bottom cost is $50,000 (Befort). Digitizers have some problems with photographs due to brightness problems caused by camera artifacts or geometry. Satelite data has been "normalized" for signature.

Al Sproessig (Minn. Deer Hunters Assoc.): By 1980, became permanent organization, now of 13,000 members. Have 47 chapters throughout Minnesota, mostly in north. Planned $100,000 habitat improvement program and received matching RIM and challenge money. Projects are submitted to MDHA committee for selection and funding. 31 banquets as fund raisers last year. $10 membership is mainly for member services and publication. "Hides for Habitat" netted $45,000 in its third year. Fur bidders went up to $10.20 + 30¢ (tail)/hide by late December 1987. About $65,000-$75,000 will be spent to support education activities in 1988. Most deer hides are discarded in Minnesota. Aiming to get 100,000 hides in future. Pamphlets soliciting hides are prepared. Can be distributed at license outlets, or better, at registration stations.

WINTER FEEDING STUDY (Dennis Voigt): Winter feeding became popular during herd decline in 1960's. Feeding itself was controversial, but so were questions of how, what, when, basic ecology of deer, goals, harvest. Four study areas chosen from Loring south. Study of Physical Condition, Reproduction, Mortality. Deer spend 90-110 days in yard. Major mortality in Loring is hunting and starvation. In farm area (Huronia), mortality rate was same but no dominant cause. Adult doe mortality averages 30%.

Feeding Study: Feed types, foraging strategies, feeding device efficiency, cost/benefit. Food intake goes down to 1 kg/day in mid-winter, but shoots up to 4-5 kg/day by spring. Deer are adapted to survive up to 160 days of winter. Supplementary feeding (nonemergency) is normally done throughout winter. Our policy is looking at emergency-only feeding. Part of research is to provide direction to private organizations and individuals. Feeder size: 300 kg hoppers, 55-gallon barrels, etc., seemed unimportant compared to number of deer feeding spaces. Even large hoppers may only feed 2 deer at a time as do smaller feeders. Recommend several small feeders/site. Need to provide feeding spaces (place barrels at 20 m). Conventional feed has been 50% corn/50% oats. Cost of building and maintaining barrels proved most efficient, as is food consumed.

Emergency feeding in piles vs. slashed bags; corn/oats vs pellets. Takes about a week to consume piles, little longer for bags. Pellets equally accepted as grain. Want high protein and energy, but especially correct fiber. Deer can be killed by feeding too fast, pure corn, or hay. Hay has wrong fiber under starvation conditions. Overeating disease (bacterial diarrhea). Corn leads to carbo overload. Conversion of feed should be over 7-8 days (cows or deer). Bag method may be preferred because it takes 8-10 days for deer to really warm up to it. Effects of feeding: less adult mortality, less fawn mortality, but host of other bad effects. Most winters, deer do not need food. Succession of winters can set you back. If above goals, why feed? 10% to about 50% of deer in an area may be effectively fed. Carrying capacity (Ontario) is calculated based on average and moderate winters.

WOLF-DEER STUDY - Mike Nelson (USFWS): Deer project began in 1975. Main objective is to count wolves but also need study of prey. What is a deer population in space and time? Deer from an individual deer yard appear to be discrete herds. Of radio-marked yearling bucks, 62% dispersed; only 20% of yearling does dispersed. About 55% of all yearlings do not disperse. 86% of deer dispersed less than 14 mi; maximum was about 25 mi. Adult sex ratio is 25% male. 55% adults. Yearling buck percent = 30, based on classification from the air, corroborated by limited harvest data. Populations under 500 experience genetic drift. At less than 50, severe inbreeding occurs. Fragmented herds in small yards or metro states may need special attention. Yearling bucks experienced 50% mortality.

BEARVILLE STUDY - Todd Fuller (Minnesota): Deer mortality factors study. Radio collared 148 deer. No real data on young fawns. Trapped from December on. Mortality mode transmitters. Most mortality was during hunt. Deer survival and mortality data indicated 16% annual herd decline. 37% of doe mortality is by hunters (check station data corroborated telemetry data); wolves killed 11%, other predators 12%, wounding 5%, poaching about 1/2 gun kill. Bucks: 57% mortality by gun. Fawns: 44% wolves, dogs and other predators 39%, winter 17%. 79% of fawn mortality is in summer.

CARRYING CAPACITY STUDY - Voigt (OMNR): Migratory deer complicate carrying capacity concept. Carrying capacity is the number of deer that can be maintained in the long-term without damaging forage base. Many managers believe "K" is the desired goal! Hard to clip and weigh food as estimate of cc, especially in summer. Now looking at means of estimating winter cc. Deer weight, production, survival, antlers, and recruitment are all density dependent.

We've been testing Moen's CARCAP model. His model indicates understory browse production (pounds/acre) can be predicted by stand structure (not type): Regn (100), Sedl (200), Sapl (70), Poles (30), Saw (40). Using this with forest inventory, it gave reasonable approx. of cc on county-sized areas. Plant annual growth (primary production) determines "K". Only 20-60%

can be used without damage, e.g., 20 lb/ac = 12,800/mi^2, 1 deer for 100 days needs 440 lbs or 29 deer/mi^2 of winter range. Moen has determined that max. primary production is about 500 lb/ac. If 50% of area is covered by browse plants and annual growth is only about 50% of maximum known, then determine percent access (physical, snow, etc.) and amount already eaten, then assign percent you will allocate to deer. Observers appear to be able to estimate this to within 5% after training with "UKEY". Studied 6 forest types, 450 plots. Estimated ocularly, then clipped. Results appear to be well correlated.

BUSINESS MEETING: On suggestion to merge with Midwest Deer and Turkey Group or broaden concern to all forest wildlife: Basic premise of group is to keep it small and informal (Rutske). Bear people have their workshops (Lenarz) as do moose people. Voigt thinks Ontario has better ties to GLDG than Midwest Deer and Turkey Group; attendance by turkey people complicates travel authorization; Ontario maybe would go to NEDTC. Alternate year meetings: Lenarz thinks attendance may be better. Voigt says annual budgets don't help in off years. Nick Goulden: Bigger meeting would likely relegate us to large places in big cities at higher costs. Michigan is scheduled to host the meeting in 1989. All 1989 presenters should be encouraged to prepare 1/2-page abstracts for minutes. No formal minutes are planned for this 1988 meeting (Lenarz).