DEPARTMENT OF NATURAL RESOURCES

MNDNR Elk Newsletter

Summer 2017

Photo by Marshal Deters

Welcome the first edition of the MNDNR Elk Newsletter

The Minnesota DNR Section of Wildlife is proud to bring you the first Elk Newsletter as part of an effort to inform landowners and elk enthusiasts of the activities DNR staff undertakes throughout the year to research and manage elk in Minnesota. Our vision is that this will be an annual newsletter loaded with elk facts, stories, tips for living in elk country, profiles and interesting photos.

Readers are encouraged to submit suggestions for content/story ideas and any personal photos or stories they feel would be interesting to the readers.

Submissions can be sent to Kristi Coughlon, NW region information officer, at Kristi.Coughlon@state.mn.us.

First order of business: Name this newsletter

We'd like your help naming the newsletter. The following are five proposed names to vote on, OR feel free to submit your own title:

The Elk Review

The Elk Call

Wapiti Sentinel

Northland Elk Observer

The Aspen Elkland Bugle

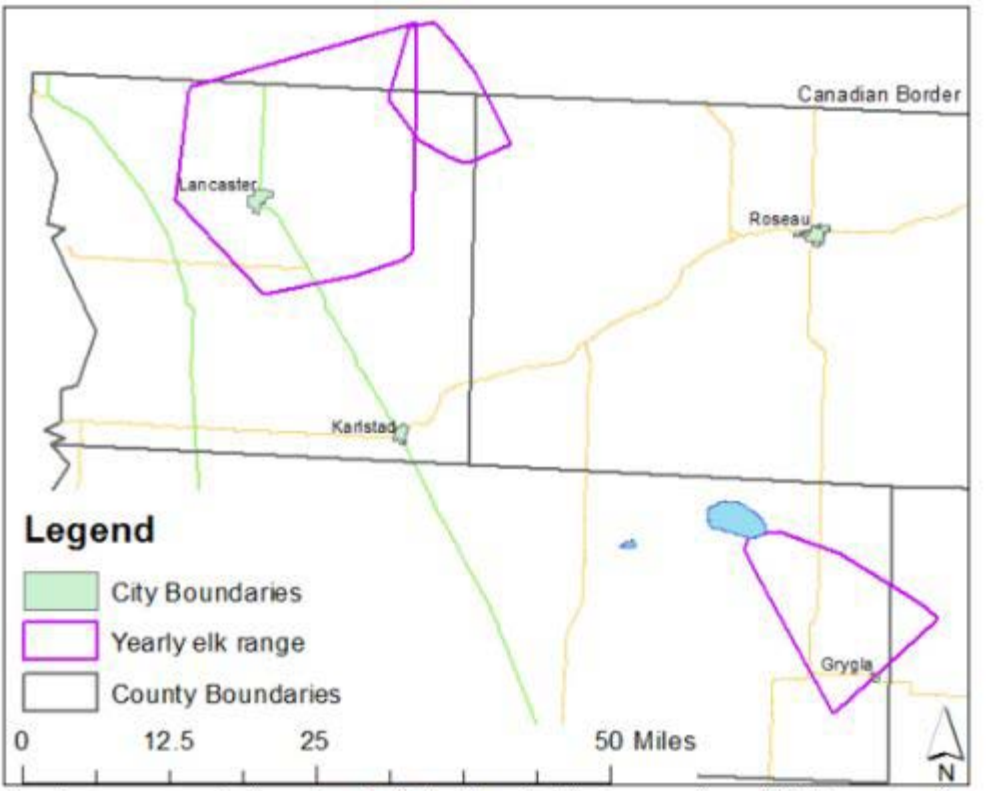
Other:_____

Submissions can be sent to Kristi Coughlon, NW region information officer, at Kristi.Coughlon@state.mn.us.

Elk Research Updates

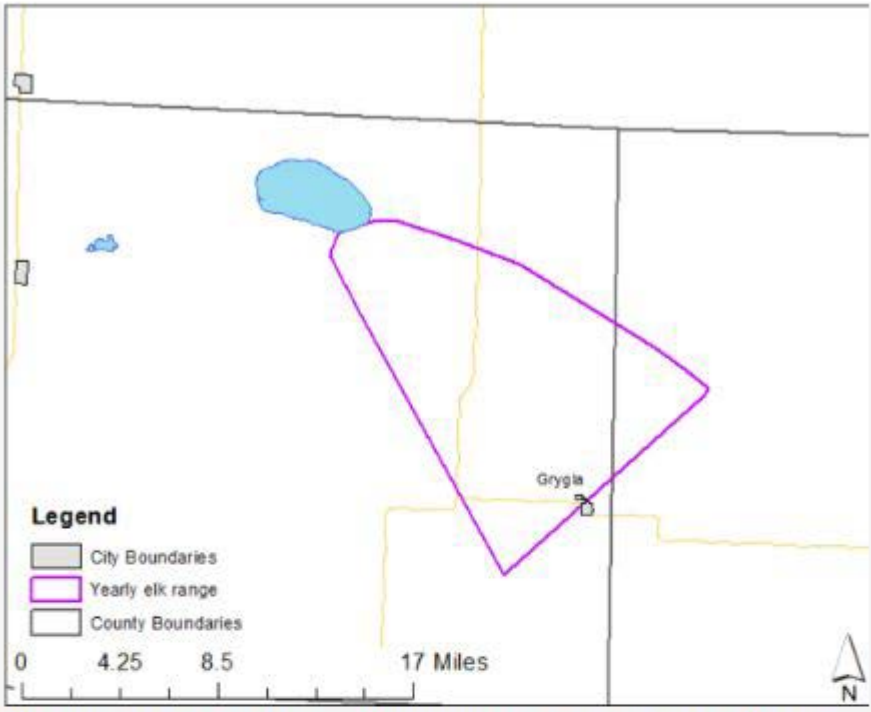
Elk Movements Research

Since being captured in February of 2016, GPS-collared elk have generally remained in the herds and ranges they were thought to inhabit in the area. Prior to collaring the elk, separate herds were thought to not interact with one another even though limited distance separated the groups, and this looks to be true following the first year of data collection. Two elk have gone on notable exploratory movements northward to the Canadian border – one returned to its herd within days of reaching the border, whereas the other remains in Manitoba. Another slight variation to elk movement patterns occurred during the calving season, when numerous cows seemed to make movements away from other herd members in what is thought to be an effort to isolate themselves to have calves. Some of these movements included many miles of travel over a short time period. Oftentimes, cows remained in these secluded locations for several weeks. Other studies of elk calving behavior across the United States have also noted these movement patterns during the calving season. While we have not identified specific calving locations by using the location information from collared cows, area staff confirmed calves with collared cows during mid-summer of 2016.

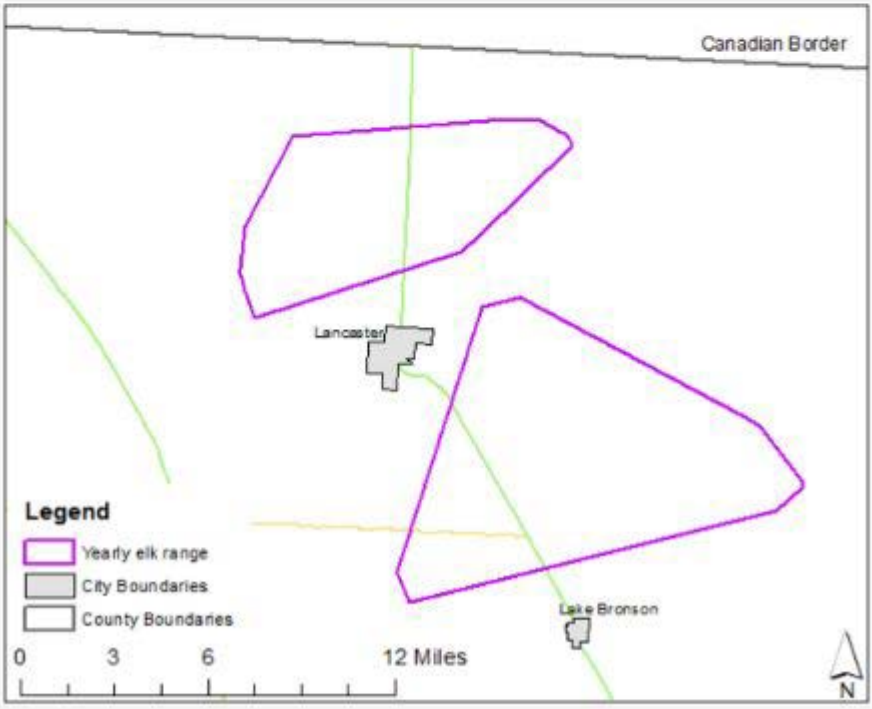


Ave. home range size for collared elk in all herds: 93 square miles +/- 11.3 square miles.

