Raccoons *(Procyon Lotor)*

A Comparitive study of Home Range of Males to Females

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Raccoon's are a member of the canine family. Males generally weigh 4-6 kg and females are generally 2-5 kg. Raccoons are generally 60 – 95 cm in length. They are mostly gray with a black facemask and black rings on the tail. Raccoons are nocturnal being active mostly at night. They are highly adaptable and have thrived from interaction with humans. They have great manual dexterity and are at least as smart as cats or dogs. They will eat just about anything from fruit and vegetables to

small animals such as mice or birds if necessary. For this reason raccoons can be found throughout North America. Raccoons are solitary creatures. They give birth to three to five young between early spring and early summer. They live two to three years.

METHODS:

We used live traps baited with peanut butter and crackers to capture the raccoons. Once we captured the raccoons we used Telazol to anesthetize them. We captured six raccoons and attached radio-tracking collars to five of them.

The first raccoon was a female. She was trapped south of the boathouse at 6:30am on May 28 2010. Her radio frequency was 164.355. She was tagged at 8am. She weighed 6.12 kg so she was given 0.39cc of Telazol. She was dosed at 8am and the drug took 5 minutes to take affect and lasted 7 minutes and 30 seconds. We released her on May 28, 2010 at 6:30pm south of the boathouse.

The second raccoon we collared was a female. She was also captured south of the boathouse on May 28th at 6:30am. She weighed 8.16kg so she was given 0.54cc of Telazol. The raccoon was dosed at 8:20am and was given an extra half dose of 0.27cc at 8:30am. The drug took 13 minutes and 30 seconds to take affect and was affective for 8 minutes. The transmitter frequency is 164.365. She was released south of the boathouse May 28th at 6:30pm.

The third raccoon we collared was a female captured south of the boathouse on May 29th at 6:30am. This raccoon's transmitter frequency is 164.376. She weighed 6.35kg and was given 0.42cc of Telazol. She was dosed at 7:45am and the drug took 3 minutes and 10 seconds to take affect and lasted 6 minutes and 2 seconds. We released her on May 29th at 6:30pm.

The fourth raccoon we collared was a male. We captured him south of the boathouse on May 29th at 6:30am. This raccoon's transmitter frequency is 164.386. He weighed 6.35kg and was given 0.42cc of Telazol. He was dosed at 7:04am and the drug took 2 minutes and 15 seconds to take affect and lasted 6 minutes. We released him south of the boathouse on May 29th at 6:30pm.

The fifth raccoon we collared was a male. We captured him south of the boathouse on May 29th at 6:30am. This raccoon's transmitter frequency is 164.395.

He weighed 6.35kg so he was given 0.42cc of Telazol. He was dosed at 7:18am and the drug took 2 minutes and 15 seconds to take affect and lasted 11 minutes and 30 seconds. We released him south of the boathouse on May 29th at 6:30pm. For the first two raccoons we use receiver number 4021 to check the transmitters. We use receiver number 4022 to check the other three transmitters. We used two towers fitted with four element Yagi antennas. We placed one near a woodpile on campus its GPS coordinates are X-333848 Y-5232172. The other antenna was place in Bear Paw campground its GPS coordinates are X-334757 Y-5232167.

Raccoon	Raccoon 1	Raccoon 2	Raccoon 3	Raccoon 4	Raccoon 5
Sex	Female	Female	Female	Male	Male
Weight	6.12kg	8.16kg	6.35kg	6.35kg	6.35kg
Dose of Telazol	0.39cc	1st: 0.54cc 2nd: 0.27cc	0.42cc	0.42cc	0.42cc
Location	South of Boathouse	South of Boathouse	South of Boathouse	South of Boathouse	South of Boathouse
Transmitter Frequency	164.355	164.365	164.376	164.386	164.395

Results:

We went out for a total of 36 times and got bearings on each raccoon each time for a total of 180 bearings. Our standard deviation was 1.8. We found the standard deviation by having every member of our group take bearings on one raccoon from the same tower three times. We then added our compass bearings

and divided it by 10. We used the minimum convex polygon method to find the home range for each raccoon.

