

IDAHO'S CANADA LYNX: PIECES OF THE PUZZLE

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Cover Photo: These five lynx were trapped by Oliver Peterson during one week in the late 1940s, ten miles northeast of Soda Springs, Idaho.

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ABSTRACT

On July 8, 1998, the U.S. Fish and Wildlife Service proposed listing the contiguous United States District Population Segment of the Canada lynx as a Threatened Species. Little information is available on Idaho lynx population dynamics, basic life history, habits, and habitat requirements. To quickly gain information on lynx in Idaho, a program was initiated in April 1997 to interview knowledgeable individuals. Over 75 people were interviewed throughout the state. Interview summaries and conclusions are presented in this report.

INTRODUCTION

Little is known about Canada lynx, their habits and habitat requirements in Idaho. What is known covers not much more than the basics of the species: Canada lynx are medium-sized carnivores, reddish to gray-brown, with relatively long hind legs and a stooped posture. Males weigh up to 22 pounds, with females weighing up to 19 pounds. The belly, legs and feet are grayish-white or buff-white.



Canada lynx

Their larger feet, lighter color and fewer spots distinguish them from bobcats. The tips of their tails are completely black and they have long ear tufts. Canada lynx are noted for preying on snowshoe hares. Their traditional habitat in the western contiguous United States extends from the Cascade Mountains of Washington eastward to the Continental Divide then, roughly following the mountain

chain south, into Wyoming, northeastern Utah and Colorado. Many populations in Alaska and Canada are considered stable; but the number of Canada lynx in the continental United States is considered low. Questions about the most basic habits of Canada lynx in Idaho, such as their prey base, remain unanswered. The lack of Canada lynx studies — none have been done in Idaho and very few in the adjacent states — only adds to the puzzling nature of the species.

In 1995, the Idaho Conservation Effort, a unique proactive species conservation program, developed a draft Canada lynx assessment based on existing research from other states and Canadian provinces, notably Yukon and Alberta. Landforms and vegetative plant communities in Idaho are different from boreal forest habitats in Canada and Alaska. It is likely that behavioral responses of Canada lynx to these habitats are also different, so extrapolation of data is probably not a perfect fit.

This document is based on intensive interviews with individuals who are, or were, spending a great deal of time outdoors and were familiar with potential Canada lynx habitat and local fauna in general. The information obtained through these interviews is the best available on where Canada lynx lived and how they survived in Idaho.

The Idaho Conservation Data Center has 215 records of Canada lynx in Idaho from 1874-1998. The map on the back cover depicts two time periods, 1874-1976 and 1977-1998. In the earlier time period, lynx were considered a predatory species and afforded no protection. In the later period, lynx were classified as a furbearer by Idaho Department of Fish & Game (IDFG) and managed with restrictive seasons and mandatory reporting of any harvest. The map depicts only lynx distribution based upon reported observations and harvest records and cannot be used to determine whether Canada lynx populations in Idaho have increased, decreased, or remained stable over time.

In 1998, a scientific report was prepared, in part, using the observations of Canada lynx obtained from the interviews. Although the scientific report represents progress toward managing Canada lynx and Canada lynx habitat, it does not capture the insights provided by those who were interviewed. Since no studies have ever been conducted in Idaho, this report, though anecdotal, captures the observations of many who are knowledgeable about Canada lynx in Idaho.

METHODOLOGY

Interviews began in April 1997. The first interviews were done by contacting individuals documented as having harvested Canada lynx by IDFG. During the interviews, these individuals were asked to provide references for others who were knowledgeable about Canada lynx in Idaho. This process continued until many of the same people who had formerly been interviewed were being referred again by those currently being interviewed. Still, there is little doubt that not all people in Idaho familiar with Canada lynx were contacted in the process.

Follow-up interviews were conducted with individuals who provided key information. In some cases, between six and ten interviews were conducted with the same person. Documentation such as Canada lynx full body mounts, tanned hides, or photographs was examined or obtained when possible. In one case, a field trip was made with an individual to areas where he had trapped Canada lynx. Another field trip was made to photograph areas and habitats where 13 Canada lynx were harvested.

Although there was no set "list" of questions, interviews concentrated on locations, times, and habitats where Canada lynx observations were made; potential prey in areas where Canada lynx were observed; and perceived threats to Canada lynx.



CANADA LYNX INTERVIEWS

"The past is always gone, retrieved only, ultimately, in the filaments of memory."

—Scott Turow, *The Laws of Our Fathers*

CENTRAL IDAHO

Daryl Alred, Grand Jean, ID — Daryl observed one set of Canada lynx tracks about 1993 several miles from Grand Jean, and ran the track with his hound dogs. He gave up at dark and gathered his dogs. He saw several other sets of Canada lynx tracks in northern Idaho in 1994 or 1995.

Ray Baird, Carey, ID — Ray remembers when the major jackrabbit explosions occurred, in 1941, in 1957 and 1958, and 1966 and 1967. He also remembers large numbers of jackrabbits in the vicinity of Jerome in the late 1960s and early 1970s. He mentioned there were always snowshoe hares in Upper Fish Creek and that their numbers didn't fluctuate like jackrabbits. He stated that snowshoe hare numbers were in decline and are currently at the lowest level he has ever seen.

Bud Batchelder, Carey, ID — Bud said there were a lot of jackrabbits around Carey in the late 1960s. His wife recalled hearing of a Canada lynx that was killed along the highway near Bellevue in the early 1970s.

Ken Daws, Hansen, ID — Ken's son shot a Canada lynx in farming country five miles south of Hansen in 1972. It was opening day of pheasant season and his son saw the Canada lynx walk out of a ditch and climb the only tree in the area. The Canada lynx was a large adult female weighing between 25-30 pounds. A newspaper story reported the incident. He said that a number of pets had disappeared about that time and he speculated that the Canada lynx may have been responsible.

Kirk Eberhard, Salmon, ID — Kirk recalled that Canada lynx observations, road kills and trapping incidents were fairly common during the late 1960s and early 1970s in the Hailey area while he worked as a conservation officer (CO) for IDFG. He checked one Canada lynx that was trapped near Malad in the mid-1960s. During the late 1970s, Cecil Samford trapped three Canada lynx near St. Maries, which Kirk also checked.

Ken Higgs, Meridian, ID — Ken observed a Canada lynx track on the west side of the Sawtooth Mountains in 1989 or 1990 near Methodist Camp.

The Canada lynx was traveling into very steep, rocky country and had come out of the river floodplain bottom and rolling hills of Douglas-fir and aspen. He knew of a Canada lynx trapped about 20 years ago near Alturas Lake.

Roger Jackson, Idaho City, ID — Roger trapped a Canada lynx in Bear Valley near Sack Creek in 1971 or 1972. The Canada lynx was incidental to trapping bobcat and coyote.

Tim Kemry, Richfield, ID — Tim observed Canada lynx tracks in the Middle Fork Rapid River in November of 1996. He described the habitat as scrawny Douglas-fir with cold draws of spruce coming into the creek. He observed a set of Canada lynx tracks in 1985 about 18 miles from Cape Horn.

Ray Lyon, Boise, ID — Ray checked a Canada lynx that had been trapped in the Stanley Basin in the winter of 1969-70 while working as a CO for IDFG. He saw a Canada lynx on the road while traveling in the Stanley Basin in the winter of 1976-77.

Stu Murrell, Jerome, ID — Stu recalled a Canada lynx shot near Jerome in 1972, near a big feedlot for cattle on the west side of the highway between Eden and Hazelton. Stu said there was a jackrabbit explosion in about 1972, in 1983, and again in 1993. He said the incident was reported in the Twin Falls Times-News.



This Canada lynx was shot near Jerome, ID in 1972 during a jackrabbit population peak.