Caribou-Vita herd: average home range size: 66.5 square miles +/- 18.5 square miles. Image shows the home range from one of the three collared elk in this herd.



Grygla herd: yearly home range size 191 square miles +/- 7.1 square miles. Image shows the home range from one of the two collared elk in this herd.



Kittson County herds: average home range size 85 square miles +/- 10.4 square miles. Image shows the home range from an elk in the northern sub-group and an elk in the southern sub-group.

Hunter-Elk Study

Elk hunting in northwestern Minnesota has been a once-in-a-lifetime opportunity since its inception in the late 1980s. Hunting provides recreation and is believed to reduce agricultural damage caused by elk by altering elk use of the landscape.

The first-ever research on Minnesota's elk herd began in February 2016 with the capture and GPS-collaring of 20 adult females to study their movements and habitat use. As a side study, we investigated elk behavior relative to the 9-day bull elk hunting season in 2016. We programmed elk GPS collars to take hourly locations before and after the hunting season. During the 9-day hunting season, locations were increased to 15-minute intervals from 1 hour prior to dawn until 1 hour after dusk, while remaining at hourly locations during the night.

The seven hunters participated in the research by carrying GPS loggers, which recorded their locations every 15 minutes during all hunting-related activities. Additionally, hunters documented information about number of elk seen and known encounters with marked individuals on a daily hunt log sheet. We identified two definitive instances when hunters encountered GPS-collared elk. The most notable encounter included seven collared elk travelling as a group, but the response to the hunter's presence varied among elk. Four of the seven fled from the hunter's presence, whereas the remaining three showed no movements indicative of being disturbed. However, once the day ended all elk moved from 2.5 - 4 miles away from where the human encounter occurred. Following the human encounter, the seven collared elk remained scattered in three to five groups spread out across their range.

Over a month passed before all seven collared elk came back together as a group. We intend to use the information to help managers adjust elk hunting regulations to improve the effectiveness of hunting as a tool to reduce elk-human conflicts in agricultural areas.

Survey of Landowner Attitudes toward Elk in Northwest Minnesota

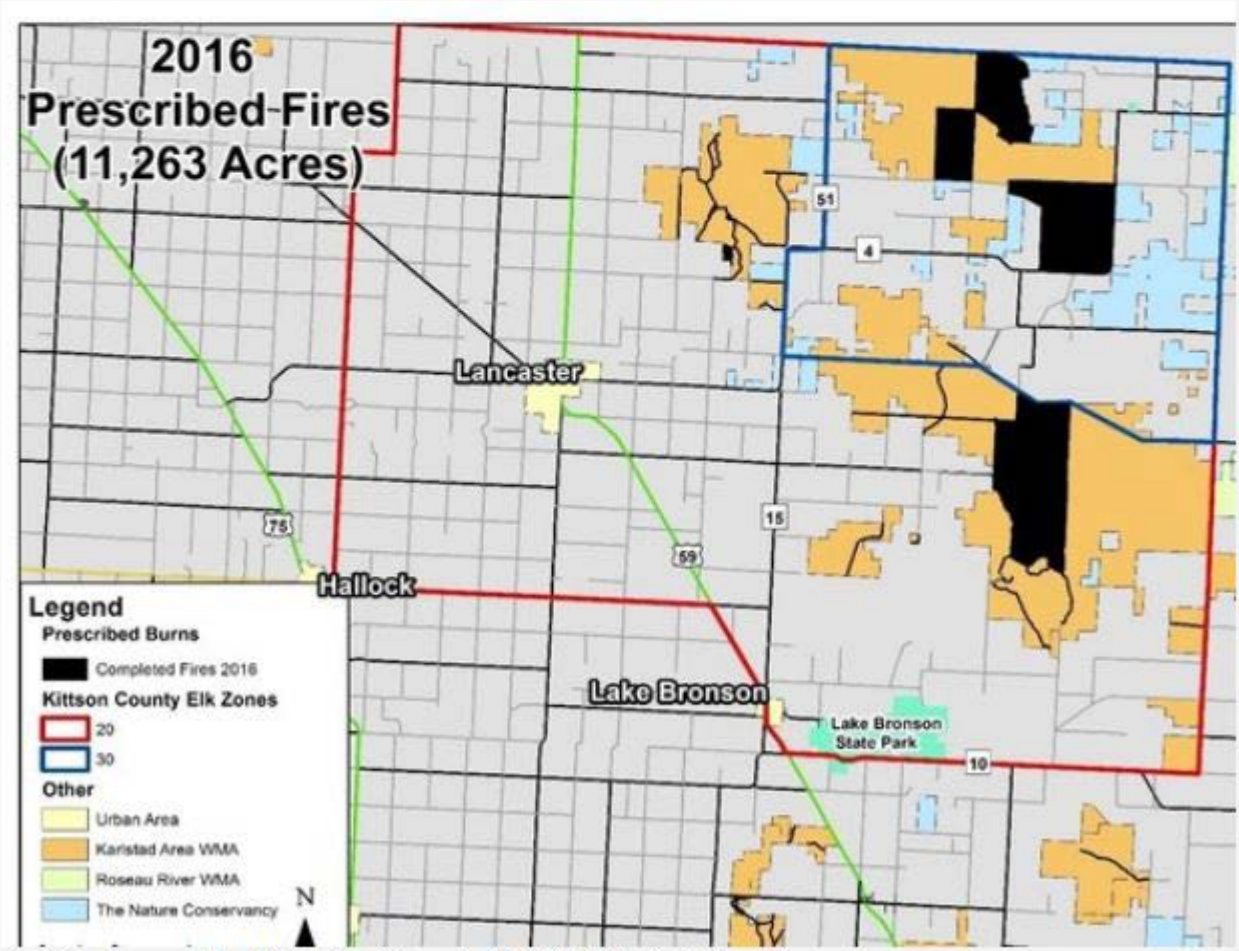
The Minnesota Cooperative Fish & Wildlife Research Unit at the University of Minnesota contacted 3,000 landowners in northwest Minnesota between October 2016 and April 2017 and asked them to complete a survey to better understand their attitudes toward elk and elk management by the Minnesota Department of Natural Resources. Surveys were sent to all 768 private landowners within the core elk range who owned at least one-half acre of land. A larger study area surrounding the core elk range was defined based on the presence of habitat that could potentially hold elk in the future. In this area, a random sample of 2,232 landowners with more than one-half acre and was selected and each sent a survey. A total of 1,175 landowners returned the surveys (41% adjusted response rate). Landowners within the core elk range responded at a higher rate than landowners outside of the elk range (53% vs 37%, respectively). Preliminary results indicate that 64% of landowners within elk range and 67% outside of elk range had positive attitudes toward elk. Overall, 49% of landowners in the core area and 55% of landowners outside the core area that completed the survey desired an increase in the elk population.

DNR Elk Habitat Projects - Karlstad Work Area

Prescribed fires in 2016

In 2016, the DNR Karlstad wildlife office completed nine burns totaling 11,263 acres. Weather cooperated early on in the burn season. Wildlife staff were finally able to conduct a 5,000+ acre burn with the help of aerial ignition from a helicopter, partnering with the Rocky Mountain Elk Foundation (RMEF) to complete. Prescribed fire helps rejuvenate forbs and grasses that elk graze on and reduces woody competition in open meadows and prairies. All prescribed fire was conducted with the help of The Nature Conservancy (TNC). No burns were completed in the fall due to wet conditions.

Planned prescribed burning for the 2017 season includes 15 sites for 15,000+ acres, weather permitting.



