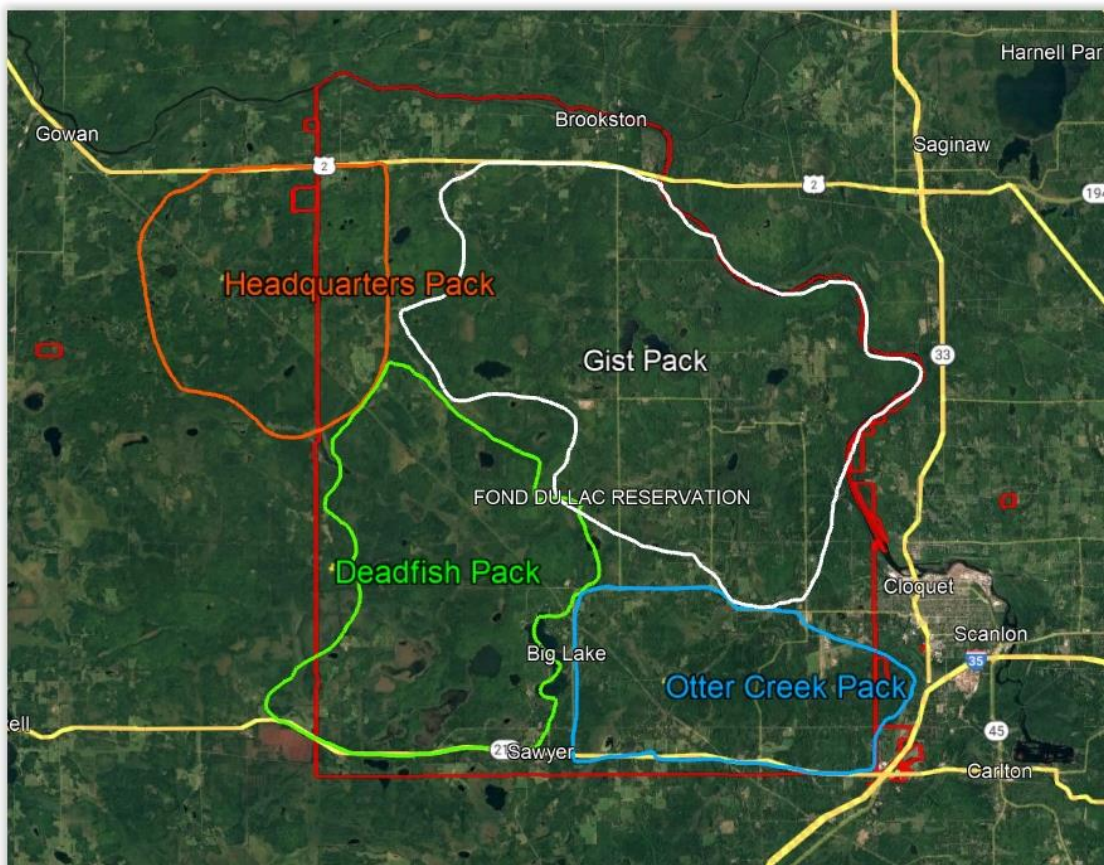


Hi Folks,

Below is an update on the Fond du Lac Resource Management Division's ongoing ma'iingan (wolf) study. The Resource Management Division uses information from collared wolves on and around the Reservation to annually estimate how many wolves are using the Reservation, the size and locations of their territories, what happens to them and how things are changing over time. In turn, this information can help guide the Division when determining how projects and activities will impact wolves. In addition to our own work, the Minnesota DNR uses pack and territory size data from collared wolves at FDL and elsewhere around the state to annually estimate statewide wolf populations.

The tracking collars worn by the adult wolves in our study report in at intervals via the Iridium satellite network to my computer with an update of each animal's recent Global Positioning System (GPS) locations. As a backup, each collar also emits a unique Very High Frequency (VHF) radio signal which we can track from an airplane or on the ground if necessary. The batteries in these collars should last about 2.5 to 3 years. Before the batteries are exhausted, the collar is programmed to break apart and drop off the wolf so we can recover it, and the wolf isn't permanently collared. Between the GPS and VHF locations, we're able to determine movements and locations of each individual animal and once we have enough locations, their home territories and locations of things like their dens. If an animal stops moving long enough, I get a text alert on my cellphone and an email advising me of a possible mortality to investigate.