Carl Nellis, Jerome, ID — Carl confirmed a Canada lynx was shot by Ken Daws, south of Hansen in 1972. Carl completed research on the interactions of Canada lynx, coyote, and snowshoe hares in Alberta in the early 1960s. He observed that Canada lynx cycles correspond to snowshoe hare cycles. When snowshoe hare populations are low, he noted that coyotes can find other sources of food. If the opportunity presents itself, Carl said that pack coyotes would prey on Canada lynx kittens, although he had no data or evidence to prove it. He has found some Canada lynx with porcupine quills in their forelegs.



Craig Rember has trapped in the Stanley Basin for over 30 years. This large tom was harvested in 1969.

Craig Rember, Stanley, ID — Craig trapped and harvested four Canada lynx in the Stanley Basin. Although he had not seen any Canada lynx kills, he thinks that Canada lynx prey mostly on snowshoe hare and occasionally on grouse and squirrels. He thinks that Canada lynx occasionally travel long distances, even through sagebrush. When that occurs, Craig believes they probably use other rabbits for prey. Craig rarely has seen bobcats in the Stanley Basin, attributing this to hard winters.

Craig spent a lot of time in the East Fork of the Salmon River and had never seen a Canada lynx there, claiming that it was country mostly inhabited by mountain lions. He doesn't think fox would affect Canada lynx, but that coyotes could have an impact. He thinks that the high country around Trail Creek Pass and Mackay had lots of rabbits and could contain Canada lynx. He also thinks the area

around Ashton, Idaho, could hold Canada lynx. Craig believes elk numbers are at an all-time high in the Stanley Basin and snowshoe hare numbers are at an all-time low.

Craig said there are not many trappers left and most remaining are after marten and beaver. He believes that very few people would be out in the winter if it weren't for snowmobiles, and said that snowmobiles are everywhere. Some of the elk wintering areas are closed to snowmobile use to keep them from harassing elk, but the closures are regularly violated. Craig observed that snowmobiles are getting more popular every winter.

Skip Schaeffer, Richfield, ID — Skip observed two sets of Canada lynx tracks in Beaver Creek between 1976-1978. These Canada lynx crossed Beaver Creek one day and Smiley Creek the next day. He believed snowshoe hare populations were on the upswing as were the jackrabbits.

J. R. Scholls, Jerome, ID — J. R. saw a Canada lynx while duck hunting near Milner Dam along a canal in the early 1970s. J.R. said the last jackrabbit explosion that covered the entire Snake River Plain was in the late 1960s. The jackrabbit explosion in the 1980s was spotty, with many rabbits in some places and few in others.

Ron Sherer, Eagle, ID — Ron observed two sets of Canada lynx tracks near the main Middle Fork (Boise River) Road in November of 1996. In February 1997, he saw two sets of tracks in the same general area. It is possible these were the same animals.

He observed a set of Canada lynx tracks in the South Fork of the Clearwater about ten years ago in Nacomas Meadows. While guiding out of the Shep Ranch on the Salmon River, he saw a set of Canada lynx tracks in Sheep Creek.

Harold Wadley, St. Maries, ID — Harold began hunting raccoons with dogs at an early age in eastern Oklahoma. He spent the majority of his professional career working for the U.S. Forest Service as a forester and district ranger. He worked in the Uinta Mountains in Wyoming as a forester in 1957 and 1958, and in Stanley as the district ranger from 1959 to 1967. He was in very good physical condition and, on one occasion, snowshoed from Stanley to Seafoam.

When Harold first moved to Stanley, he was told there were no Canada lynx in the area. He not only found Canada lynx, but found them in large enough numbers that allowed him to pursue them with hound dogs. Pursuit of Canada lynx usually involved plowing through thigh-deep snow over long distances for an extended period. A typical successful hunt was to turn his hounds loose on a fresh Canada lynx track the afternoon of one day and tree the Canada lynx about noon the next, running the Canada lynx all night. In a few instances he ran Canada lynx with his hounds for two full days and nights, catching the Canada lynx on the second day. Harold estimated that about one-third of the time that he turned his dogs loose on a Canada lynx track, they would be unable to catch the Canada lynx, either because of a storm during the chase or the great distances that the Canada lynx traveled.

He treed an average of 10-12 Canada lynx per year over the ten-year period while working in the Uintas and Stanley. Sometimes, an individual Canada lynx was treed on a number of occasions. Harold caught a big, smoky-blue colored tom three times during a one-week period. He estimated that there were about 15 Canada lynx on the breaks of the Sawtooths from Alturas Lake to Heyburn Lake. He knew that of the 15 Canada lynx in the area, four were large toms.

Based on his knowledge of observing Canada lynx or Canada lynx tracks while in Stanley, he assumed there were Canada lynx all along the Sawtooth Mountains to Galena Pass. He observed Canada lynx or their tracks on the breaks of Grand Jean and down into Cape Horn Meadows. He made no Canada lynx observations on the Seafoam side down into the Middle Fork of the Salmon, attributing it to habitats incapable of supporting

Canada lynx populations. He made Canada lynx observations in the White Cloud Mountains south of Clayton above Robinson Bar, the East Fork of the Salmon, and north of Clayton in Squaw Creek and Basin Creek. He rarely hunted in the White Cloud Mountains, because of the distance from his home in Stanley and the greater risk of avalanches, but assumed, based on Canada lynx observations on the periphery of the mountain range, that a Canada lynx population similar to what he found in the Sawtooth Mountains existed there.

Harold found two denning sites in Iron Creek Basin, a natal den site and a secondary den site. Several times he was within three feet of what he referred to as the natal den. He saw kitten tracks at the den site about every other year. The natal den was located on the south side of a ridge that was described as having big boulders, gnarly Douglas-fir trees, bluebunch wheatgrass, and sagebrush. The natal den site was at the base of a big boulder and a Douglas-fir tree. The natal den site was described as more secluded and about a mile from the secondary den site.

Sometime before the kittens reached three months of age, they were moved by the female to a secondary den site that was about a mile from the primary den site. He determined this after spotting three-month-old Canada lynx kittens sunning on a rock at the secondary den site. The two den sites were similar, but the Douglas-fir trees in the vicinity of the natal den had a gnarly growth form instead of the more typical straight growth form found at the secondary den site. He found evidence that the subadults produced on the Sawtooth Mountain side of the Stanley Basin would disperse into the Boulder Mountain side, usually onto the big ridge between Big Casino and Little Casino Creeks. He thinks that successful dispersal by these subadult Canada lynx was probably the result of the lack of coyotes in the Stanley Basin and surrounding areas.

The kittens were usually born in May, when north slopes were still completely snow covered and south slopes were patchy with snow. He found that the kittens would stay with the female until the winter of the following year and then disperse.

Snowshoe hares were the dominant prey for Canada lynx during the time Harold lived in Stanley. He said snowshoe hare numbers were variable from year-to-year, with several years of very low numbers. He found that Canada lynx would also prey on porcupines, pine squirrels, voles and an occasional grouse. Porcupines were numerous in the area at that time. Every Canada lynx he harvested had porcupine quills in its forelegs. Of the Canada lynx he harvested, the wounds from the quills were calloused and completely healed. Harold determined that the Canada lynx were skilled at eating porcupines with a minimum of physical harm. No Canada lynx he harvested or treed had evidence of quills in their mouth. Tracks and other sign in the snow near Canada lynx-killed porcupines showed that the Canada lynx would reach under the porcupine when on snow and flip it over. Porcupines were on their back with all four feet in the air. The hams or legs were untouched, but the quill-free stomach area of the porcupine was eaten to the extent it could without ingesting or touching the quills.

