

2017 Beaver Survey - Mink Creek Drainage, Portneuf River Watershed

Idaho Department of Fish and Game - Southeast Region

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Introduction

The Mink Creek Drainage, a tributary of the Portneuf River Watershed, is currently a controlled trapping area. The trapping regulations have fluctuated over the past few decades from being closed to trapping to providing permits for as many as 30 beaver to be taken annually. Table 1 summarizes the controlled trapping regulations for beaver in the Mink Creek Drainage.

Department regulations did not include beaver from 1939 to 1947, and from 1948 to 1956 the regulations explicitly stated there was no beaver season in the state. From 1957 to 1965, Bannock County was open to beaver trapping. Restrictions on beaver take in Bannock County began in 1966, with the closure of some drainages or portions of some drainages. In 1970, the Mink Creek drainage was designated as a controlled trapping area, with a 10 beaver limit in Mink Creek, Gibson Jack Creek, and City Creek inclusive, and the limit was increased to 15 beaver in 1972. In 1975, the Mink Creek and Gibson Jack drainages were designated as 2 separate controlled trapping areas, with a 15 and 10 beaver limit, respectively. In 1980, 20 beaver could be taken in the Mink Creek drainage and 10 in the West Fork of Mink Creek for only that year. In 1982, the limit in the Mink Creek drainage was increased to 25 beaver and remained at that level for the following 4 years. From 1986 to 1989 the limit was decreased to 10 beaver and then was increased to 20 from 1990 to 1997. From 1986 to 1989, 10 beaver could be taken from the West Fork and Gibson Jack; however, from 1990 to 1997 the West Fork was closed to beaver take. All take was excluded in the Mink Creek drainage from 1998 to 2007. In 2008, the Mink Creek drainage again was managed as a controlled trapping area with a 10 beaver limit. For the 2014-2015 seasons, beaver trapping was closed on the East Fork tributary of Mink Creek and for the 2016-2017 trapping seasons the take limit was reduced from 10 to 5 beaver in the Mink Creek drainage.

Table 1. Summary of beaver take limit for the Mink Creek Drainage from 1970 to 2017.

Time period	Mink Creek	West Fork Mink Creek	East Fork Mink Creek
1970-1972	10 (including Gibson Jack)	Included in Mink Creek take limit	Included in Mink Creek take limit
1973-1975	15 (including Gibson Jack)	Included in Mink Creek take limit	Included in Mink Creek take limit
1975-1979	15	Included in Mink Creek take limit	Included in Mink Creek take limit
1980-1981	20	10	Included in Mink Creek take limit
1982-1985	25	Included in Mink Creek take limit	Included in Mink Creek take limit
1986-1989	10	10	Included in Mink Creek take limit
1998-2007	Closed	Closed	Closed
2008-2014	10	Closed	Included in Mink Creek take limit

2014-2015	10	Closed	Closed
2016-2017	5	Closed	Closed

Records in Southeast regional files indicate that beaver surveys have been conducted in the Mink Creek Drainage in the past. Forms used for recording indicate that typically the number of caches counted during ground-based surveys formed the basis for determining the number of active colonies. A 1953 survey found an estimated 3 active colonies in the Main Stem of Mink Creek, 2 colonies in East Fork Mink Creek, 4 colonies in West Fork Mink Creek, 6 colonies in the South Fork Mink Creek, and an additional 13 colonies in tributaries of the South Fork. Surveys conducted annually from 1959 to 1977 found an estimated average 3.2 active colonies in the South Fork Mink Creek. However, during surveys conducted in 1979, 1980, 1982, and 1985, an average 18.5 colonies were estimated in the South Fork Mink Creek. In 1987 and 1989, 5 colonies were estimated to be active on the South Fork Mink Creek. In 1970, a survey of the West Fork, East Fork, South Fork and Main Stem Mink Creek found an estimated 3 active colonies (2 on the Main Stem and 1 on the South Fork). A survey conducted in 2013 found one active colony in the East Fork Mink Creek (and FS reported one colony at the Scout Mountain Camp Ground); one colony in the upper reaches of the West Fork Mink Creek; 4 colonies in the South Fork Mink Creek; and 5 colonies in the Main Stem Mink Creek upstream of the Forest Service boundary.