Raccoon 355 had a total of 8 bearings that were usable and had a home range of approximately 24,138 m^2 (Map 1). Raccoon 365 had a total of 7 bearings that were usable and had a home range of 31,160 m^2 (Map 2). Raccoon 376 had a total of 7 bearings that were usable and had a home range of 62,631 m^2 (Map 3). Raccoon 386 had a total of 9 bearings that were usable and had a home range of 746,269 m^2 (Map 4). Raccoon 395 had a total of 8 bearings that were usable and had a home range of 66,869 m^2 (Map 5).

It was also found that all of the raccoons were mostly active during the night starting around 7:00pm and lasting until about 7:00am. This was tested by the pulse rate picked up by the receivers. A steady pulse meant the raccoon was inactive and a more sporadic pulse meant the raccoon was active.

Discussion:

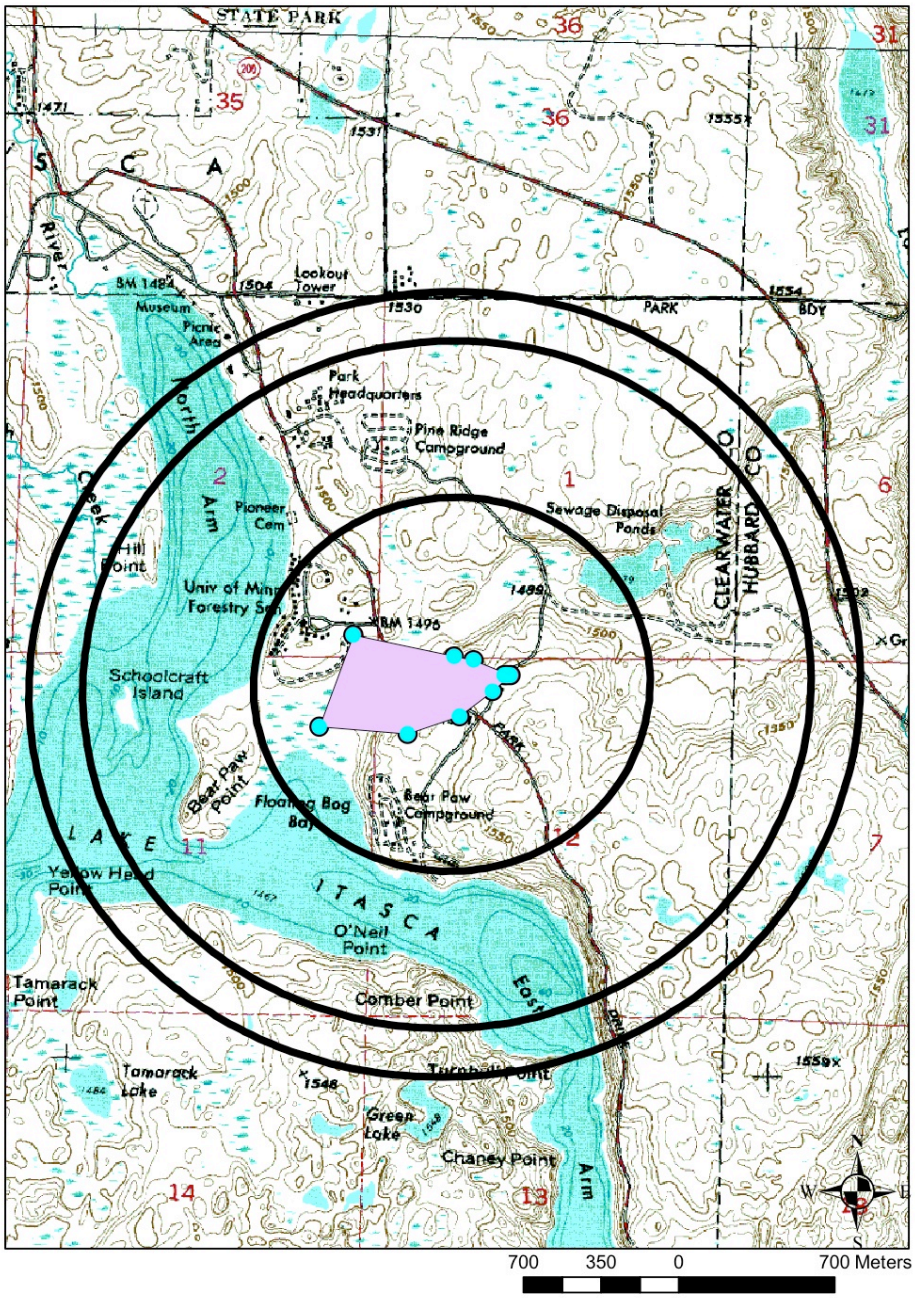
All of the raccoons in our study seemed to stay in the same general area of the Bear Paw Campground, except for raccoon 386. My hypothesis is that males generally have larger home range than females. Raccoon 355 had the smallest home range. She also appeared to be an older raccoon. The other two females 365 and 376 had medium size home ranges. The two males 386 and 395 had the largest home ranges. It does appear that raccoons have territories they defend. The older male probably already has his territory established and the young male does not. The three females were all found around the same area. This is not unusual behavior for females.