Completed prescribed fire locations in the DNR Karlstad work area.

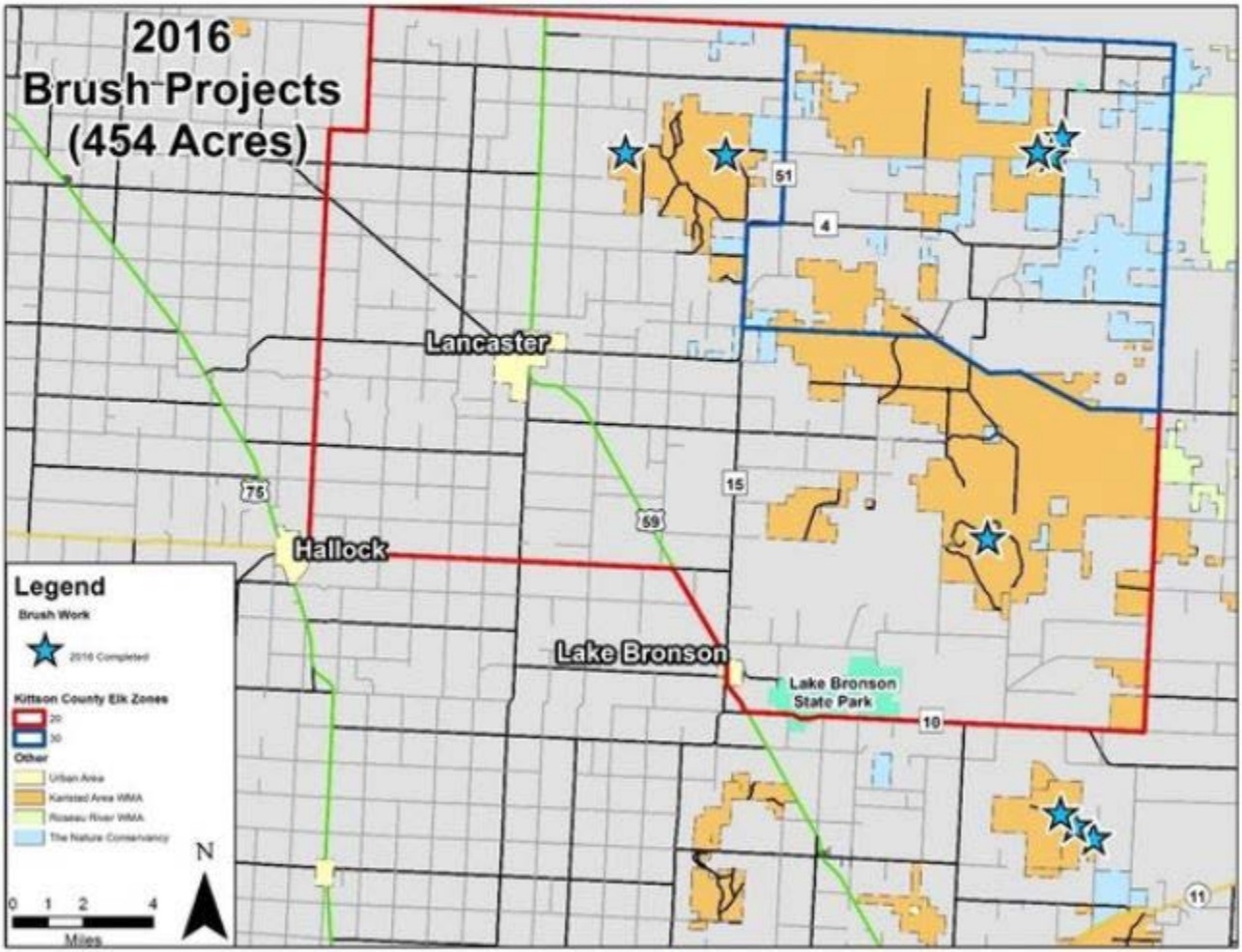
Big Beaches 5,000 plus-acre prescribed fire.

Big Beaches fire from a distance.

Brush mowing

DNR wildlife staff contracted out three brush projects on seven sites totaling 454 acres. DNR partnered on several sites with the Minnesota Deer Hunters Association (MDHA). Brush mowing helps reestablish openings in the aspen parklands. The openings are attractive to a variety of wildlife species, including elk, and can further be maintained with prescribed fire. Unfortunately winter brush projects were not conducted due to the lack of frost in the area.

Planned brush mowing for the 2017 season includes three sites for 400+ acres.



Brush mowing projects in the DNR Karlstad work area.

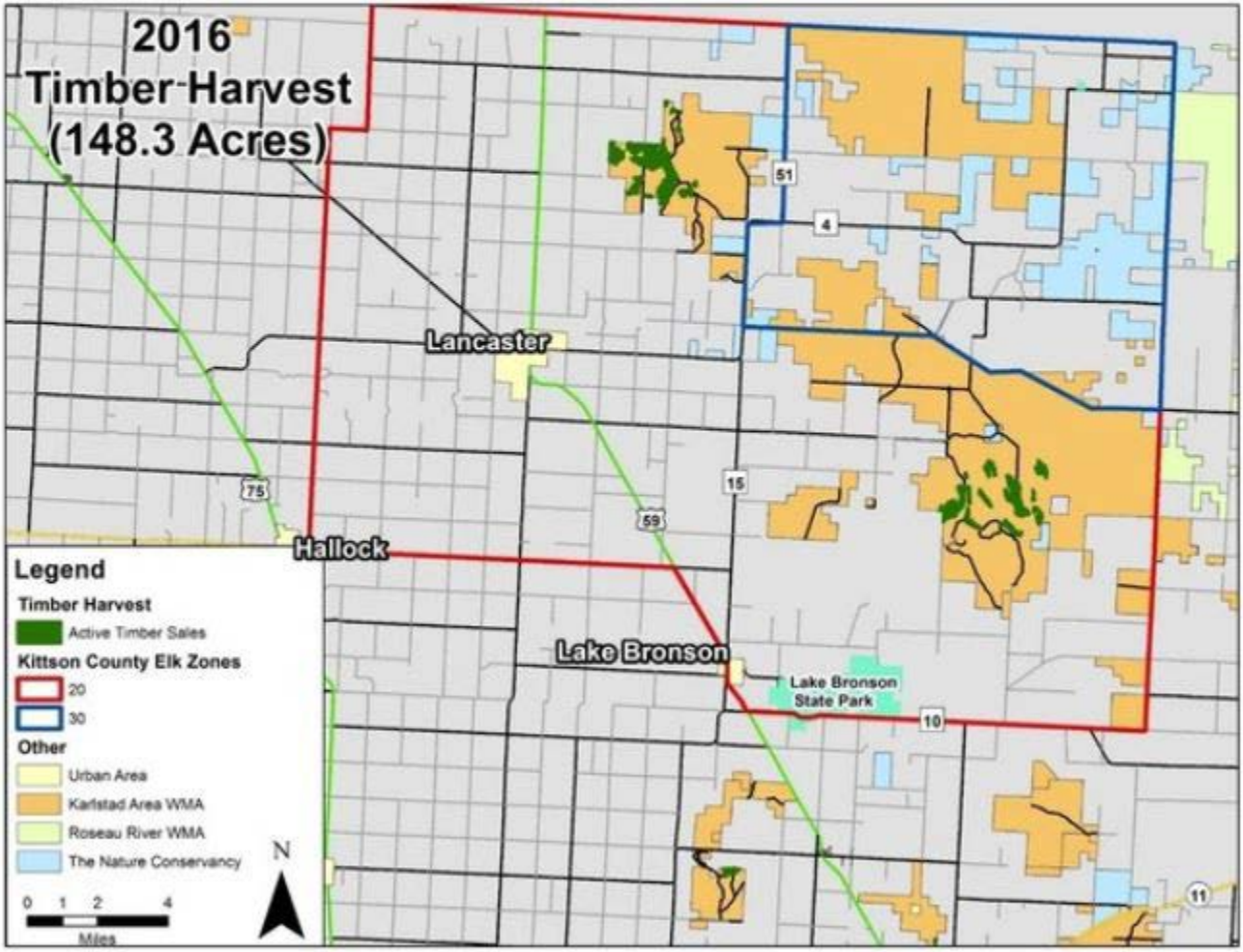
Contractor mowing brush on Caribou WMA.

