

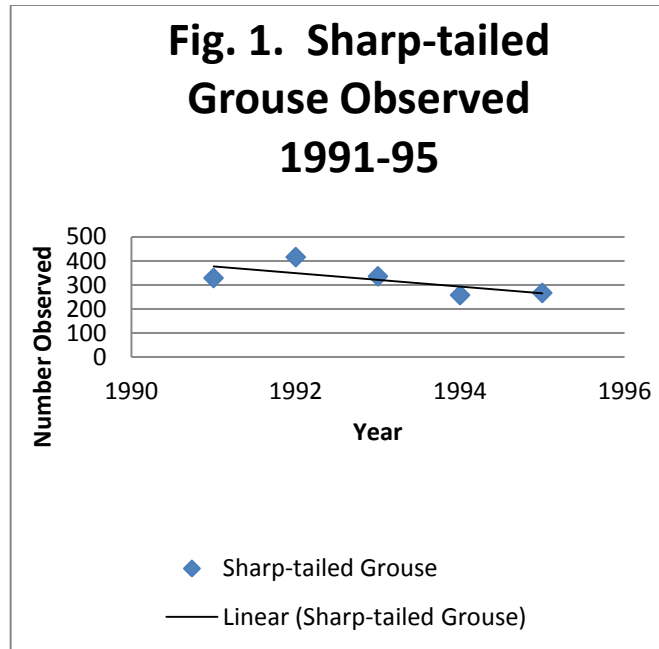
2014 SHARP-TAILED GROUSE (*Tympanuchus phasianellus*) SURVEY FOR THE SPIRIT LAKE RESERVATION

Carrie Duafala, Biologist
Spirit Lake Nation Fish and Wildlife Department

ABSTRACT

The 2014 Sharp-tailed Grouse (*Tympanuchus phasianellus*) survey was completed during the winter of 2014 during the breeding season for the grouse. Point counts were done on thirty-one sites scattered within the Reservation boundaries. Surveys started approximately ½ hour before sunrise and lasted until the leks observed broke up, roughly two hours. Thirty-nine (39) leks were observed in total, consisting of 310 birds. Previous grouse surveys showed a decline in birds on the Reservation during the early 1990's ($P > .05$, ANOVA).

Sharp-tail Grouse Surveys were completed during the early 1990's, while the Spirit Lake Nation Fish and Wildlife Department was under Cankdeska Cikana Community College. These surveys were done in a point count fashion and consisted of approximately 38 sites. Over all, these surveys showed a decreasing population on the Reservation ($P > 0.05$). No formal report or raw data has been found, but copies of the data as entered into a spreadsheet were found. An ANOVA test was run on the data found to find if statistically there was a difference between the years. The hypothesis (There was no difference between years) was rejected with a slightly greater than 95% confidence level. When graphed and a liner model was run on the data, a downward trend was noticed (Fig.1). There were 39 flocks consisting of 329 birds counted during an aerial survey in 1991, but no formal survey was completed for this year. For further analysis, 1991 data was not included.



Points from the 1990's surveys were reused as point for 2014 to continue the point count survey. Two points were discarded due to flooding of the initial sites, and one site was discarded due to being out of the Reservation boundaries. Three new sites were added to replace the discarded sites (Appendix 1).

METHOD

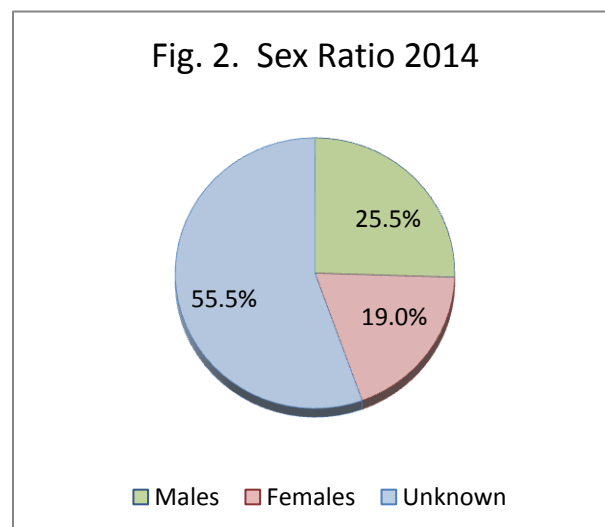
Sites surveyed were randomly picked the morning of the survey to rule out bias for certain areas grouse were normally seen. Sites were walked out to prior to sunrise, approximately 15-30 minutes prior. Weather data was collected for each site. Sites were then surveyed 360° for any grouse activity. Once grouse activity was sighted, that area was watched for evidence of lek activity. If a lek was then determined, the number of birds and the sex of the birds in the lek were recorded. For the purpose of this survey, any group was considered a lek, even if they weren't dancing at the time. During this time, observers also kept scanning the rest of the area for other lek activity. Each lek observed was counted and sexed.