The minimum convex polygon method was more accurate than the Kernel method to figure out the home range. It gives the measurement of the home range area in square meters. The kernel method is less accurate. It gave us an estimate of where the raccoon may be found.

About eight days into tracking we discovered that the antenna at the second tower in Bear Paw Campground had come loose. It was no longer matched up with our compass point. That is the reason for the low number of bearings that were useful.

Conclusion:

In conclusion we would have had a much clearer picture of these raccoons home range if we had checked our equipment more often. We had an awesome group that worked hard to get as many data points as we could before and after we discovered we had a problem. Males have larger home ranges and females sometimes congregate in one area. Older males realize this and tend to claim those areas. This course gave some insight into the world of telemetry.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Floating Bog Bay
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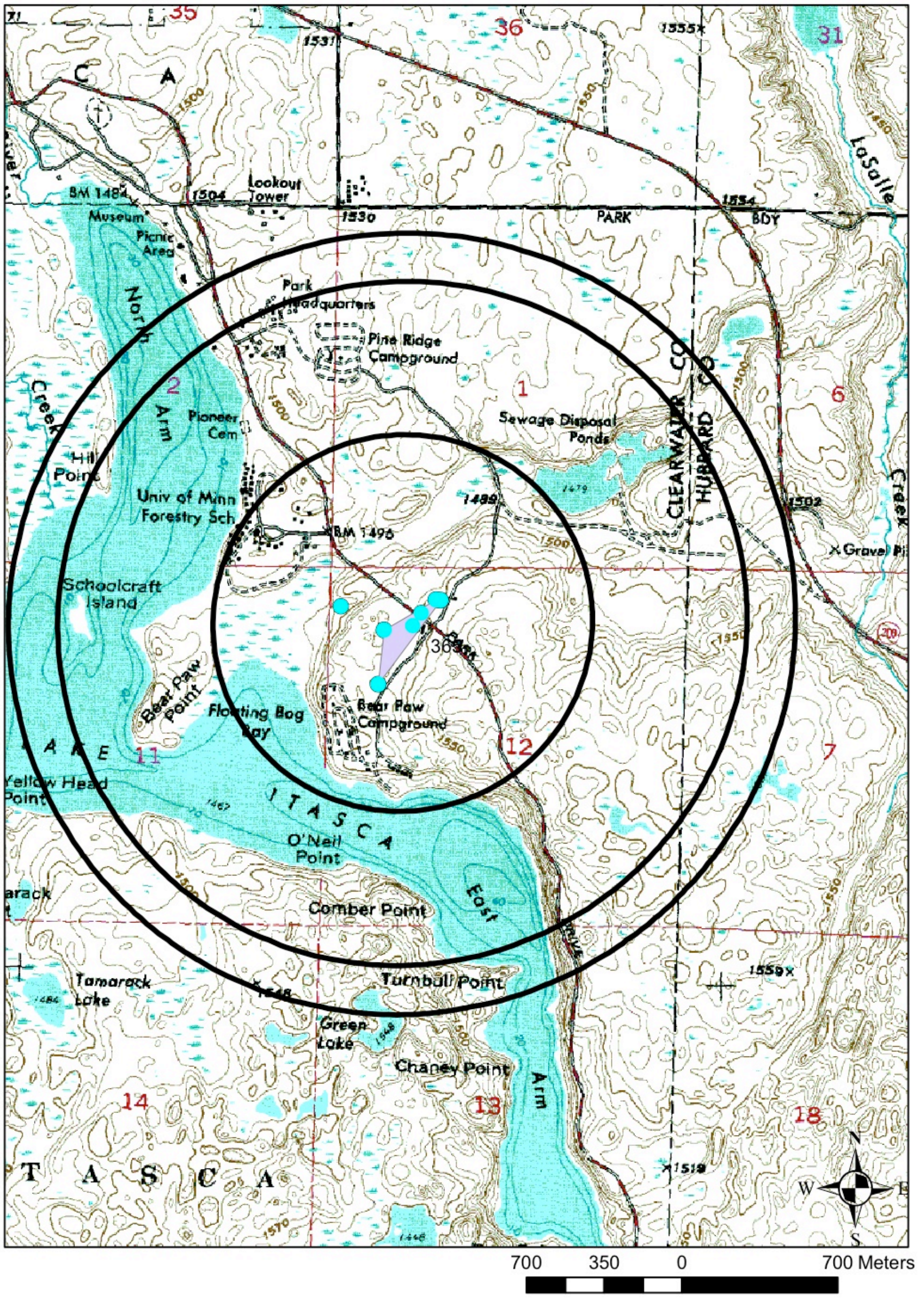