Brush-mowed site on Beaches Lake WMA.

Logging

Timber (148.3 acres) was harvested in the winter of 2015-2016. Unfortunately logging did not occur this past winter due to the lack of frost in the area. Logging reestablishes openings in the aspen parklands that helps rejuvenate new growth by allowing light to reach the forest floor. Elk find these logged areas very attractive.

Planned acres to be logged in 2017 depends on the weather (frost) conditions. There are 400+ acres of active timber sales that could potentially be logged.



Timber harvest locations in the DNR Karlstad work area.

DNR Food Plot Program

Wildlife Management Area Food Plots - 2016

TOTAL: 261 acres (27 fields)

Karlstad WMA Food Plots: 2016

The Karlstad Area Office had 120 acres of food plots on Skull Lake and Beaches Lake WMAs. They consisted of soybeans, forage mixes, ryegrass, oats and alfalfa.

Crop	Fields	Acres
Soybeans	1	30
Forage mix	7	59
Ryegrass	1	9
Oats	1	5
Alfalfa	1	17
TOTAL	11	120

Thief Lake WMA Food Plots: 2016

The Thief Lake Office had 141 acres of food plots on WMA lands. They consisted of sunflowers, forge mixes and clover.

Crop	Fields	Acres
Sunflowers	3	36
Forage mix	4	40.5
Clover – hayed	6	54
Fallow	3	10.5
TOTAL	16	141

DNR Private Lands Food Plot Program

TOTAL: 195.75 acres (56 fields)

Karlstad Private Lands Food Plots: 2016

The Karlstad Area Office had 191.25 acres of food plots on private lands. They consisted of soybeans, corn, oats, rye, alfalfa and clover.

Crop	Fields	Acres
Soybeans	23	51.5
Corn	17	92
Oats	7	35
Rye	2	6
Alfalfa	1	1
Clover	5	4.75
TOTAL	55	190.25

Thief Lake Private Lands Food Plots: 2016

The Thief Lake Office had 5.5 acres of food plots on private land. It consisted of clover.

Crop	Fields	Acres
Clover	1	5.5
TOTAL	1	5.5

DNR Wildlife Management Area Food Plot Program - 2017

Planned plots include 29 field for 296+ acres (both in the Thief Lake and Karlstad work areas).

Karlstad WMA Planned Food Plots: 2017

Crop	Fields	Acres
Soybeans	2	49
Forage mix	6	49
Alfalfa	1	17
Prairie clover	1	5
Fallow	3	40
TOTAL	13	160

Thief Lake WMA Planned Food Plots: 2017

Crop	Fields	Acres
Sunflowers	3	31
Oats	4	16.5
Winter rye	2	23
Forage mix	3	36.5
Clover – hayed	4	29
TOTAL	16	136

*Private land food plots planned for 2017 include 60+ fields for 300+ acres

DNR Wildlife Damage Management Program

Persons that are receiving elk damage can enter into a Cooperative Damage Management Agreement (CDMA) with their local DNR Wildlife Office. DNR staff will work with the individuals on a damage management plan, which could involve abatement materials. These materials could include a permanent barrier fence or portable panels.

As authorized by Minnesota Statute **97A.028**:

A landowner or tenant may receive emergency deterrent materials that may not exceed a cumulative total of $5,000 in value for controlling destruction of specialty crops by wild animals, $1,500 in value for controlling destruction of stored forage crops other than silage or grain, $3,000 for stored silage or grain, damaged by wild animals, and $1,000 in value for controlling destruction of agricultural crops by flightless Canada geese.

The value of deterrent materials provided to a person to help protect stored forage crops, agricultural crops, or pasture from damage by elk may not exceed $5,000. A landowner or tenant may borrow emergency deterrent materials on a one-time basis for reducing destruction of agricultural crops by wild animals. The grower agrees to assume full responsibility for all additional costs for materials, maintenance, installation and improvements necessary to fully implement this agreement, and to resolve future wildlife damage problems. The DNR wildlife manager agrees to provide ongoing technical assistance at the grower's request.

Provisions:

Damage must be verified by DNR wildlife staff. http://www.dnr.state.mn.us/contact/locator.html

The agricultural producer must be commercial with sales of agricultural products in excess of $1,000 per year.

Permanent barrier fence: 10 ft. tall, high tensile woven wire fencing.

Portable barrier fence: 8 ft. x 31 ft. freestanding panels (new design).

Wildlife-friendly Fencing Options

Simple Practice Helps Wildlife with Fence Crossings

One conservation enhancement that the USDA Natural Resources Conservation Service (NRCS) has promoted via the Conservation Stewardship Program is Wildlife Friendly Fencing. This technique uses pieces of vinyl to create a visual pattern on a fence in areas where wildlife tend to cross.

The idea of this type of fence-marking originated in the western states as a means of reducing mortality of sharp-tailed grouse and prairie chickens. The material used is vinyl trim that is normally used for building siding projects. The vinyl pieces are placed in a pattern on the individual wires between the posts. The material comes in 10 ft. lengths and can be easily cut with a heavy shears or chop saw. To install, simply clip the individual pieces over the wire. People who have used this enhancement have reported that the fences in known crossing areas are hit less with this system in place.

Here is another wildlife-friendly fencing option design that allows easy passage of larger game through the fence:

- The top wire or rail should be smooth and 42 in. or less from the ground.
- At least 12 in. should be left between the two top wires.
- The bottom post or wire should be smooth and at least 16 in. off the ground.
- Fence design should be varied, with some lower sections included to allow for easy crossings at some areas.
- For sections of fence that receive added wildlife traffic a high-visibility wire or flagging should be used to provide visual markers for animals.
- Lower the top strand of barbed wire and raise the bottom wire.
- Modify sections of fence so a top rail or wire can be temporarily lowered at deer, elk, and moose trails during seasonal migrations, and a bottom wire can be raised so calves or fawns can slip underneath.
- Temporarily lay down sections of fence during seasonal elk and deer migration when livestock aren't present.

To learn more about wildlife-friendly fencing, visit:

https://cpw.state.co.us/Documents/LandWater/PrivateLandPrograms/FencingWithWildlifeInMind.pdf

http://fwp.mt.gov/mtoutdoors/HTML/articles/2009/fencing.htm

Vinyl siding trim pieces create a visual pattern on a fence in areas where wildlife tend to cross.