Leks danced for about 1 to 1.5 hours from sunrise. Sites were surveyed for the whole time the leks were out to monitor for transient birds coming into the lek. Observers only left once the lek started to break up for the morning.

RESULTS/DISCUSSION

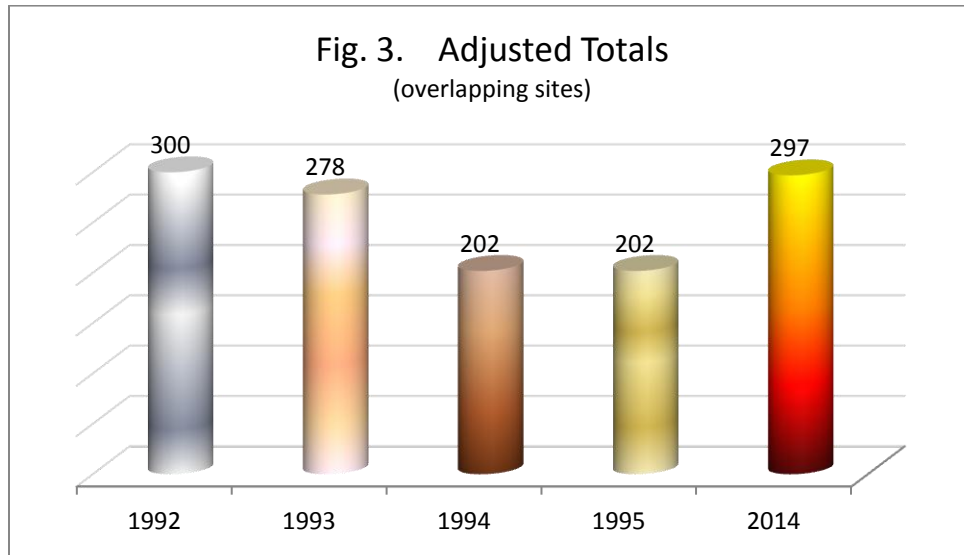
In total, 31 sites of the 39 sites were surveyed during 2014. Heavy snow inhibited the survey on 5 days during the timeframe of the survey. Of these 31 sites, 310 birds were observed in 35 leks/groups. More birds were seen after the survey, but were not counted as part of the survey.

The grouse were sexed, if possible, from the lek displays. Males perform an elaborate dance and are easy to distinguish from the females during the breeding season. If the males are not dancing, however, they are difficult to sex from a distance. Of the 310 birds observed, 25.5% were males, 19% were females, and 55.5% were classified as unknown sex (Fig. 2).



Statistical tests were not run on all the data spanning all years of the survey due to the 19 year break in the survey. This long of a hiatus in the performing the survey requires the new data to be treated as its own and not a continuation of the previous years.

The overlapping sites (n = 28) that were surveyed in all years was graphed to see if the number of birds was higher or lower in 2014 than in previous years. With just looking at the overlapping sites, 2014 numbers and 1992 numbers were the same suggesting that the population has risen back to (or possibly exceeding) the early 1990's numbers (Fig. 3).



Licenses sold for hunting sharp-tailed grouse are slowly on the rise. Data can be looked at from the start of the NAGFA (Native American Fish and Wildlife Licensing Application) use in the Spirit Lake Fish and Wildlife Office and a small rise in Non-Tribal licenses can be seen. Tribal licenses are all over the board and this is due to many members wanting all possible licenses added to their yearly hunting license (Table 1).

Table 1. Game Bird License Sales

	Non-Tribal	Tribal
2009	0	2
2010	1	60
2011	2	0
2012	2	7
2013	3	2

RECOMMENDATIONS

There is not enough data to come to conclusions about the sharp-tailed grouse population on the Spirit Lake Reservation at this time. Future surveys need to be performed on a yearly basis for the next 3 years to complete a solid baseline for the grouse population on the Spirit Lake Reservation. After the third year, a survey should be completed every other year or every few years to have trend data of the population on the Reservation. Sites should remain constant if possible to allow for better analysis of the data. With this survey routine, a better population dynamic will be seen.

A lack in hunter surveys for bird all hunters on the reservation, Tribal and Non-Tribal, has proved to be a point in which the Spirit Lake Nation Fish and Wildlife Department (SLNFWD) needs to develop. New harvest surveys were made available online for 2013, and none have come back to the SLNFWD as of May 2014. Hunter harvest reports will also show early rises or declines in the population levels prior to spring surveys.

From the previous survey data, the population does seem to be on an incline from the past, but again more data is needed to confirm this observation.