Local farmers, homeowners, and area recreationists have expressed concerns about beaver relative to irrigation interference, damage to private property, and impacts to habitat, particularly in the Cherry Springs and East Fork areas. Other local interests cite the value of beaver to maintenance and creation of healthy riparian areas and their importance to positive watershed management, and push for conservative harvest management to allow for increasing beaver populations.

The objectives of these most recent surveys (2013-2017) were to better assess the number and distribution of active family groups (colonies) in the drainage and use that information in developing proposals and recommendations for the 2018-2019 furbearer seasons.

Methods

We conducted a ground-based survey to document beaver activity in the Mink Creek and Gibson Jack drainages within the US Forest Service Boundary from 5 November – 16 November 2017. We conducted the survey by walking the Main Stem from the FS boundary upstream, the South Fork from its confluence with the Main Stem, the West Fork from its confluence with the Main Stem, and the East Fork from the Nordic Center Road downstream to the home development area near the Main Stem. We walked the Gibson Jack drainage upstream of the home development area. Additionally, this year we conducted a survey on Jackson Creek just east of Inkom, ID from Bonneville Rd to the Forest Boundary, but data summarized in this report is specific to the Mink Creek and Gibson Jack drainages.

We documented sign indicating recent beaver activity, including maintained dams, active lodges and bank dens, recent cutting, slide and drag trails, and food caches. We used evidence of these activities to assess the presence of colonies within stream segments. In addition to documenting active sites, we also documented old unmaintained dams and lodges. We recorded beaver

activity and GPS location data using the Collector for ArcGIS application on mobile smart phones.

We mapped location information using ArcGIS. We used field notes and maps with digitized beaver sign to determine probable beaver colony locations.

Results

Survey results are summarized by stream and documented activity in Table 2. Past/old activity sites included 150 unmaintained dams and 9 old lodges (Fig. 2). Current activity sites included 53 maintained dams, 14 lodges or dens, and 7 food caches (Fig.3). Other recent activity sites included 27 slide or drag trails, and 18 cutting locations. Of the 203 dams observed in the survey 26% were recently maintained. In the Main Stem, South Fork, East Fork, and West Fork 31%, 34%, 0%, and 0% were maintained, respectively.

The Main Stem and South Fork had the most extensive beaver activity. The upper reaches of the West Fork has some evidence of historical beaver use and the one site with current activity in 2015 was no longer active. The East Fork below the Nordic Center had no evidence of current beaver activity; the dams and pond that had activity during the 2013 survey had no sign of current beaver activity.

Using field observations and assessing locations of mapped activity areas, we concluded that there are approximately 8 beaver colonies within the FS boundary in the surveyed area of the Mink Creek Drainage (Fig. 3). All colonies were found on the Main Stem and South Fork, where we estimate there are 5 and 3 colonies in each stream segment, respectively.

No current beaver activity was found in the Gibson Jack drainage. Two sites were identified as having old beaver foraging activity.

Table 2. Number of beaver activity sites documented during the Mink Creek survey, November 2017.

Stream Segment	Maintained Dam	Active Lodge/Den	Food Cache	Slide/Drag Trail	Recent Cutting	Colony	Unmaintained Dam	Old Lodge
Main Stem	34	9	3	25	11	5	74	3
South Fork	19	4	4	2	7	4	35	2
East Fork	0	1	0	0	0	0	37	4
West Fork	0	0	0	0	0	0	4	0
Total	53	14	7	27	18	9	150	9

Discussion

Documenting maintained and unmaintained dams illustrates that in the Main Stem, recent beaver activity overlaps spatially with areas where unmaintained dams are present, suggesting that there does not appear to be a substantial loss of areas with beaver presence in recent years. Willow riparian habitat appears to be providing adequate habitat for the current beaver population. The South Fork has areas with overlapping unmaintained dams and current activity, but also areas

that were not assessed as an active colony where there were unmaintained dams and lodges. However, there was still some beaver activity in these areas; just not to the extent we believed there was an active colony in residence. The West Fork has very old evidence of beaver activity near the headwaters, but the recent activity documented in 2015 was not found. Habitat in this area appears to include adequate willow and aspen which could likely support an expanded beaver presence. The headwaters of the West Fork will serve as a potential release site for translocation in the future as there currently is some pond habitat available along with healthy riparian vegetation. The East Fork has evidence of unmaintained dams and lodges over approximately a 1 mile stretch upstream from Lead Draw. There was no evidence of current activity during the 2017 survey. Habitat in much of the surveyed portion of the East Fork lacks an abundant aspen component and in places is characterized by relatively sparse, hedged willows; however if adequate habitat occurred to support beaver their presence may serve to improve the willow riparian area and allow for further increases of beaver in the drainage.