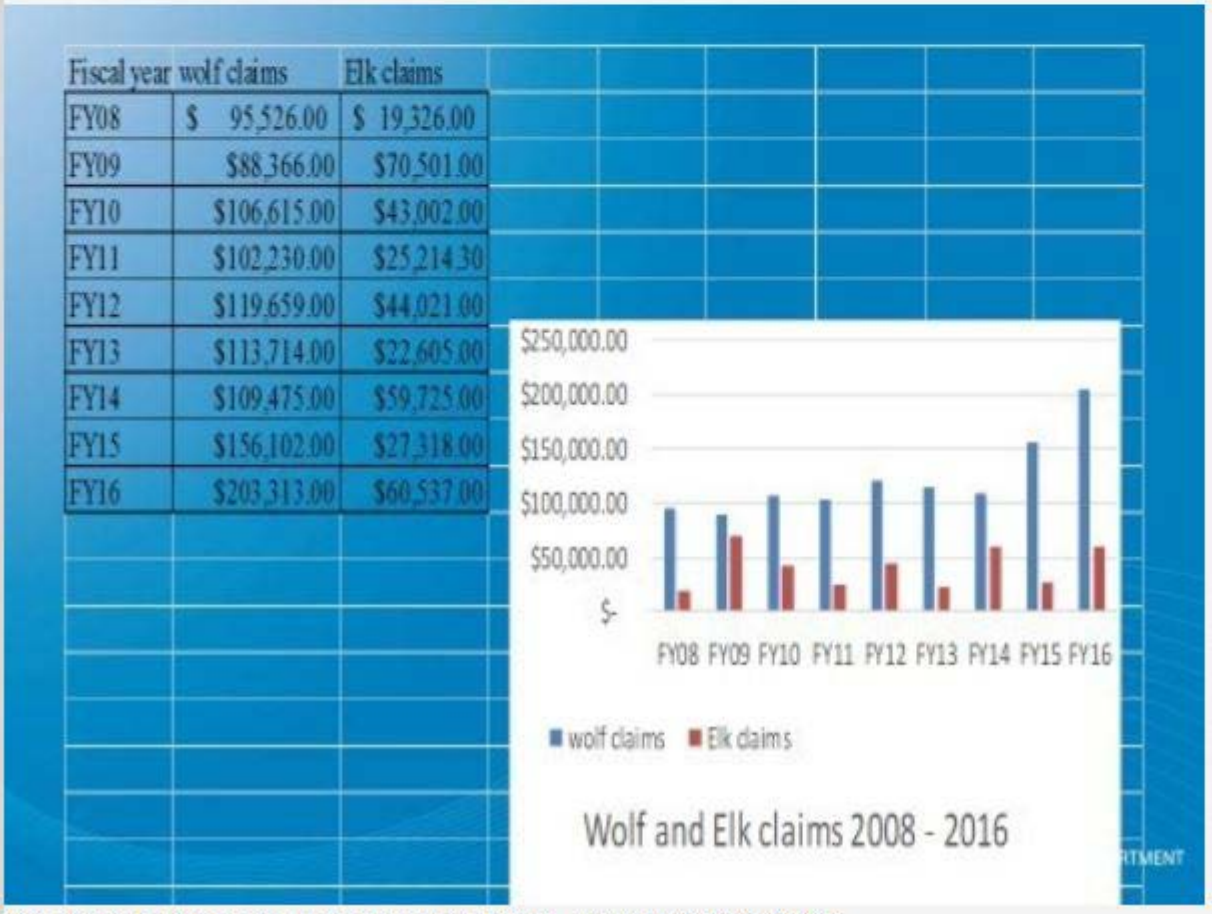
Minnesota Department of Agriculture Update

Elk Damage Compensation Program

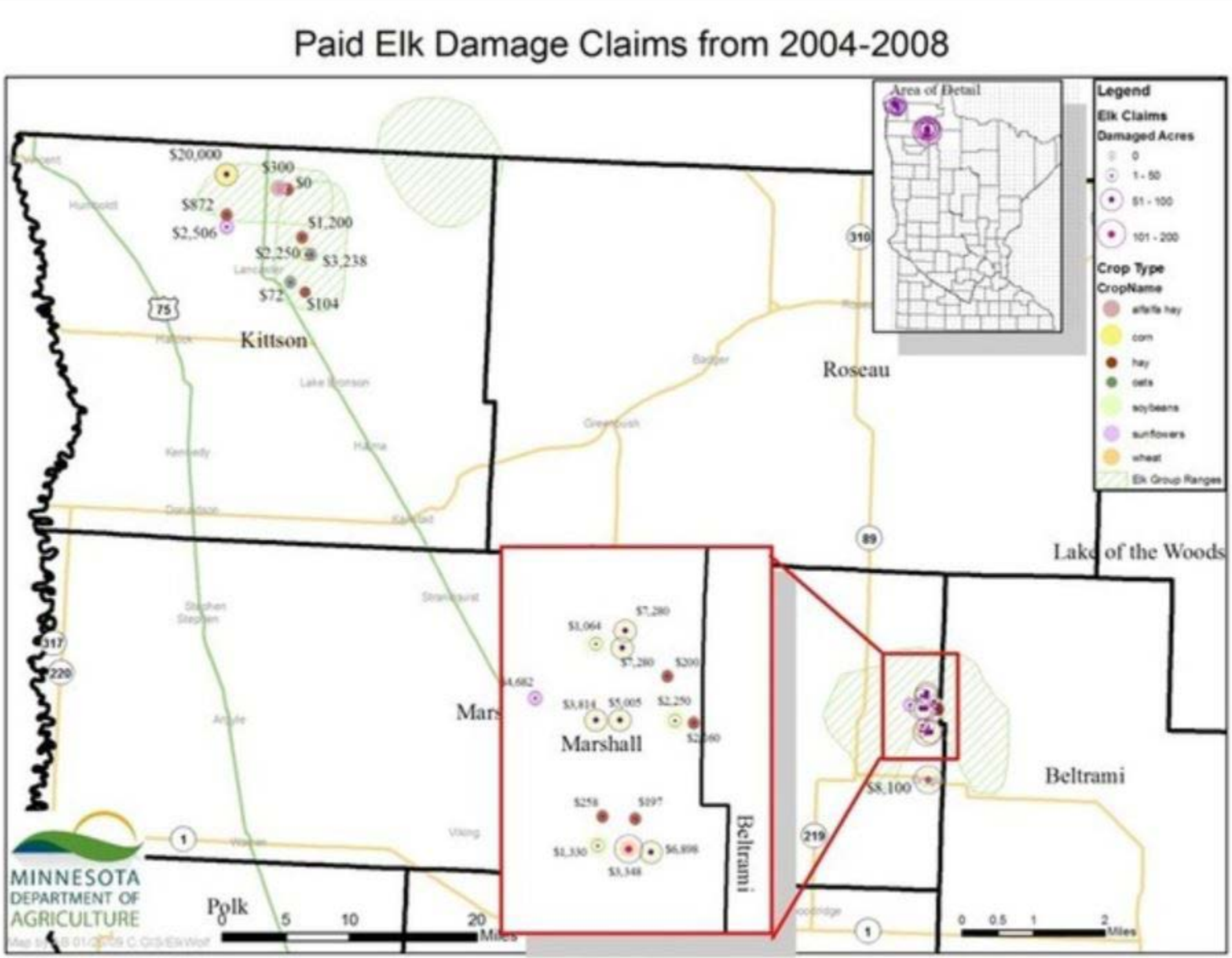
At the Kittson Elk Work Group meeting held March 15 at Lake Bronson State Park, Blane White, MN Department of Agriculture (MDA), gave a presentation on the MDA Elk Damage Compensation Program. The following are highlights from the presentation:

- The Elk Damage Compensation Program was patterned after the Wolf Compensation Program and began in 1987 when the Grygla herd was the only wild elk herd in Minnesota.
- Today, there are three herds – the Grygla herd and two in Kittson County (two sub-herds exist in the Lancaster herd).
- Currently, nearly all elk depredation claims are from the Lancaster and Lake Bronson areas.
- In 2011, fence damage was added to the program.
- Damage can exceed the payment cap ($20,000), and beyond the cap is not reimbursable.