Harold harvested seven Canada lynx. All of them were killed by his dogs when they stopped to fight. Most of these animals were two-year olds. Once trappers found out he was catching Canada lynx, they started following his snowshoe tracks into the mountains on snowmobiles and trapping Canada lynx. These trappers harvested about ten Canada lynx in a short time. He stopped running Canada lynx with his hound dogs so that the trappers would think there weren't any more Canada lynx to discourage additional trapping of remaining animals. He said the first couple of years he was in Stanley there were no snowmobiles and the majority of trappers did not snowshoe into areas frequented by Canada lynx.

When pursued by dogs, Canada lynx would readily swim. One Canada lynx that was treed in Basin Creek swam the Salmon River near the confluence of Basin Creek, east of Stanley, while being pursued. Harold only saw one coyote, one wolf and three bobcats in the seven years he was in Stanley. He observed the wolf near Seafoam. Of the three bobcats he saw, his dogs killed two of them. It appeared to Harold that the coyote and one of the bobcats had followed sheep bands into the Stanley Basin. Mountain lions were a rarity in the Stanley Basin and Harold thought their increase would negatively impact Canada lynx because of predation of Canada lynx and competition for prey.

His impression was that Canada lynx didn't like a lot of roads, vehicle traffic, or snowmobile traffic. He thinks that snowmobiles would be a problem in Canada lynx conservation attempts if: (1) complete protection from all types of direct or indirect trapping (including marten) was not provided; (2) snowmobile activity was not limited to day-use only; and (3) snowmobile trails didn't cause coyotes and bobcats to access areas normally only utilized by Canada lynx.

The farthest he ever pursued a Canada lynx was from Alturas Creek to Goat Creek, then across the highway and into Big Casino and Little Casino Creeks. It was the only Canada lynx he pursued that crossed the highway in the Sawtooth Valley. It was surprising because where the Canada lynx crossed is wide and devoid of trees and the crossing occurred during the day. He said Canada lynx that were run out of their normal home range were more likely to tree because the new area confused them.

Harold was surprised to learn that there is currently a large elk herd wintering in the Stanley Basin and a much larger herd that summered there. When he worked in Stanley, there were no elk wintering in the valley and about 100 animals in the entire Stanley Basin in the summer. He said there were a lot of deer, however. He said that in the seven years he lived in Stanley and hunted Canada lynx, he observed wolverine tracks on only three occasions. Harold felt that elk would directly compete with snowshoe hares for food, resulting in extremely low hare numbers.

Since moving to St. Maries, he has seen two or three different sets of Canada lynx tracks in the head of Marble Creek, toward Homestead.

He worked in the Uintas in northern Utah in 1957 and 1958 and treed 20 Canada lynx in those two years. Harold encountered Canada lynx along the entire north slope of the Uintas. He estimated that there were 15 Canada lynx on the north slope of the Uintas between the West Fork of the Bear River and the Little East Fork of the Black Fork River. This essentially was the area within his ranger district. He assumed there were Canada lynx farther east since the country was similar, but he did not spend any time there. He actually harvested three Canada lynx, one at a site that is currently underwater as the result of the subsequent construction of Whitney Reservoir.

The habitat utilized by Canada lynx in the Uintas included sub-alpine fir, spruce, aspen and what Harold called "moose willow." There were many beaver ponds in the area and moose were common. On one occasion, when there was about 18" of snow on the ground and beaver ponds were frozen except for air pockets in the ice, he came upon three Canada lynx evenly spaced around and about a foot back from an airhole on a two-acre beaver pond. Although these Canada lynx immediately ran away, at other times he found evidence of Canada lynx killing beaver on the ice. He also found evidence of beaver killed by Canada lynx in aspen stands where they were traveling away from water to cut aspen. He found that not only did Canada lynx regularly prey on beaver, but that beaver comprised the majority of their diet.

The remainder of their diet was primarily made up of porcupines and snowshoe hares in about equal amounts. He found Canada lynx occasionally ate muskrats. Beavers created better habitat for snowshoe hares by cutting mature aspen, stimulating regeneration of young aspen saplings used by snowshoe hares during the winter. The beaver density was so high that he found beaver skidding aspen a quarter mile from water and saw beaver five miles from any water out in the sagebrush. He has never seen that density of beavers before or since.

Canada lynx in the Uintas had more dark-to-silver coloration than in the Sawtooths. Harold saw one Canada lynx that was nearly black. He thought that as the result of the spruce-alpine fir forest in the Uintas being darker than the spruce-subalpine fir-Douglas-fir forests in the Sawtooths that darker Canada lynx had a competitive advantage for blending in with their surroundings.

He didn't see any bobcats or coyotes in the Uintas and found mountain lions to be extremely rare. Canada lynx were, for all practical purposes, the only large predator in the area. One winter while Harold was staying at the Mill Creek Ranger Station, a male Canada lynx used the hayloft as a shelter.

In the considerable amount of time that Harold spent in country inhabited by Canada lynx he has never seen a dead Canada lynx, other than those killed by his dogs.

Gary Will, Boise, ID — Gary remembered a Canada lynx that was killed crossing a highway near Carey about 1972.

EASTERN IDAHO

Joe Curry, Island Park, ID — Joe checked the three Canada lynx trapped by John Stevens in his capacity as a CO with IDFG.

Steve Zundel, St. Anthony, ID — Steve had a friend who saw a pair of Canada lynx near Monida Pass a number of years ago.

Tony Latham, Salmon, ID — Tony shot a Canada lynx while hunting ducks along the Henry's Fork of the Snake River in 1972. The Canada lynx was harvested near the bridge crossing the Henry's Fork of the Snake River on the Big Springs Loop Road, east of Mack's Inn.

Bruce Pentsky, Island Park, ID — Bruce checked a Canada lynx that was harvested near Big Bend Ridge between 1982 and 1987 in his capacity as a CO with IDFG. Big Bend Ridge is near Ashton Hill and the Sand Creek Wildlife Management Area. It is a transition area between sagebrush and conifer/aspens.

Vard Wright, St. Anthony, ID — Customers brought in a Canada lynx that had been trapped at Henry's Lake Flat into Vard's taxidermy shop in the early 1970s. The Canada lynx was harvested incidental to trapping coyotes. He recalled an old trapper who told him that around the turn of the century people who lived in Kilgore, Idaho, would catch Canada lynx and chain them up until their fur was prime before killing them.

Blaire Siepert, Rexberg, ID — Blaire bought a couple of Canada lynx in his capacity as a fur buyer, but couldn't remember from whom and when he bought them. He thought the last one was 8-10 years ago.

John Stevens, Ashton, ID — John Stevens worked west of Henry's Lake on Sawtell Peak as a radar technician. In the mid-1970s, he observed eight or nine Canada lynx using the area near where he worked. The Canada lynx were in heavy timber hunting rabbits, which at the time were abundant. The second consecutive year that he found the Canada lynx using the area he trapped four, of which he harvested three two-year olds and released an adult female. Of the Canada lynx using the area prior to his trapping, he thought that two were adult females and the rest were subadults.

The high densities of snowshoe hares in the area lasted only the two years that he observed multiple Canada lynx and hare numbers have never approached that level again. The Canada lynx that weren't trapped did not return to the area. He accessed his traps using snowshoes. During this time, John observed not only high densities of snowshoe hares in timbered areas, but high densities of jackrabbits in shrub-steppe habitats as well. Jackrabbits shot in the desert were used for bait when trapping Canada lynx in forested habitats.

In 1986, while traveling by snowmobile, John was surprised to observe tracks from a group of four or five Canada lynx in the desert west of Ashton in the Five Monuments area. He was shooting jackrabbits when he discovered the Canada lynx. Jackrabbit numbers were very high at that time. He came back to the area a week later and trapped and harvested three animals, an adult female and two kittens that were just old enough to hunt. These animals were harvested in habitats where vegetation was dominated by sagebrush and bitterbrush.



John Stevens trapped the adult female and two kittens in this photo in an area west of Ashton, ID. in 1986 in this sagebrush-bitterbrush habitat type.