The current survey indicates that beaver activity in the East and West Forks of Mink Creek is limited. There was a loss of colonies in the East Fork and West Fork despite the closure of trapping in those drainages. On the Main Stem of Mink Creek when we compared 2017 survey results with 2015 results, we found a 36% reduction maintained dams, a 10% reduction in active lodges and dens, and a 73% reduction in food caches. Beaver activity was centered in 5 distinct locations, similar to the 2015 survey. On the South Fork when we compared 2017 survey results with 2015 results, we found a 56% reduction in maintained dams, a 43% reduction in active lodges, and a 43% reduction in food caches. The number of distinct areas with beaver activity changed from 4 to 3, with the most notable area with reduced activity near the headwaters.

Beaver activity appeared to be reduced in the Mink Creek drainage between the 2015 and 2017 surveys (Fig. 2). The trapping season was closed in the East and West Forks and the take on the controlled trapping permit, for the South Fork and Main stem, was only 1 individual in 2016 where 7 beaver were harvested. No beaver were trapped in 2015. The limited legal beaver trapping take in the Mink Creek drainage suggests other factors may have contributed to the reduced beaver activity and loss of colonies. Disease, habitat quality, water conditions, and illegal take are possible contributing factors.

Comparisons between surveys and past surveys are informative, but must be made with some caution. Data sheets from past surveys indicate that the number of caches detected was used as an index for the number of beaver colonies present. We did not use caches as a standalone index in the 2013-2017 surveys, but simply as one of several factors to help us assess colony presence. In our assessment, we used all recent activity, not simply caches, as evidence of a colony along with spatial separation (>1 km) to delineate different colonies. Frequent changes in the furbearer regulations and take limits for this area along with inconsistent surveys makes it difficult to assess trends in beaver distribution and population relative to trapping pressure. Continuing the survey of the Mink Drainage will help provide trends in beaver distribution and population assessments. Ideally, this survey should continue to be repeated at 2 year intervals, prior to furbearer season-setting. Additionally, investigations of higher order tributaries within the Mink Creek system should be conducted as beaver might be utilizing other areas not currently being surveyed.

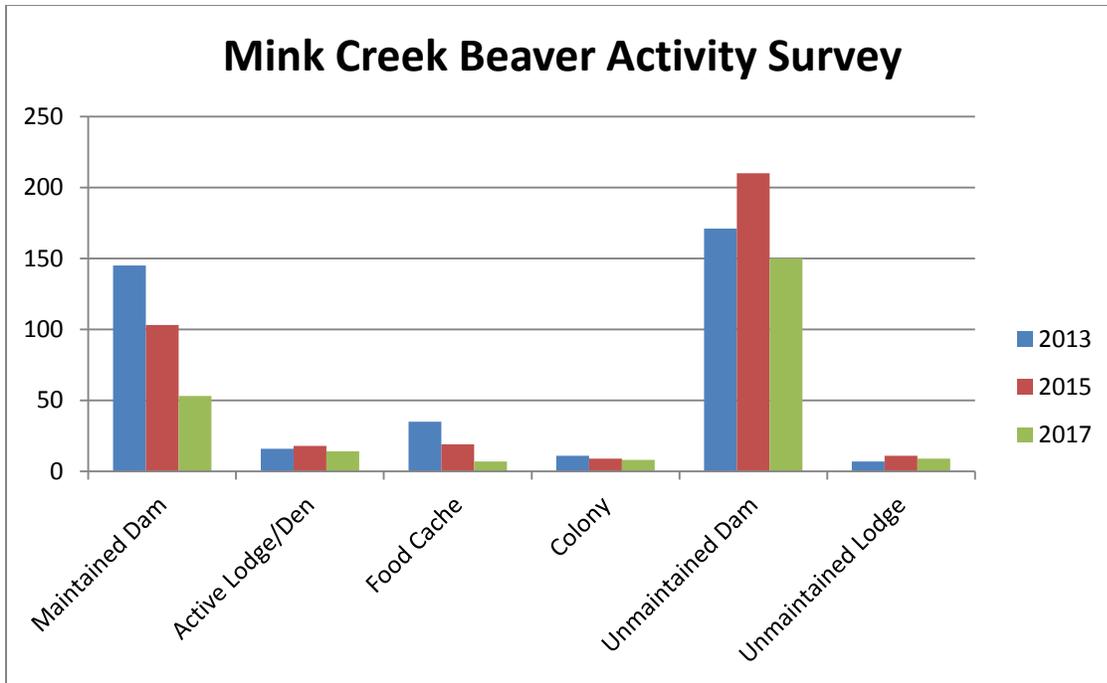


Figure 1. Number of sites with beaver evidence in 2013, 2015, and 2017 in the Mink Creek drainage survey area.