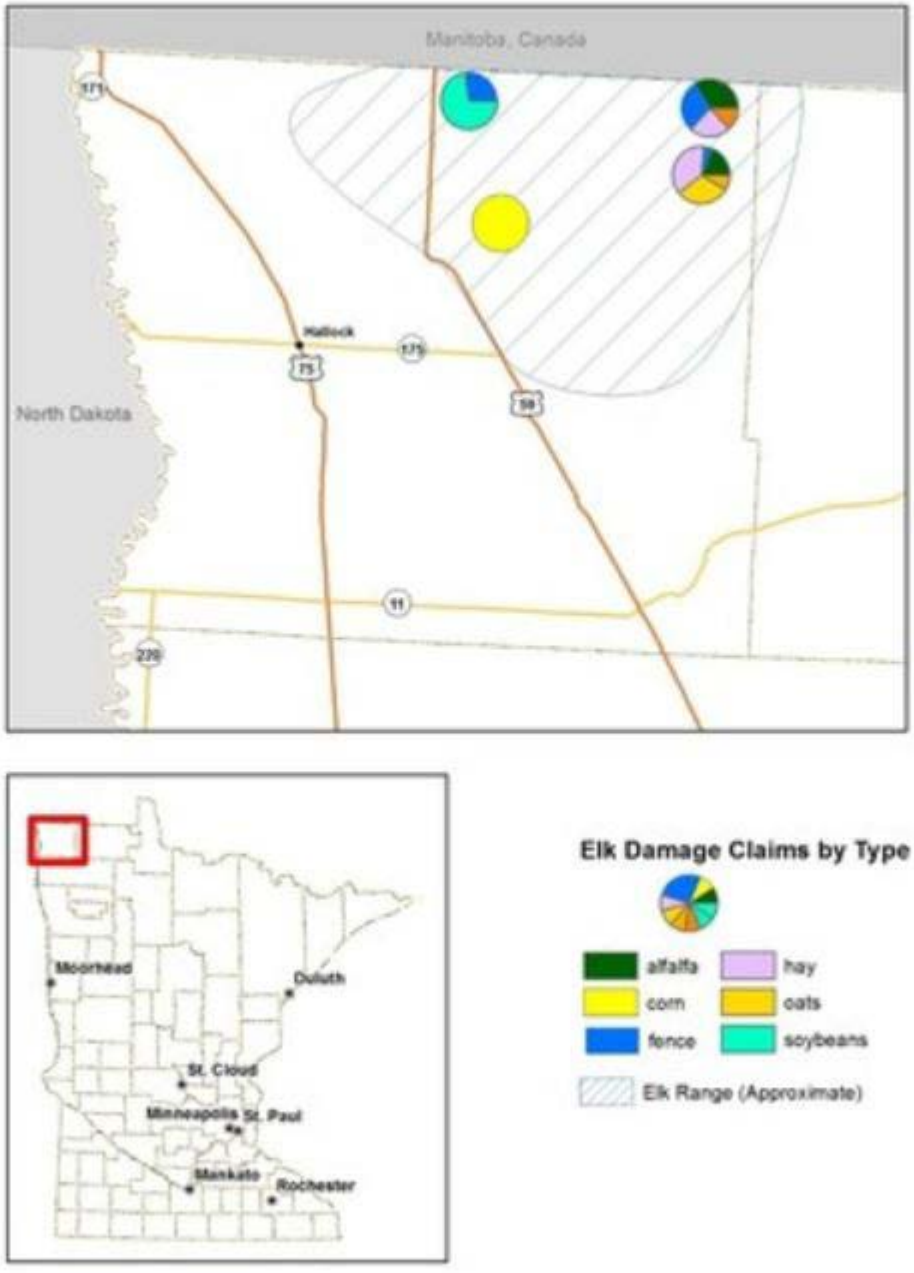
Blane White can be reached at blane.white@state,mn.us, 651-201-6578.
More information, including the elk damage payments report for FY 2015-16, can be found by searching for elk on the MN MDA website: mda.state.mn.us.



Wolf and elk damage compensation claims 2008-2016



Paid elk damage claims 2004-2008



Elk damage claim by type

Kittson and Grygla Elk Work Groups Update

The Kittson Elk Work Group had a meeting on March 15, 2017. The Grygla meeting was March 2. Both groups had presentations by MNDNR staff on elk aerial surveys, collaring research projects, hunts, range habitat work and elk management plan updates. The Minnesota Department of Agriculture gave a presentation on depredation payments at the Kittson meeting. Elk Work Group meetings will be held annually.

Updated Elk Management Plan

In the final stages of revising the Strategic Management Plan for Elk (2016-2020), legislation passed and was signed into law in 2016 that directed the DNR to "not manage an elk herd in Kittson, Roseau, Marshall, or Beltrami counties* in a manner that would increase the size of the herd, including adoption or implementation of an elk management plan designed to increase an elk herd, unless the commissioner of agriculture verifies that crop and fence damages paid under section 3.7371 and attributed to the herd have not increased for at least two years."

In response, DNR adopted a 4-year interim elk management plan in 2016 that will maintain a status quo in elk numbers at the current population estimates. This will include management of the Grygla herd to the 2009 goal range of 30 to 38 elk. This herd is currently below that goal and in "recovery" due to low numbers.

DNR will work to establish baseline data on crop and fence damage to meet further requirements of the legislation that states before considering an increase in elk populations "the commissioner of agriculture verifies that crop and fence damages … have not increased for at least two years."

DNR will work with producers to provide more opportunities for input on food plot locations on public and private lands, habitat management, material assistance for prevention of elk damage and shooting permits for acute damage situations.

The elk advisory groups will continue to meet to discuss information regarding elk research, problems, and progress on elk damage efforts. The groups will continue to function as a way to keep key stake holders advised.

In 2019, DNR will look again at a new plan.

*Amended in 2017 legislature to pertain to only the four counties listed.

Northeast Minnesota Elk Restoration Feasibility Project Update

The University of Minnesota in partnership with the Fond du Lac Band of Lake Superior Chippewa and the Rocky Mountain Elk Foundation has started fieldwork to investigate the feasibility of restoring elk to parts of northeastern Minnesota. The goal is to determine the amount and quality of suitable elk habitat and levels of public support for elk in southern St. Louis and northern Pine and Carlton counties. With input from county and tribal land managers and area wildlife staff, three areas covering parts of each county were selected for further study. Areas with abundant forest land managed for timber harvest and abundant public land were a priority, and as much as possible, areas where agriculture is present was avoided. Major funding for this effort has been provided by the Environment and Natural Resources Trust Fund.

A crew of four started in mid-June visiting selected cover types in the three study areas. Their work involves a lot of plant identification and measuring to determine what species are growing in each plot. In addition, the crew is clipping, drying and weighing vegetation in an effort to quantify the amount of available elk forage. Ultimately this data will help show what cover types have the most elk forage and how much forage is present in each of the study areas. This information, along with other data such as public and private ownership and land use patterns, will help determine the quality of potential elk habitat in the study areas.

At the same time, a public opinion survey is being drafted with the goal of getting it in the mail in mid-September. The goal is to send out 7500 copies stratified by landowners and the general public. A final report back to the Legislative-Citizen Commission on Minnesota Resources is due in June, 2019. The plan for the final report is to overlay the habitat and public opinion data to determine which of the three study areas have enough good habitat and public support to support moving forward with

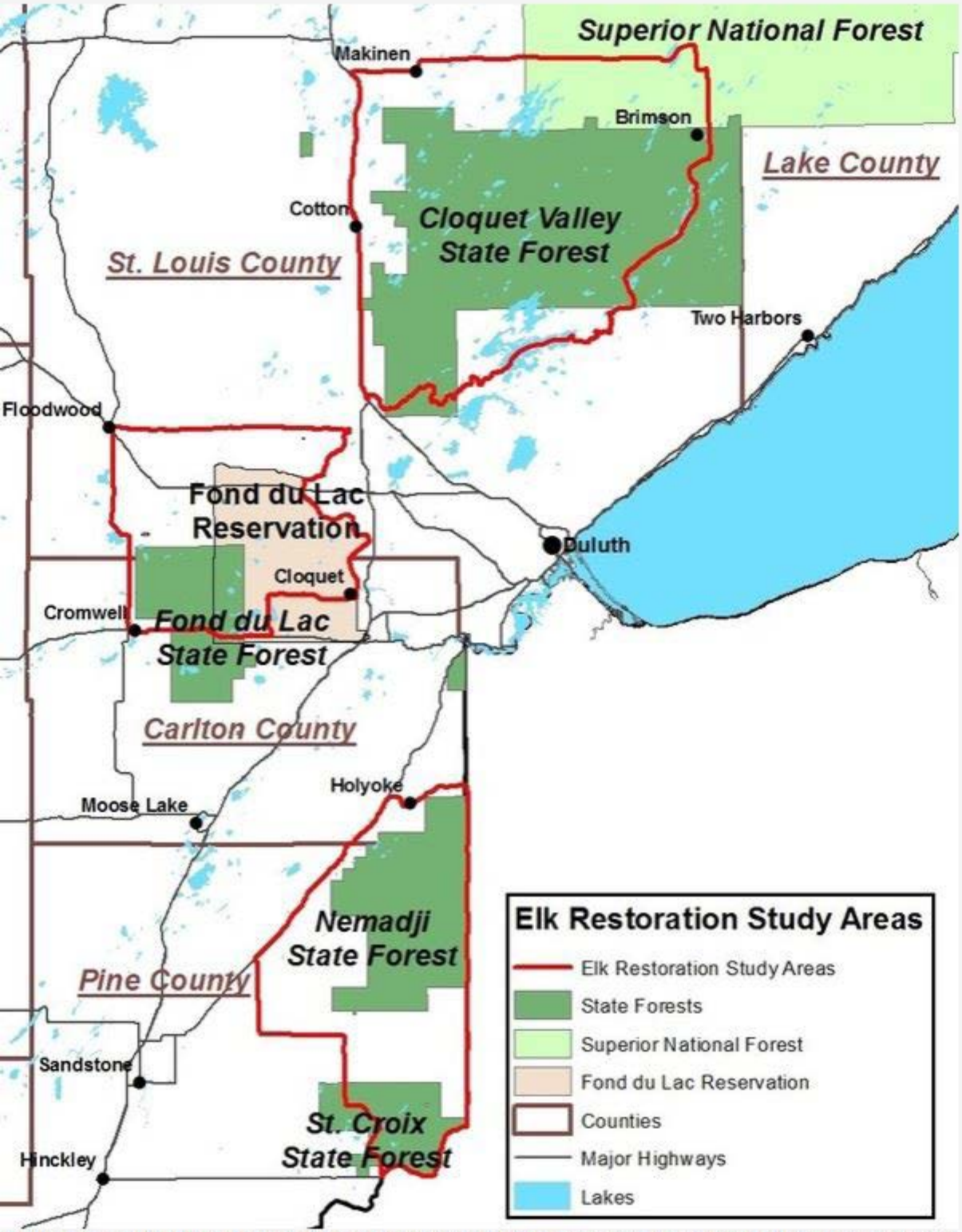
the next steps in the process of bringing elk back to northeast Minnesota.