John was not aware of any adult male Canada lynx in the areas where he observed females with kittens. On one other occasion he observed the tracks of a Canada lynx pair. He said there was one big male that traveled through the area west of Henry's Lake every two years on the last week of December and crossed in almost exactly the same place. He observed one or two Canada lynx tracks in the Sawtell Peak area every year until 1992, when he retired. The Canada lynx would hunt for about a week in the area and then leave. There were a number of areas where he observed Canada lynx that have since been logged. He has not observed Canada lynx in these areas after logging.

Canada lynx were the only predator in the area and therefore were easy to target when trapping. He said there were no bobcats or coyotes in the areas frequented by Canada lynx in the wintertime, but there was an occasional lion.

He thinks that big game populations have stayed fairly static since the mid-1970s. It is John's opinion that the two major factors in the lack of high densities of snowshoe hares since he trapped the Canada lynx in the area near Henry's Lake are clearcutting and slashburning. He said that these practices not only affected Canada lynx and snowshoe hares, but red squirrels, marmots, grouse, marten, and chipmunks.

He feels that the largest impact to Canada lynx prey is burning slash piles. Large animals could move off during and after clearcutting, but small mammals that weren't as mobile were forced to live in the environment modified by the timber harvest activities. In most cases, they made their home and cached food in the slash piles. When cold weather arrived in the fall, these small mammals were hibernating in the slash piles. The slash piles were burned when the first snowfall arrived, incinerating all the animals that made their homes in the slash, completely eliminating small mammals from entire areas. He said that snowshoe hares, rockchucks, squirrels, and chipmunks all used the slash piles extensively.

He thinks that pikas may have been an important food source for Canada lynx in the summer because of their availability in areas where Canada lynx were seen in winter. Grouse and squirrels were also important food sources, although not as important as snowshoe hares. He thinks that Canada lynx traveled long distances, but when they do find a concentration of rabbits, whether they are snowshoe hares or jackrabbits, that they will remain in the area until they were no longer available.

He said the current density of coyote and foxes in the desert around St. Anthony is extremely high.

Kirk Beuller, Island Park, ID — Kirk trapped a Canada lynx in the area locally referred to as Shotgun, which is the Spencer-Kilgore area. He said there were a number of Canada lynx in the area and pointed out places near Henry's Lake that he knew Canada lynx were or still are. He had trapped a number of Canada lynx, but was vague as to their location. He didn't think that coyotes had any impact on Canada lynx and saw no difference in coyote numbers when they were trapped hard versus the current limited trapping due to low fur prices. On one occasion, a Canada lynx killed and ate a bobcat caught in his trap.

Jim Burghome, Georgetown, ID — Jim trapped a Canada lynx above his house in Skinner Canyon in 1972. He trapped 34 bobcats, but only one Canada lynx. He confirmed that Johnny Hottle had trapped a Canada lynx in Georgetown Canyon about the same time.

Bud Keller, Preston, ID — Bud said his father-in-law had trapped a few Canada lynx in the 1930s and 1940s in Caribou County.

Blaire Jacobson, Swan Falls, ID — Blaire talked to people who claimed to have seen a Canada lynx on Skyline Ridge, which is in Hunting Unit 66, east of Idaho Falls. About 1990 someone called him and asked if he would mount a Canada lynx, but when he told him he couldn't unless it was properly tagged, he never heard from the caller again.

Troy Weeks, Swan Valley, ID — Troy said his father caught one Canada lynx in Tincup Creek in 1978 or 1979. He hadn't seen or heard of a Canada lynx in about ten years. He hadn't done much trapping in the last ten years. He attributed the decline in Canada lynx and bobcats to increases in mountain lions. All of the bobcats and Canada lynx they harvested had porcupine quills in their stomach.

Trevor Hill, Swan Valley, ID — Trevor observed one set of Canada lynx tracks since about 1995 in the proximity of the waterfalls in Falls Creek, near the South Fork of the Snake River. He has seen an increase in the numbers of snowshoe hares in the last four or five years.

Dean Michaelson, Paris, ID — Dean has been trapping since the late 1950s and never run across any Canada lynx. He caught a lot of bobcats when he first started trapping, but thinks hound hunters and coyotes have killed most bobcats.

Eric DeClerk, Montpelier, ID — Eric heard of three Canada lynx that were trapped near Montpelier, but none recently. One was trapped in Home Canyon by the Christiansen brothers.

Oliver Peterson, Montpelier, ID — Oliver began trapping in 1945 and did most of his trapping in the 1950s and 1960s. During a one-week period in 1947 or 1948, he caught five Canada lynx ten miles northeast of Soda Springs. He trapped four Canada lynx in the 1950s and 1960s, one in the same area where he caught the five Canada lynx. He caught three Canada lynx farther east near Georgetown. Except for one Canada lynx trapped near timberline, the remaining Canada lynx were caught in areas with a mosaic of aspen, conifer, and mountain brush.



Oliver Peterson with a large male Canada lynx trapped in southeastern Idaho. Oliver is believed to have harvested more Canada lynx than anyone in Idaho.



This beaver pond complex is the area used for hunting by a group of Canada lynx in the late 1960s or early 1970s near Soda Springs. There is now a snowmobile yurt constructed adjacent to the ponds.

The last set of Canada lynx tracks he saw was a group of four or five animals in the late 1960s or early 1970s that spent an entire winter hunting on and around a series of beaver ponds near what is now the Soda Springs archery range, locally referred to as Combine Hill. Other than the five Canada lynx he caught in Trail Canyon, it was the only other time he saw multiple animals. Two of the Canada lynx he trapped were incidental to trapping coyotes. The remaining trapped Canada lynx were the target animals. He didn't see any bobcats and only rarely saw coyotes in areas occupied by Canada lynx in the winter.

He began using 1080 in about 1947 and almost wiped out the coyotes. It took the coyotes five or six years to figure out the poison. There weren't any bobcats until the 1950s. Since then he has observed a lot of bobcats when there were few coyotes, and vice-versa.

He recalled very few deer in 1945, with about 100 sets of coyote tracks for every set of deer tracks. When use of 1080 to control coyotes began, deer numbers exploded. In the late 1960s and early 1970s, there were a lot of jackrabbits in the basins between mountain ranges. In the area he was familiar with, white-tailed and black-tailed jackrabbits occupied about the same habitats. It appeared to him that both species went through boom and bust cycles at the same time. Since the 1950s, when they started using 1080, coyotes were kept at fairly low levels by federal trappers to protect domestic sheep.

He said that forest and rangeland road densities are only slightly higher now than when he observed Canada lynx. He said that the main difference is there was no access into the areas in the winter because there were no snowmobiles and very limited access the rest of the year because there were no ATVs. He said he ran his trap lines with snowshoes and crosscountry skis.

He knew Roy Keeler, who was documented by IDFG as harvesting two Canada lynx. Based on the area that Roy worked, they were likely trapped near Tincup Creek or Stump Creek. He said Canada lynx were never numerous. He said he thought the Canada lynx fed mainly on snowshoe hares. He doesn't recall any of the Canada lynx having porcupine quills in their legs, but caught bobcats that did.

When asked to speculate on the demise of the Canada lynx in the area, he thought it was due to the lack of snowshoe hares and increased access into the area by snowmobiles and ATVs. He said that the ban on 1080, and the subsequent increase in coyotes, led to great reductions in bobcats. He doesn't know if it affected Canada lynx or not, because there were so few. He had never seen any sign of Canada lynx in the mountain range west of Bear Lake.

Johnny Hottle, Montpelier, ID — He trapped one Canada lynx in Big Rattlesnake Canyon in 1973. He didn't see any Canada lynx sign and didn't hear of any others, the exception being the one trapped by Jim Burghome.