Coming into this past spring we were actively monitoring four different wolf packs whose territories overlapped the FDL Reservation as shown below.



We had the breeding female (or alpha) and one of her daughters collared in the Deadfish Pack, the breeding female in the Headquarters Pack and the breeding male in the Otter Creek Pack. We had a large male collared in the Gist Pack, FDL001, but he evidently wasn't the top dog and left the Gist Pack in March. After wandering from Floodwood to Moose Lake to Superior then back to Floodwood then up the north shore to the McQuade Boat Harbor, then back to Pike Lake, he went up towards Meadowlands in June and seems to have established himself there. Last week he was spotted in the company of at least 1 and maybe 2 other wolves. He's covering a territory of about 85mi<sup>2</sup> west of Meadowlands between the St. Louis River and Hwy 73. However, there's a big peat bog in the middle of his territory that he's rarely located on. The amount of country he regularly uses is probably closer to 40mi<sup>2</sup>.

The Otter Creek Pack took a beating this past spring. In early May the collared wolf, 1339 - the pack's breeding male, got tangled up in a cattle depredation complaint outside his normal territory a bit south of Sawyer. I don't think he was responsible for the killing, but he showed up at the wrong place and time and was trapped and shot. The next day we located the pack's den on the Cloquet Forestry Center and found 8 recently dead pups in it. The pups were only about 2 weeks old and as best the University's Vet Lab could determine, they probably starved to death. We don't know what happened to their mother except that she wasn't killed as part of the same depredation complaint as her mate - 1339. She may have been hit by a car, killed illegally or met some other fate. Our trail cameras showed at least 3 and maybe 4 of her surviving daughters from 2020 and 2021 were still around, and they continued to check on the den for several days after we were there. However, the pups would have been much too young to survive without their mother's milk. Research from other studies indicates the loss of even one of the breeding pair often leads to the dissolution of a wolf pack, and I thought for sure the lost of both of the breeding wolves so close together would lead to the breakdown of the pack. The surviving Otter Creek daughters proved resilient though and stayed together. By the middle of June our trail cameras revealed one of them had recruited (seduced?) a new male to remain in their territory. We were unable to catch any of them last summer, but at least 3 wolves still remained in the area last month. The gray wolf below on the right is the pack's new alpha male. I believe the black wolf is one of the surviving daughters from the pack's 2020 litter, and I suspect she's the new Otter Creek alpha female. The gray wolf on the left is her younger sister born in 2021 - FDL002. If you can zoom in, you might be able to make out one of her pink eartags in the photo. Yes, it's an albino deer carcass they're feeding on. She was hit by a car near Moose Lake, and we were unable to salvage the hide in time. We took the head for CWD testing (negative) and offered the rest to the Otter Creek Pack. They seemed to appreciate it.



Last February we recaptured 1333 – the breeding female in the Deadfish Pack - and caught and collared one of her 10-month old daughters - FDL004 – as well. Several times during the rest of the winter, sometimes together sometimes not, they made forays out of their normal territory about 7 miles to the southeast and across I35. They would hang around in the same patch of woods there for a few days before returning back across I35 to their home territory. I never could learn what the attraction there might have been, but I assume it was probably venison related. 1333 had been on the air for the previous 2 winters, and she hadn't ever made a similar movement before like that.

On or shortly before April 22<sup>nd</sup> 1333 clearly started a den a bit south of 1<sup>st</sup> Bridge and tended it faithfully for at least 2 weeks. FDL004, her daughter, tended to it as well. On May 9 both wolves abandoned the area. 1333 came back 3 days later, but then left again after a short time. She never showed any evidence after that that she still had pups to care for. We weren't ever able to learn how many pups she'd had or what happened to them; however, by June 1<sup>st</sup> it was clear from the locations of both 1333 and FDL004 that they had significantly shifted their territory and their former den site was no longer in it. My best speculation is the Deadfish Pack got squeezed out of much of their former territory by a neighboring pack to the west. If so, it's possible these neighbors may have killed their pups. Going into last spring the Deadfish Pack was composed of 4 adult wolves, and only one or at most two, were adult males. Other research indicates the outcome of hostilities between wolf packs isn't just determined by the sheer numbers of wolves on each side, but also the number of adult wolves and the number of adult male wolves each side brings to the fight.