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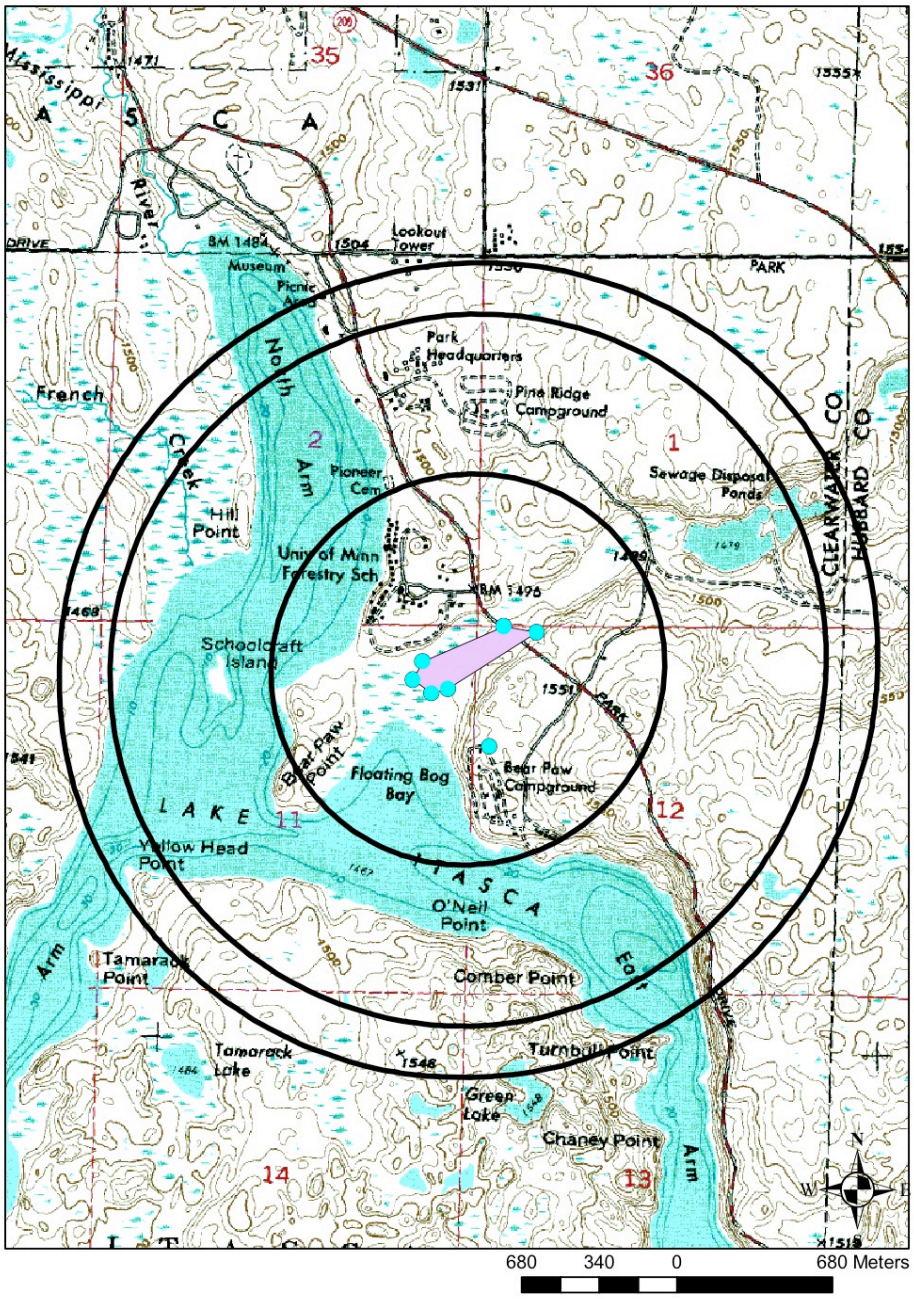