Wayne Green, Alta, WY — Wayne began trapping in 1947. He often caught four or five Canada lynx a year, but hasn't seen any sign of Canada lynx for about the last ten years. He attributed the decline and extirpation of Canada lynx to lack of snowshoe hares and the increased density of coyotes and mountain lions. All of his trapping has been in Teton County, Wyoming. He now only rarely sees bobcats.

SALMON AREA

Laverne Hokanson, Salmon, ID — Laverne harvested two Canada lynx, pursuing them with hounds, both in the Lemhi Mountains, south of Salmon. One was harvested in the 1950s and one in 1979. He saw tracks infrequently in the Salmon vicinity, where he hunted or guided for 30 years.

He unsuccessfully pursued Canada lynx with hounds in the Pioneer Mountains west of Mackay in the 1950s, the Lemhi Mountains in the 1960s, and again in the 1970s. He said that in the Lemhi Valley, Canada lynx would occasionally make a big loop out of the high country anywhere there were extensive willow bottoms and that is where he first observed their tracks. He said that they spent most of their time at very high elevations. He said the most consistent place for finding Canada lynx was the Lemhi Mountains, about 30 miles south of Salmon.

He rarely pursued game up the Lemhi Valley because of the danger to his dogs from bobcat and coyote traps and 1080. Bobcat trappers still have snares and traps set in the mouths of all the canyons. He lost two dogs to snares in the last few years.

Jerry Meyers, Salmon, ID — Jerry treed and harvested a Canada lynx with hounds east of Salmon in 1976 and sold the pelt for \$80. He observed "lots of jackrabbits" during the mid-1970s in Lemhi County. While hunting with Doc Smith in 1976, he saw and pursued with hounds a Canada lynx at the foot of the Lemhi Mountains.

Richard (Doc) Smith, Salmon, ID — Doc saw and pursued a Canada lynx with hounds while hunting with Jerry Meyers in the upper Lemhi River in 1976. He saw a Canada lynx southeast of Salmon in the late 1970s. He often observed Canada lynx tracks while cougar hunting in this same area in the late 1970s and early 1980s. He also recalled a newspaper picture showing Ray Torrey with a harvested Canada lynx his hounds had treed in the Leesburg Basin area in the mid-1970s. He saw the Canada lynx that Laverne Hokanson killed in the Lemhi Mountains in 1979.

Bedford Stroud, Leadore, ID — Bedford trapped four Canada lynx in the upper Lemhi River drainage between the late 1960s and early 1980s. All of the Canada lynx were trapped in willow riparian areas adjacent to shrub-steppe habitats. All of the Canada lynx were caught incidental to bobcat trapping. He observed Canada lynx tracks on the Montana side of Bannock Pass, but did not recall ever seeing Canada lynx tracks on the Idaho side.

He thinks coyotes kill young bobcats and Canada lynx. He trapped 134 bobcats one year during the late 1960s in the upper Lemhi River and sold the pelts for \$6.25 each. During the late 1960s, prior to the ban on 1080, there were very few coyotes but lots of bobcats in the Lemhi Valley. He has not observed nor trapped many bobcats since the post-1080 increase in coyotes. He also stated that peak numbers of bobcats occurred during periods of highest jackrabbit populations.

Dick Wenger, Salmon, ID — Dick observed Canada lynx tracks on the Continental Divide north of Salmon in 1986. He observed Canada lynx tracks east of Salmon in January 1995. He observed a Canada lynx in the Pine Creek drainage in July 1983.

Andy Hagel, Salmon, ID — Andy commonly saw Canada lynx tracks in the upper Lemhi Valley while hunting cougars in the 1960s and 1970s. He found Canada lynx extremely difficult to tree or keep treed with hounds. He had a taxidermy shop in Salmon and recalls making two Canada lynx rugs, one for Larry Jarrett, who

killed a Canada lynx while deer hunting near Mackay in the early 1970s and another for a Mr. Tobias, who shot one that was feeding on a deer carcass in the Lemhi Mountains in the 1970s.

Adam Sedlak, Salmon, ID — Adam lived at the mouth of Opal Creek on upper Panther Creek in 1939-40. He worked for a taxidermist and trapped. He did not recall ever trapping a Canada lynx, or mounting or tanning a pelt. However, he did trap fisher and stated that he didn't like fisher because they ate marten, his target species. He also recalled customers bringing wolf and wolverine pelts to the shop. Adam said that bobcats were abundant at that time.

Larry Maxwell, North Fork, ID — Larry has trapped the North Fork of the Salmon River area since the 1950s, and also trapped in Alaska. He trapped two Canada lynx southwest of Salmon in the 1960s. He recalled fewer than 12 Canada lynx trapped or killed in Lemhi County during his lifetime. He observed tracks of several Canada lynx on the Idaho/Montana Divide north of Salmon in the mid-1980s, and again while trapping marten in 1990, but has seen no tracks in that area the past two winters. Larry trapped a young Canada lynx west of Salmon in 1987, which he released. He observed tracks of two Canada lynx north of Salmon during 1995 and 1996. These two Canada lynx are the only he is aware of in the North Fork area at this time.

He has noticed a definite correlation between Canada lynx track observations and snowshoe hare abundance. He has observed sign of mountain lion predation on Canada lynx. He believes that Canada lynx will change areas of use when disturbed by repeated snowmachine traffic.

R.J. Smith, Salmon, ID — R.J. trapped a Canada lynx in a willow riparian area adjacent to shrub-steppe habitats on a tributary to the Lemhi River in 1952. In 1976 he saw a Canada lynx cross Highway 75 in Stanley Basin.

Dave Williams, Salmon, ID — Dave reported three Canada lynx observations, all in the early to mid-1970s. He observed a Canada lynx crossing a road in a tributary to the North Fork of the Salmon River and saw tracks near the Continental Divide southeast of Salmon.

Ron Malone, Twin Falls, ID — Ron reported three Canada lynx observations west of Challis over a three-to-four year period in the mid-1980s while hunting with hound dogs. He also observed Canada lynx tracks in a tributary of the Salmon River between Challis and Stanley.

PANHANDLE AREA

John Smith — John recalled one Canada lynx that was harvested near Nampa in the 1950s or 1960s and another killed near Farrugut.

Lee Carrick, Athol, ID — Lee had seen two sets of Canada lynx tracks, one near Priest Lake and one near Horsehaven.

Frank Tredowsky, Coeur d'Alene, ID — Frank has not worked on any Canada lynx in his taxidermy shop. Frank said that people who claimed to have caught a Canada lynx usually have a bobcat.

Bob Campbell, Sandpoint, ID — Bob said that Canada lynx are very scarce. The largest population of Canada lynx he is aware of is in the Purcell Mountains and the Selkirks, but emphasized that there were only a

few in those areas. He has treed a few Canada lynx with hounds and trapped four or five, but found them difficult to trap because they use such large areas. He found that if they weren't trapped quickly they would move on and not return for an extended time. He trapped Canada lynx north of Bonners Ferry on Queen Mountain Road. He had a regular route that he snowshoed. The last Canada lynx he trapped was about 1964.

He observed that there were a lot more Canada lynx 20 or 30 years ago than there are now. He attributed a large part of the decline to the lack of snowshoe hares. He said that Canada lynx did occasionally catch grouse, but that snowshoe hares made up most of their diet. Snowshoe hares were abundant until the late 1940s, when a large die-off occurred and they still have not recovered. He thought that the die-off was due to tularemia.

He had observed sign where lions had killed bobcats, and felt when the opportunity presented itself, they would also kill Canada lynx. He thinks the increase in coyotes has impacted bobcats and Canada lynx, although not to the same extent as declining snowshoe hare populations.

Joe Blackburn, Plummer, ID — Joe did most of his trapping in St. Maries Creek and Upper Marble Creek. He hasn't seen any sign of Canada lynx in the last ten years and no longer believes there are Canada lynx in the area. Twenty to twenty-five years ago he observed Canada lynx tracks about once a year. He believes the main factor in their decline is habitat loss, mainly in the form of clearcuts and roads, and predation by mountain lions.