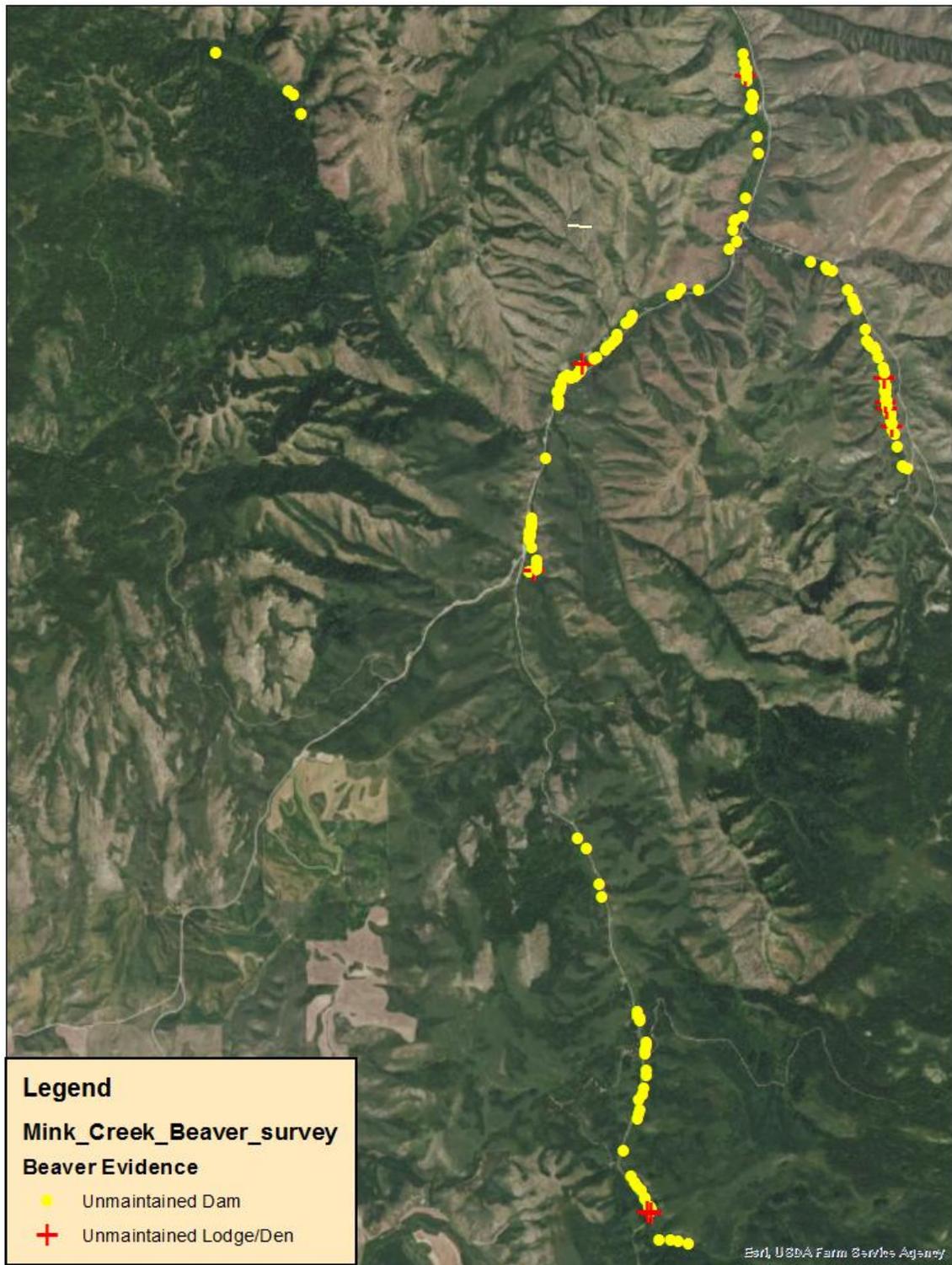


Figure 2. Unmaintained dams and lodges documented during the Mink Creek survey, fall 2017.