For more information please visit the website at: http://elk.umn.edu/ or on Facebook at: https://www.facebook.com/NE.MN.elk/

Mike Schrage

Wildlife Biologist

Fond du Lac Resource Management Division



Three areas selected for further study to determine the amount of potential elk habitat and levels of public support for restoring elk to northeast Minnesota.

Elk Population Survey 2017

Three herds totaling 79 elk were counted in the state's elk range in Kittson, Marshall and Roseau counties. Past surveys recorded 83 elk in 2016 and 131 in the 2015 survey.

The large variability in yearly estimates is due to the continual movement of the Caribou-Vita herd (also known as the Cross Border herd or the International herd) that crosses back and forth across the Minnesota/Manitoba border. The DNR counts elk only on the Minnesota side during its aerial surveys. Depending on the year and day of the survey, elk numbers on the Minnesota side can greatly vary. Spotters counted only one elk this year in Minnesota in the Caribou-Vita herd. Ten animals were counted in 2016 and 79 in 2015.

Only fixed-wing aircraft (Cessna 185) were used to conduct aerial elk surveys for the Lancaster, Caribou-Vita, and Grygla elk herds. The fixed-wing aircraft followed predetermined transects spaced 1/5 mile apart at an altitude of 300 to 400 feet and speeds of 80-85 mph. The pilot and two observers recorded elk location(s) and documented the sex and size class of bulls.

The surveys started on February 1st and ended on February 21st, 2017. Snow depths and conditions were much better than the past two years for the Lancaster and Grygla survey blocks. Snow depths ranged from 10 to 15 inches throughout the elk range. Weather conditions were average for this time of the year with temperatures ranging from a low of -16°F to a high of 32°F and mostly sunny days. There were no major delays due to precipitation, wind, or temperatures.

Lancaster—Water Tower and Percy WMA herds

This survey started on February 1st and was completed on February 3rd, 2017. The area surveyed was the same 167 mi2 area as last year and took 16.1 hours for the fixed-wing to complete (wheels up to wheels down). The fixed-wing recorded elk at 6 separate locations within the survey boundary. Total elk recorded was 61 and included: 45 Antlerless (cows/calves) and 16 bulls (5 mature, 9 raghorn, and 2 spike bulls. The Water Tower group had 30 antlerless elk with a majority of the Lancaster bulls located less than five miles to the east. We located the Percy WMA antlerless herd (15 animals) on the western edge of Beaches Lake WMA, just east of the Percy WMA this year. Four raghorn bulls were located within a mile of the antlerless herd.