Dick Anderson, St. Maries, ID — Dick ran a 345-mile snowmobile trap line in the St. Joe region, mostly between the Clearwater and the St. Joe River. He has trapped for nearly 40 years and every year he saw three or four sets of Canada lynx tracks. Because of the amount of snow, the tracks usually would be between snowfalls. He has never seen more than one set of Canada lynx tracks at a time and assumed they were all male Canada lynx. He has never seen any evidence of kittens.

He saw two wolf tracks in the area. He has seen numerous fisher tracks, and although he avoided trapping them, occasionally one would get caught in a trap set for marten. He saw the Canada lynx that Cecil Samford harvested and also knew of a Canada lynx his neighbor had trapped. He said all of these Canada lynx were trapped incidental to coyote trapping.

He said there were more coyotes than imaginable in the high country and felt that coyotes could definitely impact Canada lynx and bobcat populations through kitten predation. He has seen a significant increase in the lion population and felt they could be impacting Canada lynx.

In 1967, he unintentionally ran Canada lynx with hounds while hunting near Dixie on the breaks of the Salmon River, just above the snowline in the spring and lost all of his hounds. Although he ran a few Canada lynx with dogs, he never caught one.

Bill Carter, St. Maries, ID — Although Bill had never observed Canada lynx tracks, he recalled the location of the Canada lynx that Cecil Samford trapped. He hadn't trapped in about ten years.

Lester Gesel, St. Maries, ID — Lester saw a Canada lynx in the North Fork of the Coeur d'Alene River drainage. Leo Black live-trapped one there about 30 years ago for use in a county fair and later released it. He said there were very few Canada lynx and they should have been listed as threatened or endangered years ago.

INDIVIDUALS INTERVIEWED WHO HAD NO INFORMATION RELATIVE TO CANADA LYNX

It should be noted that information from knowledgeable individuals of where Canada lynx are not present or when they were not present is also valuable information. The people listed below contributed to that information.

Don Wright, Idaho Falls, ID

Warren Moore, Soda Springs, ID

Al Nicholson, Boise, ID

Doug Peterson, Driggs, ID

Blake Phillips, Montpelier, ID

Lyle Scheiss, Teton, ID

Lee Frost, Hailey, ID

INTERVIEW SUMMARY

The interviews provide important information on historic and current occurrence of Canada lynx in Idaho. Many observations regarding specific factors affecting Canada lynx were common to multiple observers. Prior to these interviews, Canada lynx and Canada lynx habitats were thought to be primarily confined to the Panhandle area of Idaho. However, over half of the Canada lynx documented in Idaho are from the Salmon, Upper Snake, and Bear River watersheds. Habitat that supports snowshoe hare exists in these areas, but is patchy in distribution. Shrub-steppe habitats predominate these areas and often bisect or are found adjacent to snowshoe hare habitat. Shrub-steppe habitat has traditionally been considered atypical Canada lynx habitat by many people.

The information summarized in the following sections includes the authors' biological and management perspectives.

ALTERNATE PREY

Snowshoe hares are prominently mentioned by many of those interviewed as an important prey item for Canada lynx. Red squirrels, voles, and forest grouse were also mentioned as alternate prey sources for Canada lynx.

These animal species have all been documented in research as Canada lynx prey. Their importance to Canada lynx appears to vary with numbers and availability, season of the year and the area or habitat type.

The interviews, however, suggest a greater use of prey other than snowshoe hares than has been documented in boreal forests of Canada and Alaska. There is also evidence to suggest a reliance on prey species that either have not been documented or are rarely detected by research. The more varied prey base reported by interviewed individuals may be the result of the proximal location of atypical Canada lynx habitats that periodically support alternate Canada lynx prey adjacent to snowshoe hare habitats. Alternate prey mentioned most often in the interviews include white-tailed jackrabbit, black-tailed jackrabbit, porcupine, and beaver. One person also suggested pikas as potential prey.



Snowshoe hare (Photo by C. Richard Wenger)

JACKRABBITS

Little is known about the white-tailed jackrabbit in Idaho. Anecdotal information suggests that periodic population fluctuations of white-tailed jackrabbits are often synchronous with those observed in black-tailed jackrabbits. White-tailed jackrabbits have been found in high elevation areas used by Canada lynx. Conversely,

observations of Canada lynx have been documented in lower elevation areas where both white-tailed and/or black-tailed jackrabbit populations were high. Canada lynx have been known to prey on other rabbit and hare species when the opportunity presents itself, but their use of jackrabbits has not yet been documented by research. No research has been conducted on Canada lynx in the mix of conifer and shrub-steppe habitats that typify the southern range extensions of Canada lynx where jackrabbits commonly occur.

The interviews also suggest there is a disproportionate use of riparian areas for travel, dispersal, and security when Canada lynx exploit areas of high jackrabbit populations.

Countless variations of Canada lynx behavior could occur as the result of the utilization of jackrabbits by Canada lynx. All may be true at one time or other, depending on prey density, prey location and behavioral differences among individual Canada lynx. Five possible scenarios, that are based, in part, on anecdotal information obtained in the interviews, are described below.



White-tailed jackrabbit (Photo by C. Richard Wenger)

1 Canada lynx follow high jackrabbit populations into shrub-steppe habitats many miles from typical coniferous forest habitats. When jackrabbit populations crash, Canada lynx die of starvation if they are unable to reach habitats that support snowshoe hares. The three Canada lynx harvested in the Magic Valley in south-central Idaho in the late 1960s and early 1970s are examples of animals that may fit this scenario. The physical condition of these Canada lynx suggests that they are capable of effectively utilizing atypical habitats while traveling to habitats supporting snowshoe hares.

Although this scenario appears to parallel Canada lynx movements during and following snowshoe hare population crashes in boreal habitats in Alaska and Canada, the impetus for the movement may be different. In Canada and Alaska, where snowshoe hare populations are known to fluctuate widely, Canada lynx that don't pursue other prey and/or move to other areas, perish when snowshoe populations crash. In the southern part of their range, snowshoe hare populations do not appear to be cyclic, but rather mimic hare population lows in Canada and Alaska. Canada lynx populations or subpopulations in the southern part of their range have likely adopted a more diverse hunting strategy to take advantage of "pockets" of snowshoe hares scattered over large areas. In doing so they may regularly cross atypical habitats. If prey is periodically abundant in these atypical habitats, opportunism likely would dictate the continued use of these habitats until the prey is no longer available.

2 Canada lynx follow jackrabbit population highs many miles from habitats occupied by snowshoe hares and end up near other similar habitats. This would be a logical explanation for the persistence of disjunct populations of Canada lynx in Colorado, the Bighorn Mountains in Wyoming, the Uintas in Utah, the Eagle Cap Mountains in Oregon, and elsewhere. It also suggests a way for Canada lynx to traverse habitats between mountain ranges that are not as disconnected as the aforementioned examples.

3 Canada lynx exploit jackrabbit population highs without leaving traditional habitats. In some areas, as jackrabbit densities peak, individual hares often disperse into habitats where they normally wouldn't occur such as the upper elevation shrub-steppe. In the case of white-tailed jackrabbits, dispersing hares may move from the shrub-steppe into adjacent forested habitats.

4 Canada lynx move into shrub-steppe habitats, which they utilize until jackrabbit populations crash. The Canada lynx then disperse back into the forested habitats from which they came.

5 Canada lynx make nocturnal forays into areas experiencing jackrabbit population highs, but continue to use traditional habitats for security and cover.

Jackrabbits could allow the long-term persistence of Canada lynx in areas where habitats are proximal to typical snowshoe hare habitats. They appear key in providing a prey source that allows dispersal across shrub-steppe habitats into more typical habitat islands.