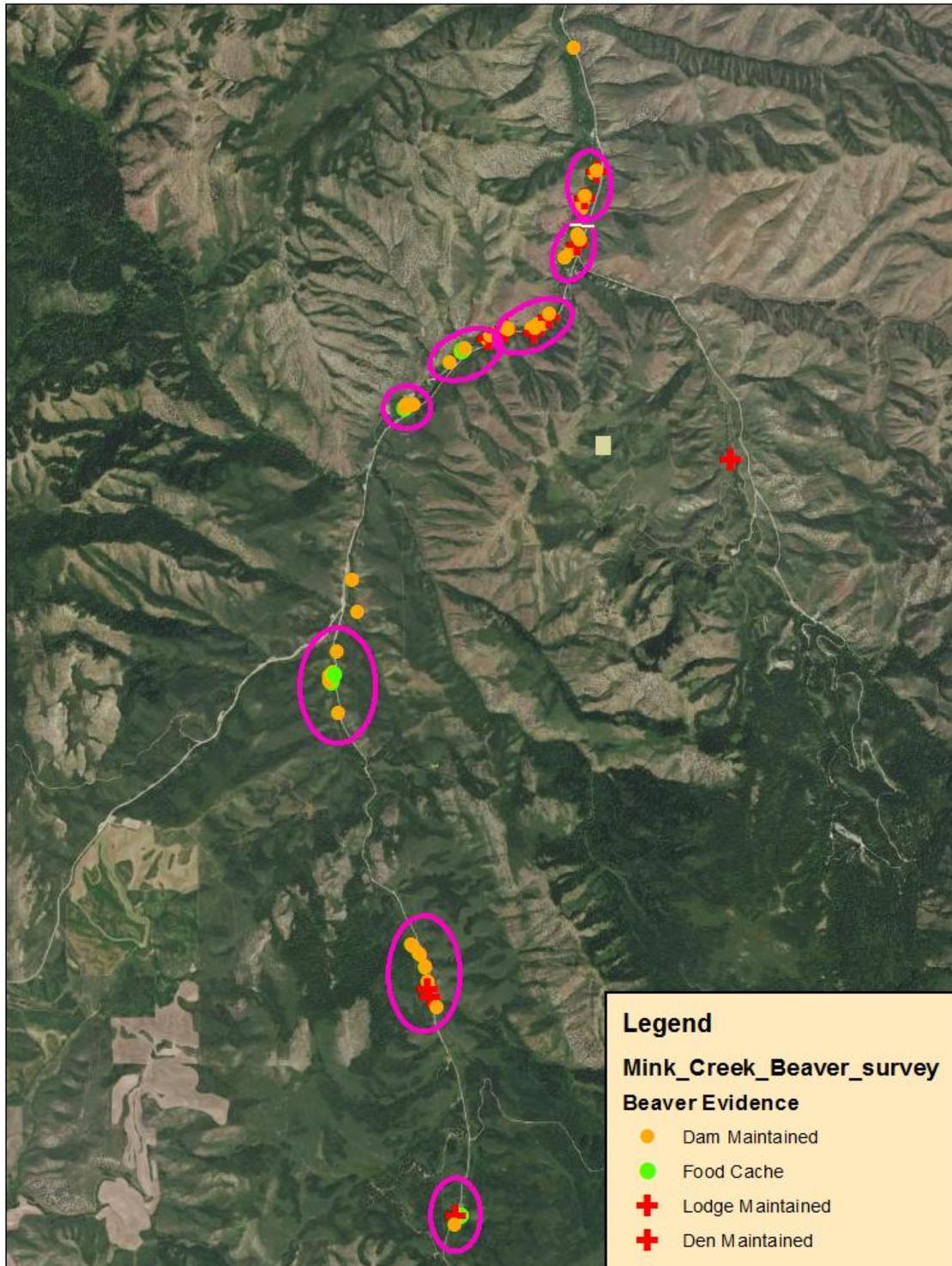


Figure 3. Maintained dams, active lodges, dens and food caches documented during the Mink Creek survey, fall 2017.