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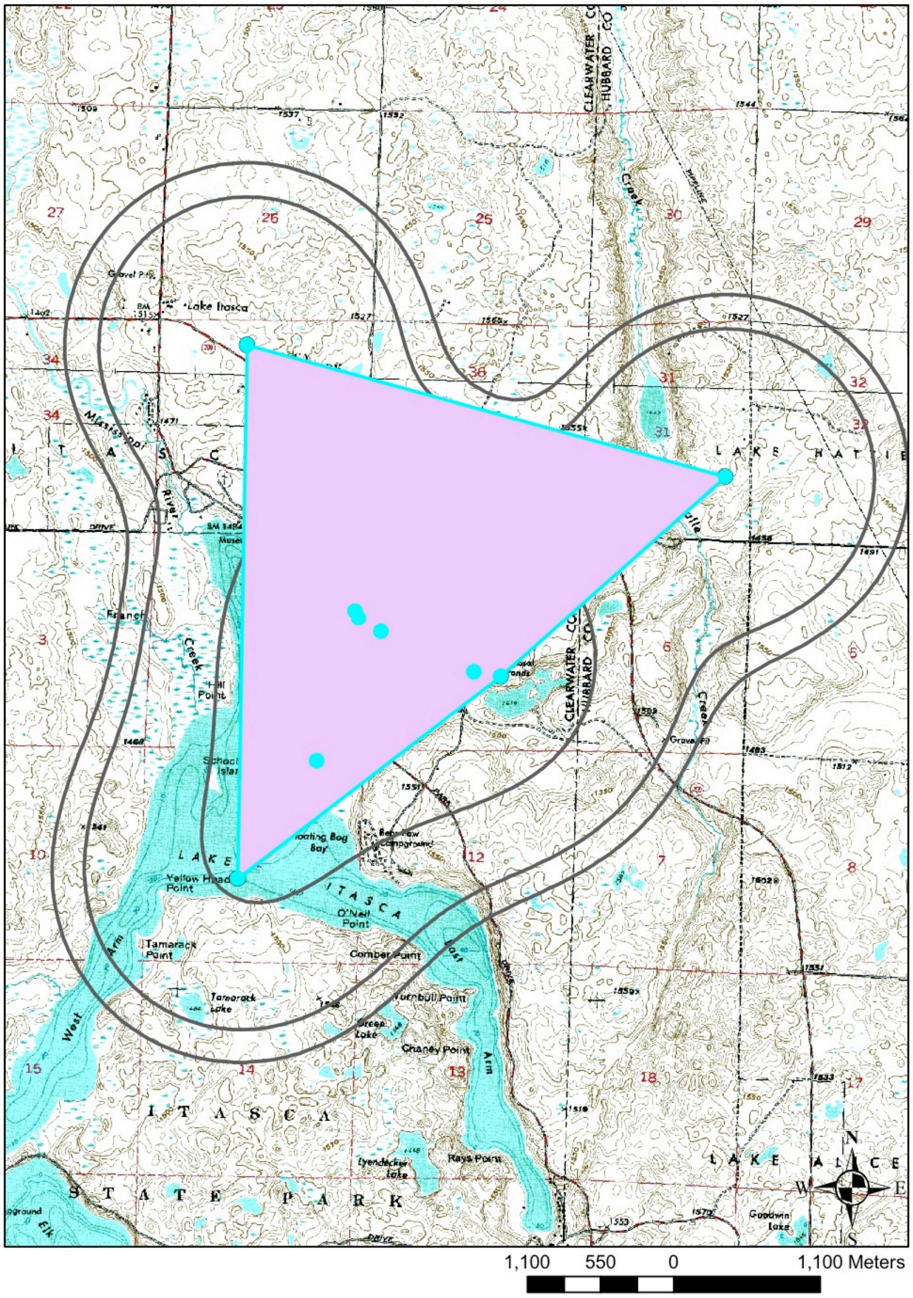
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