Large-scale fragmentation of shrub-steppe habitats, heavy grazing use, coyote numbers, and sport-hunting jackrabbits are all factors that reduce jackrabbit numbers and availability as a potential prey source for Canada lynx.



Black-tailed jackrabbit (Photo by Gary Will)

BEAVER

Western landscapes and plant communities have been greatly influenced by historic beaver activity. The number of beavers in Idaho have been greatly reduced from presettlement population levels. For example:

1 From the journals of Peter Skene Ogden:

In 1819, Mackenzie returned from the Snake Country with 154 horses laden with a total of over 15,000 beaver pelts. The next year they returned with even more pelts than the previous year.

Between 1819 and 1823, the British had 60 men trapping the Snake country. They harvested 80,000 beaver.

2 Milton Skinner, the Chief Naturalist of Yellowstone National Park in the 1920s, estimated that "the beaver population of Yellowstone National Park at about 10,000 animals," but believed that figure to be "very conservative."

The historical abundance and availability of beavers as prey in areas where they coexisted with Canada lynx was likely significant. The ability of Canada lynx to effectively prey on beavers could explain why Canada lynx persisted in areas where habitats currently appear marginal. The greatly reduced number of beavers today may have all but eliminated a valuable alternate prey source for Canada lynx.



Beaver (Photo by Jim Klott)

The interaction between snowshoe hares and beavers has never been scientifically examined, although research may exist that would allow an analysis. Aspen suckering caused by top-killing mature stems by a variety of means, including beavers, is well-documented. It is likely that aspen suckers provide many of the same desirable qualities for snowshoe hare survival as stems from coniferous forest regeneration. Beavers likely are, or at least were, prey for Canada lynx. They may also improve snowshoe hare habitat, providing additional prey for Canada lynx.



Porcupine (Photo by Gary Will)

PORCUPINES

Porcupines never have been documented in the literature as Canada lynx prey. However, a few people interviewed either observed porcupine quills on harvested Canada lynx or found evidence of Canada lynx preying on porcupines. Porcupines may be an important Canada lynx prey item that supplement snowshoe hares in coniferous forest habitats, especially at the southern extent of their range. Information on porcupines in Idaho is minimal-to-nonexistent, and no population trends are currently available for these animals. Research shows that

mountain lions are capable of effectively preying upon, and even eliminating, porcupines from large areas. Researchers, biologists and those interviewed generally agree that mountain lion populations are at an all-time high across their range. Thus, the availability of porcupines as alternate Canada lynx prey currently may be very low.

PREDATORS AND COMPETITORS

Predation on adult Canada lynx rarely has been observed and recorded in the literature. The scarcity of actual observed predation records is probably a reflection of the limited opportunities to observe such events in the wild. Coyotes commonly kill bobcats, both adult and young, but are not known to kill Canada lynx. The opinion of many of those interviewed, however, was that coyotes were having a detrimental effect on Canada lynx; either by direct predation on kittens or by competition. This may be an important factor in the western U.S. where extremely high snowshoe hare populations seldom, if ever, occur and coyote populations are high in the absence of wolves and poisons such as 1080.

Research and anecdotal information both document mountain lions killing Canada lynx. The current high numbers of mountain lions may also be having a significant effect on Canada lynx either by competing for, or in the case of porcupines, possibly eliminating an important and limited prey resource. Current population densities of mountain lions increase random opportunities for killing Canada lynx. A 1908 newspaper article in the Salmon Recorder-Herald tells of indiscriminate removal of Canada lynx, bobcats, wolves, and coyotes, yet no mention is made of mountain lions.



Mountain lions are both a predator and competitor of Canada lynx. Their numbers may be at all-time highs. (Photo by C. Richard Wenger)



Coyotes may be both a competitor and predator of Canada lynx. (Photo by Gary Will)

This suggests that there were few mountain lions in a predator mix that included Canada lynx. The scenario today is different with very few wolves or Canada lynx, low numbers of bobcats, and high numbers of coyotes and mountain lions.

DISPERSED RECREATION

Dispersed recreation including but not limited to ATVs, snowmobiles, cross-country skiing, camping, hunting, fishing and hiking, has been increasing for many years. The types of uses have also increased dramatically. More people now use natural resources to provide extreme outdoor challenges. They have spawned entire industries catering to both summer and winter activities.

When asked whether there were more roads now than when he occasionally saw or trapped Canada lynx, one southeastern Idaho trapper replied that the number of roads is only slightly greater than in the 1950s and 1960s, but at that time nobody used roads in the winter when Canada lynx were present. He accessed his trap lines with cross country skis or snowshoes. He said now the area receives intensive snowmobile and ATV use. He believes that this is a primary factor in the absence of Canada lynx since the early 1970s. Two interviewees who spent a great deal of time in the Sawtooth Valley echoed the same sentiments. Canada lynx were relatively common before the widespread and increased use of snowmobiles, cross-country skiing and ATVs. The threat to Canada lynx from motorized and nonmotorized recreational activities has not been researched.



Winter recreation continues to increase in areas once occupied by Canada lynx.

WILD & DOMESTIC UNGULATE GRAZING

Results from food habit studies of northern snowshoe hares are similar to those for hares found in more southern latitudes such as the black-tailed jackrabbit. Similarities exist in the amount and seasonal use of woody and nonwoody plants. Studies show that livestock grazing may reduce forage availability to the point that it limits black-tailed jackrabbit population densities. Elk and livestock eat many of the same plant species. Grazing of the same area by both species may have cumulative effects on both snowshoe hare and jackrabbit habitats. Domestic livestock and/or wild ungulates may compete regionally or locally for Canada lynx prey. They may also change the composition of plant communities to the extent that they are no longer capable of supporting Canada lynx and their prey.



Elk (Photo by Gary Will)

Large elk herds were prevalent at the turn of the century, decreased over time, and then rebounded to above turn-of-the-century levels. This has led to an increase in competition for forage, especially located along forest edges. Human development along the valley floors further reduces the amount of high-quality, low-elevation winter range available. As a result, elk and deer populations must commonly use higher-elevation ranges. This may stress certain plant communities and may have an indirect effect on snowshoe hare and/or

jackrabbit habitats by changing the amounts and kinds of plants that are present. Utilization of forage by both elk and livestock may thus have a significant impact on hare habitats. This may be particularly true in the southern-most portions of the Canada lynx range where grazing becomes a more dominant use.

Two observers mentioned that, when Canada lynx were present and snowshoe hare numbers were relatively high, elk numbers in the Stanley Basin were very low, with about 100 animals using the area during the summer and none in winter. Now, however, large numbers of elk use this area both in summer and winter. Several credible observers say that snowshoe hares are now almost nonexistent in the area.

TRAPPING

Many Canada lynx have been trapped incidentally while targeting bobcat and coyotes. Although fur prices are currently low, minimal trapping efforts and a complete closure on Canada lynx trapping make it less of an issue. Incidental trapping remains a problem, however, when Canada lynx populations are so critically low. In some areas of the state, incidental trapping of Canada lynx has occurred more frequently than in others. One example is the Lemhi Valley, where extensive willow-riparian areas bisect shrub-steppe habitats and are close to or extend into coniferous forest habitats.

SNOWSHOE HARES

Although several observers currently think that snowshoe hare numbers are higher than they have been in the recent past, the vast majority of observers feel that there are fewer snowshoe hares in habitats they are familiar with. Observers gave a number of possible reasons for the decline of snowshoes including tularemia, high numbers of coyotes, timber harvest practices, and high elk numbers. All of these factors may have merit and should be investigated.

TIMBER HARVEST PRACTICES



Timber harvest practices on dry sites can result in a loss of snowshoe hare habitats for long periods of time.