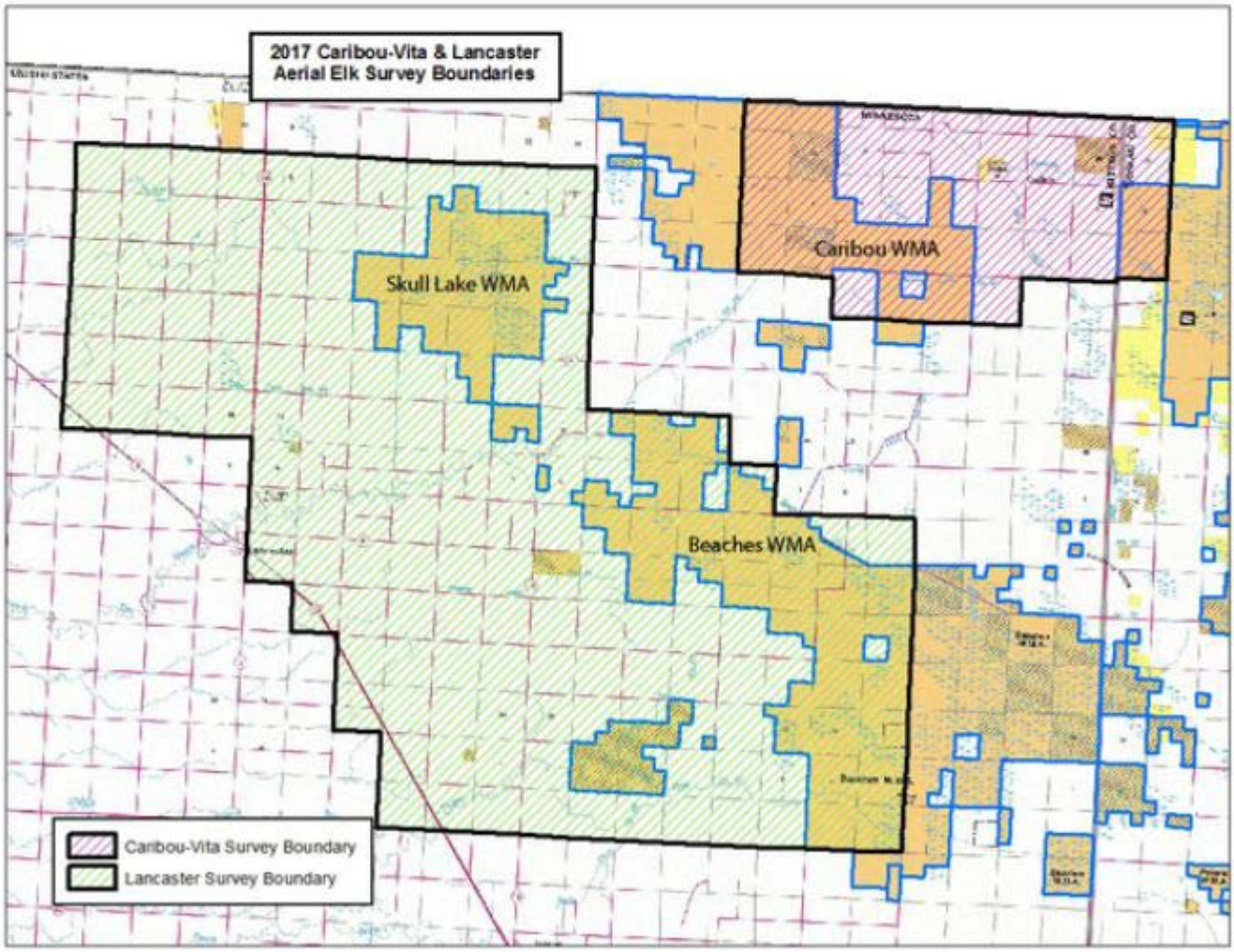
Grygla herd

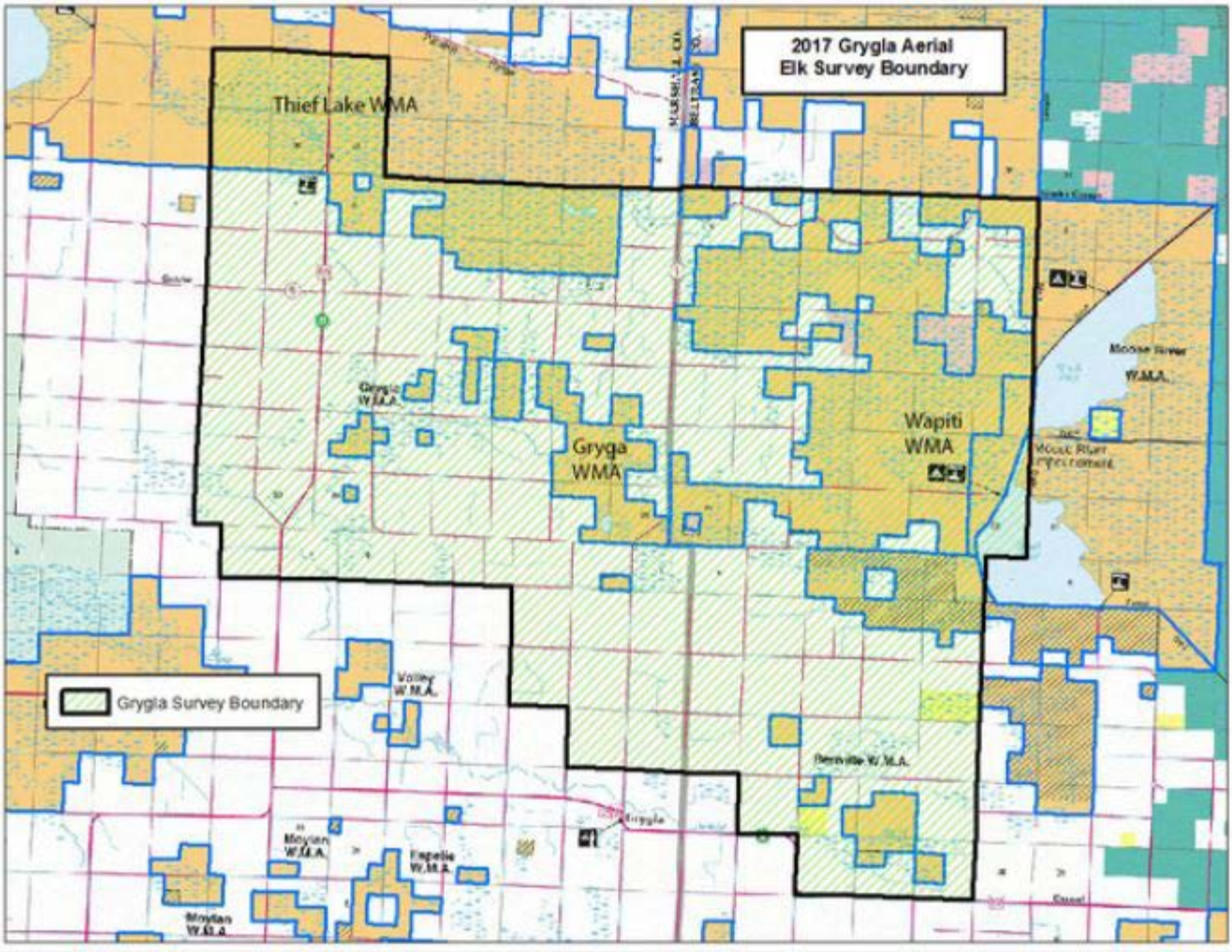
This survey started on February 8th and was completed on February 9th, 2017. The area surveyed was the same 133 mi2 area as last year and took 10.6 hours for the fixed-wing to complete. The entire survey area received a fresh snowfall the day before and made for excellent survey conditions. The fixed-wing recorded elk at 3 separate locations within the survey boundary. Total elk observed was 17 and included: 7 antlerless (cows/calves) and 10 bulls (4 mature, 2 raghorn, and 4 spike bulls).

Caribou-Vita (a.k.a. border herd)

This survey started and was completed on February 21st, 2017. The area surveyed was the same 35.5 mi2 area as last year and took 3.4 hours for the fixed-wing to complete. The fixed-wing only recorded a single elk (1 raghorn bull) within survey boundary. There were a lot of elk tracks near the Canadian border and we assumed a majority of this herd was north of the Minnesota border. This was later confirmed when we received results from the Manitoba aerial elk survey.

The MN DNR and Manitoba Wildlife staff successfully coordinated a joint aerial elk survey that was completed February 21st, 2017 for the survey areas close to the US/Canadian border. Manitoba completed the survey for the Vita area the next day on February 22nd, 2017. Manitoba Wildlife staff used a Jet Ranger helicopter to fly north/south transects within predetermined survey blocks that covered a broad area along the border. They recorded 108 elk near the US/Canadian border and another 55 elk slightly north of Vita. Table 2 details the age/sex breakdown for these two populations.





2016 Elk Hunting Season

The 2016 elk hunts in northwestern Minnesota wrapped up with another successful season in the Kittson County area with five of seven hunters harvesting bulls.

Two zones were open to hunting and all permits were bull only. In the Caribou-Vita herd (Zone 30), which migrates between northern Kittson County and Manitoba, two permits were issued and both hunters successfully harvested 6x6 bulls, meaning each bull had six points on each side. One bull was harvested on private land and one on the Caribou Wildlife Management Area.

In the Kittson-Central herd (Zone 20), located near Lancaster in Kittson County, three of five permits were filled with 5x6, 6x6 and 6x7 bulls, all on private land.

The elk season was timed to coincide with the elk rut (breeding season) and elk were actively bugling. This gave hunters the opportunity to locate the bulls by listening for their bugles, and test their bugling (calling) and stalking skills.

Once again, a hunting season was not offered in the Grygla area where herd numbers remain below the population goal of 30-38 elk. The Grygla herd survey this past winter recorded 17 elk. Previous estimates are 21 elk in 2016, 18 in 2015, 20 in 2014 and 28 in 2013. This herd hasn't been hunted since 2012.

DNR is grateful to local landowners for their support.

Hunter Profile - Jeff Rager, Lakeville, MN

Jeff took this 5X6 bull elk (below) on Sept. 10, 2016 on private land in Zone 20. He made a long and accurate shot at 426 yards.

Jeff said "It was a privilege and a wonderful time hunting up there and I'll never forget it. I feel truly blessed."

He also remarked that he enjoyed meeting local farmers and ranchers as he scouted for locations to hunt. He said that everyone he met was "very nice to visit with and all were very helpful."

Jeff was also one of the hunters that carried a GPS unit to assist DNR research biologists in understanding how hunter pressure affects elk movement. Jeff commented that he later learned through the results of the study that there were instances when elk were nearby, but he had no idea that elk were in the immediate area. It goes to show that elk are good at making themselves invisible!

Hunter Profile - Elroy Aune, Gatzke, MN

Elroy took his 6x6 bull elk (below) on Sept. 15, 2016 on Caribou WMA. Elroy said the animal 640 pounds of meat! He first heard the bull bugle from a half a mile away, but the bull would come to his bugle and cow calls. Elroy had to stalk the giant herd bull, eventually sneaking to just 35 yards before he was able to shoot.

2017 Elk Hunting Season

Thirteen licenses are offered for two concurrent elk seasons in Kittson County's central (zone 20) and northeast (zone 30) zones. The Grygla area elk zone will not be open to hunting in 2017 because that area's elk population is below the population goal level outlined in the 2-year interim elk management plan.

The first 2017 elk season runs from Saturday, Sept. 9, to Sunday, Sept. 17, in both open elk hunt zones. Three bulls-only licenses and one antlerless-only elk license will be available in the Kittson County central zone (zone 20) and two bulls-only licenses will be available in the Kittson County northeast zone (zone 30).

The second 2017 elk season runs from Saturday, Oct. 7, to Sunday, Oct. 15. Three bulls-only licenses and one antlerless-only elk license will be available in the Kittson County central zone (zone 20) and three bulls-only licenses will be available in the Kittson County northeast zone (zone 30) for the second season.

DEPARTMENT OF NATURAL RESOURCES

For more information on elk and elk management in northwestern Minnesota, contact:

Ruth Anne Franke, DNR Karlstad area wildlife supervisor,
218-436-2427 ext. 222.

Jason Wollin, DNR Karlstad assistant area wildlife manager,
218-436-2427 ext. 224.

Joel Huener, Thief Lake WMA wildlife supervisor,
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