FDL004 remained with her mother in their new and smaller territory until at least the end of June. Then she managed to slip out of her collar, and we haven't had any evidence since then if she's still around or not. Her mother was shot and killed in August by a rural homeowner who felt she posed a threat to the children playing outside. State and federal conservation officers investigated and agreed the shooting was legal. X-rays at the local veterinarian showed 1333 had developed arthritis and had an old fracture in her left hind leg. It's possible he felt, she'd been hit by a vehicle as a young wolf. If that was the case, I'm pretty sure it didn't happen during the 2 years she'd been part of this study, and she had already established herself as the pack's breeding female when we caught her in February, 2020. Tough old girl. There are still wolves using the Deadfish Pack's territory, but which pack they belong to I don't know at this time.

1331 is the breeding female in the Headquarters Pack whom we originally caught back in September, 2020. She established a den on April 21<sup>st</sup> but like 1333 in the Deadfish Pack, she abandoned the site after about 3 weeks and didn't return or show any further evidence she still had pups to care for. We investigated, but couldn't determine what might have happened to the pups. She's still on the air, and still maintains the same, pretty consistent 26mi<sup>2</sup> territory roughly between the Johnson Rd. and the Brandon Rd on the south side of Hwy 2. In September we caught and collared one of her 2021 pups, a 65lb male who's now identified as FDL012. He still sticking with the Headquarters Pack, and their locations indicate most of the time he and his mother are traveling together.

Unlike the other 3 packs we were monitoring last spring, the Gist Pack seems to have successfully raised pups in 2022. In August we captured one of the pack's 2021 pups, a 67lb male now identified as FDL024. He was faithfully helping to raise this year's pups and in the following weeks we caught 3 of them ranging in size from 30-34lbs in the same area near the Lund Rd. The pups were too small to wear our adult size collars, but they all got eartags and microchips in case we ever see them again. In

October, a landowner near the Marshall Rd. got a photograph of FDL024 together with 10 other Gist Pack wolves. After FDL001's departure in March, I'm pretty confident there were only 4 wolves remaining in the Gist Pack. If all 4 of these adult wolves were still present last October, then the Gist Pack managed to raise at least 7 pups this past year. In November, FDL024 wandered out of his home territory, first northeast up to Grand Lake and then south of Sawyer. Both times he came back to Gist Pack territory, but he left again, and since mid-December he's been hanging out on the north and east sides of Cloquet. He spent the days during our two December snowstorms hold up in the patch of woods on the east side of the St. Louis River north of the Scanlon Dam. He's either made new friends or taken a couple of his siblings with him as he was spotted with two other wolves on the 20<sup>th</sup>. Thomson Township with its woodlots, fields and numerous rural homes seems a lot more like coyote habitat than wolf habitat to me, so I'm interested to see if they try to stay there or move on.

Congratulations to local high school student Grace Lavan who's been using some of this wolf data in her science fair and 4H projects. She was awarded a purple ribbon and the DNR Commissioner's Conservation Award at the state fair for her 4H project looking at wolf movements related to the Line 3 pipeline construction. In October she shared her results examining wolf den movements at the International Wolf Symposium.

Our plans this winter include continued monitoring of wolves already on the air, estimating pack sizes and trying to catch a few more animals to add to the study. These past 6 months this project owes a great deal to the help and cooperation of several private landowners, the Cloquet Forestry Center, 1854 Treaty Authority biologist Morgan Swingen, USDA-Wildlife Services biologist John Hart, DNR biologists John Erb and Carolin Humpal, FDL Natural Resource technicians; Terry Perrault, Lance Overland, Matt Weske, John Goodreau, Eli Goodreau, Kip Perrault and Jeff Reynolds and volunteers Grace Lavan, Hannah Kruenegel and Lena Thurmond. Lastly, thank you to everyone who has expressed interest in this project, and for sharing your own wolf observations, photos and stories. They're helpful and always welcomed. Happy New Year everyone.



Mike Schrage  
Wildlife Biologist  
Fond du Lac Resource Management Division  
1720 Big Lake Rd.  
Cloquet, MN 55720  
218-878-7103  
[mikeschrage@fdlrez.com](mailto:mikeschrage@fdlrez.com)