Timber harvest was mentioned by several observers as a factor in the decline in the Canada lynx. Timber management practices appear to have variable impacts on Canada lynx and Canada lynx prey, depending upon the methods or techniques used and geographic region. Although clearcutting has been shown to have beneficial effects for Canada lynx in some habitats, benefits are dependant on successful forest regeneration. On rocky, dry sites, clearcutting and other silvicultural practices often mean regeneration with a low stem-density, and in extreme cases, it is virtually nonexistent. Where regeneration does provide the high stem-densities optimal for snowshoe hares, it has generally been shown that the smaller the logging units or thinned stands, the better for Canada lynx and their prey. These units or stands should be interspersed between unaltered mature stands that offer Canada lynx denning habitat and movement corridors. Stem densities less than what has been shown as beneficial for snowshoe hare and Canada lynx normally occur on sites that are manually planted or on sites that are thinned regardless of regeneration method.

Forest road construction within Canada lynx habitat, especially in previously unroaded areas, may fragment Canada lynx foraging areas, denning areas, security habitats and travel corridors. Roads, even if administratively closed after use, ultimately increase human presence within Canada lynx habitat. Though the actual consequences of human disturbances are not well-known, increased human presence and road traffic certainly heighten the opportunities for or probabilities of incidental Canada lynx mortalities or displacement. Roads and timber harvest units often result in livestock grazing on what had previously been unsuitable, inaccessible areas. Roads may also provide access to Canada lynx competitors, especially during winter months.

Loss of down, woody debris through slash piling and subsequent burning was also mentioned as detrimental to Canada lynx prey species. In addition, such practices may reduce the large woody debris needed for Canada lynx denning.

OTHER FACTORS

Road-killed Canada lynx were mentioned by several of those interviewed. Not only do highways contribute to direct mortality, they likely affect Canada lynx prey, movements of Canada lynx, and may displace or disturb Canada lynx. Although the observation was in Utah, a water impoundment now covers an area in which Canada lynx were seen stalking prey.

CONCLUSIONS

Four basic conclusions surface as the result of this effort. First, Canada lynx numbers have declined in Idaho. No one interviewed who had any historical perspective or knowledge of Canada lynx thought otherwise. Even in the years prior to closing the trapping season, few Canada lynx were trapped within the state. There were extensive timber harvest activities in Idaho in the 1940s, 1950s, and 1960s. These timber harvest areas presently should be creating optimal habitat conditions for snowshoe hare, yet lynx numbers remain low.

Second, Canada lynx would not be present in southern portions of its range if it were not for snowshoe hares. However, Canada lynx would not persist in these areas if they depended exclusively on snowshoe hares. Alternate prey appears important for Canada lynx in the periphery of their range.

Third, there is no "smoking gun" factor in the decline of Canada lynx in Idaho. Many variables appear to limit Canada lynx numbers in this state. The most important of these appear to be timber harvest practices; high numbers of coyotes, mountain lions, and elk; increasing motorized and nonmotorized recreational use; incidental trapping; and reduced numbers of alternate prey, including species that are not documented as Canada lynx prey in existing research. These include jackrabbits, beavers, and porcupines.

Finally, all of the factors contributing to the decline of Canada lynx are intertwined. For example, timber harvest practices can affect recreational opportunities, which can affect the presence of Canada lynx predators, which can affect competitors of Canada lynx, which can affect the prey necessary for the Canada lynx to survive. There are many variations of the intricate relationships that determine whether Canada lynx can persist in a given area.

It is hoped the accounts and summary discussed in this report will enable those interested in Canada lynx to better understand Canada lynx behaviors, movements and occurrence in Idaho. The complex interrelationships between Canada lynx and biotic and human-caused factors never will be completely understood. Given the secretive, complex ways of the Canada lynx, many hurdles must be overcome to ensure their conservation in Idaho.



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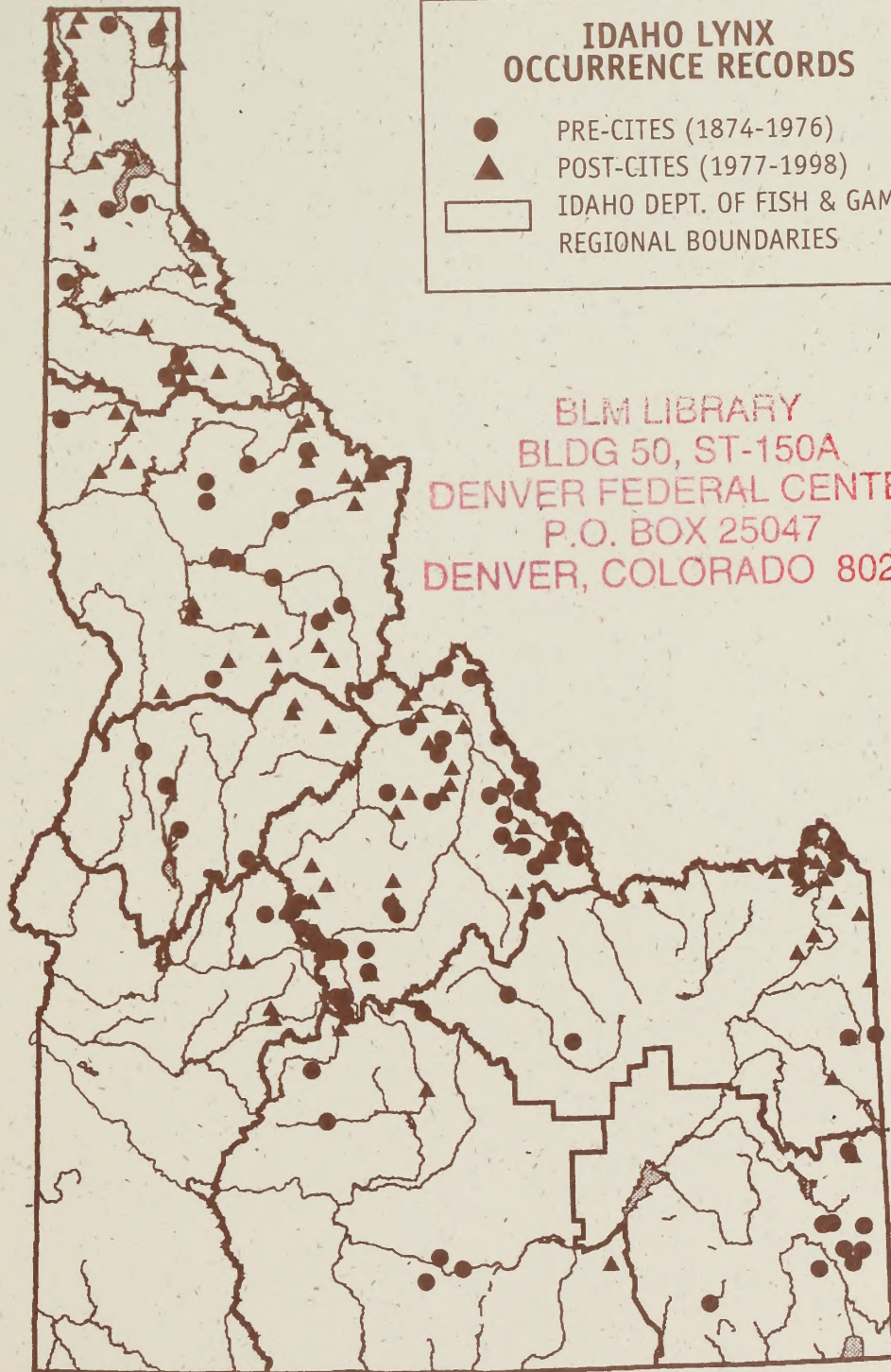
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IDAHO LYNX OCCURRENCE RECORDS

- PRE-CITES (1874-1976)
- ▲ POST-CITES (1977-1998)
- ▭ IDAHO DEPT. OF FISH & GAME
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Lynx occurrence records for Idaho, 1874-1998



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