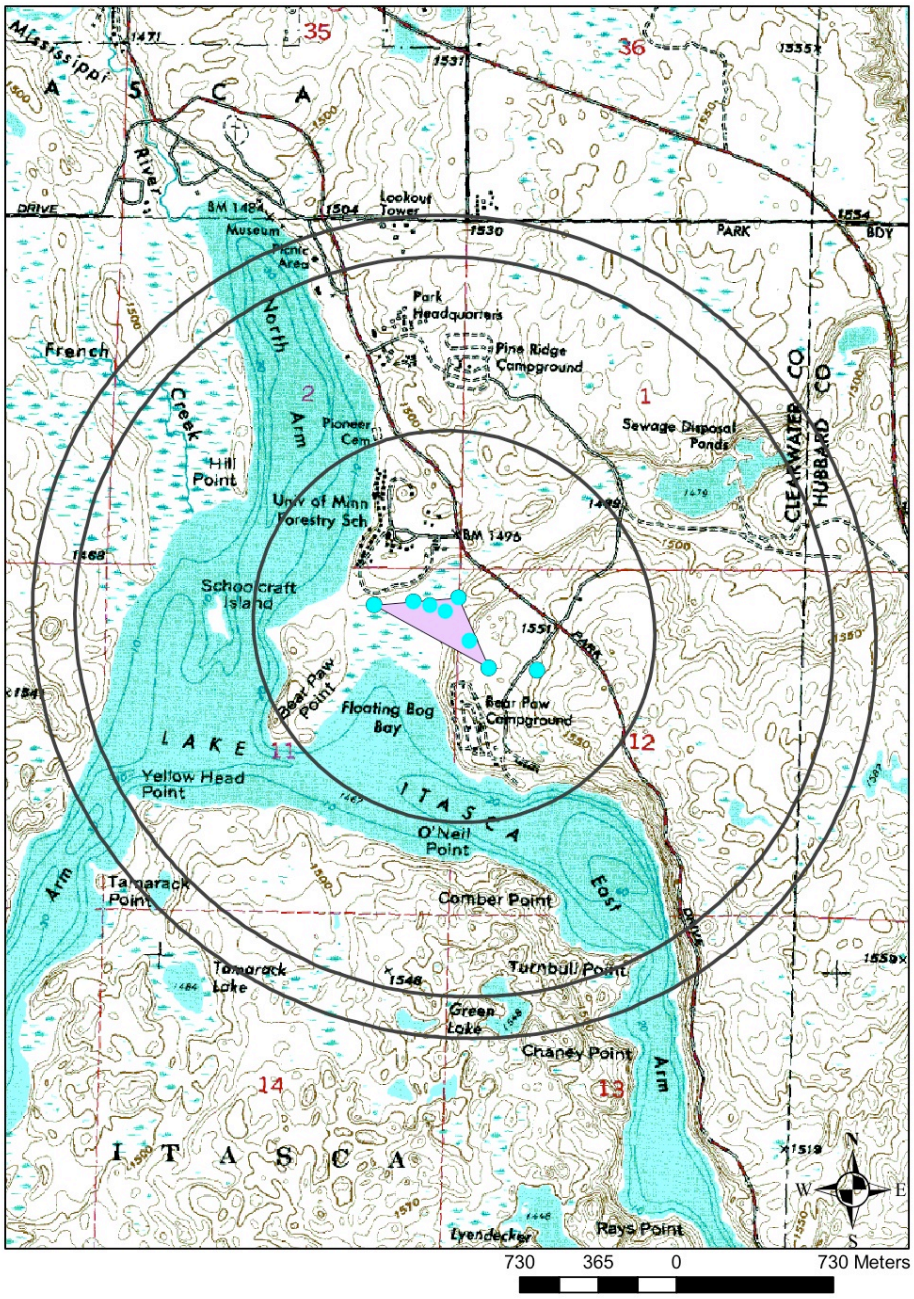
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