

LIVE TRAPPING MINK IN BRITISH COLUMBIA
R.W. Ritcey and R.Y. Edwards
Parks and Recreation Division, British Columbia Forest Service
January 18, 1955

There have been few live-trapping studies of mink (*Mustela vison*), as McCabe (Jour. Mamm., 30: 415-423, 1949) has pointed out. This is difficult to explain in view of its wide range, its value as fur, and the ease with which it may be trapped.

Live trapping and tagging mink was a low priority study in Wells Gray Park, British Columbia, from 1951 to 1954. This work was undertaken in slack periods between studies given higher priority. It was designed primarily to test trapping and tagging techniques preliminary to a more detailed study planned for the future. Some data on the extent of movement accumulated and is included here.

McCabe (*loc. cit.*) has reported on a similar study in Wisconsin. Using wood box-traps, putrid bait, and a variety of means of recognizing individuals, he laid a solid foundation for further live trapping studies. The present study had comparable success with different traps and bait. An additional difference existed in the present study, for the park and its vicinity are contained in a number of registered trap lines. Since the population studied would be subject to commercial trapping, a marking method easily recognized by local trappers was essential. Such marking would enable trappers to report upon tagged animals taken and would also give data on the effect of commercial trapping upon the population.

Limited live trapping took place on most major waters in the southern half of the park, all of which is a wild area and some of which is undisturbed wilderness. Intensive trapping effort was confined to a 1.2 mile stretch of Hemp Creek where it meanders through hay fields and pastures in the vicinity of several small farms adjacent to the park. The elevation here is about 2100 feet. A brief description of the topography and vegetation of this park has been given by Edwards (Jour. Wildlife Mgt., 18: 521-526, 1954).

Methods: The traps used proved efficient, light in weight, and easily carried in quantity. These were collapsible, wire, live-catch traps manufactured by the National Live Trap Company. Both the 6" x 6" x 19" and 6" x 6" x 24" models were used with equal success. Traps were set a water edge and loosely covered with leafy brush. Little trapping was done before July in each year, for there are marked fluctuations in water level on most waters in the park until mid-summer. The bait used was mainly fresh fish. Brief trials with decomposing fish and other meats, both fresh and old, or combined with beaver castor, had little success.

Marking methods were confined to metal ear tags. Toe clipping would be relatively inconspicuous to trappers and subject to duplication through foot mutilation in steel traps. Dyeing or bleaching pelage is out of the question when animals are potential fur. Tags used were standard strap type fish tags of three types, a fingerling tap (8 x 2 mm) and a larger size (16 x 3 mm), both from a western company, and National Band and Tag Co. monel metal tags, Style #1005, Size 1. The small tags weighed about 0.1 and the larger one about 0.4 gms.

At Hemp Creek, trapping was confined mainly to late summer and consisted of traps set at some or all of five permanent trap stations along 1.2 miles of stream. Traps were set away from Hemp Creek where and when convenient.

Results from equipment: The trapping technique proved satisfactory. Forty-one mink were tagged of which 14 or 34 percent were recaptured. These 14 animals were recaptured a total of 64 times. At Hemp Creek a total of 556 trap units (one trap unit is one trap set for 24 hours) produced 31 first captures and 62 recaptures, or it required only 6 trap units to catch one mink. Four mink died as a result of our study, two from drowning and two from shock or rough handling while being tagged.

The tags used were not satisfactory. The fingerling tags from a western company seemed poorly made and were difficult to apply. A larger size was too large, causing tagged ears to droop under their weight. National #1005 tags were well made but could not be relied upon to remain in place even when carefully applied. This failure was no reflection on the quality of tag; rather the type of tag was not suitable for the job,

We have 14 tag failures involving all three kinds of tags used, yet some tags held quite well. Mink 197-200 had both tags intact about 16 days, and mink 453 had its single tag securely in place after 112 days. Mink 51 had its tag loose and tearing out in 16 days, mink 35 lost its tag in 14 days, and a new tag was loose and nearly free in six days. In late 1952 commercial trappers took two mink from Hemp Creek that had torn ears from previous tags. Each had been tagged in both ears and each had lost both tags. However, a third mink still had its single tag after three months. In 1953 two mink were taken which had each lost two tags, and mink 39045 lost both tags in five days. In 1954 mink 51-52 had lost one tag when found dead six days after being tagged.

We have concluded that the ears of mink are too delicate to retain metal strip tags, and that the animals themselves may work at the tags and so remove them.

A satisfactory marking method must be easily used by one man under the difficult field conditions of wilderness research, and at the same time should be easily recognized by commercial trappers who could most easily submit data as numbers from numbered tags. We have found no tag that is satisfactory, and have eliminated several without field trial because they are not sufficiently conspicuous, or because they are too difficult to apply in the field.

Data from mink: Data that accumulated during the study gave some indication of distances travelled by mink. Two recaptures on Murtle Lake, a large wilderness lake, showed a juvenile male to have moved 0.4 miles in 16 days, and an adult male to have moved two miles in 112 days. Both distances are airline. The last recapture was in February.

A steel-trapped mink had been lived tagged on Hemp Creek and was killed, after three months, four miles distant by water, or 1.5 miles distant airline.

The 62 recaptures on Hemp Creek were from five trapping stations. The two end stations were 1.2 miles apart following stream meanders, 0.8 miles apart airline. Stream miles are used below because repeated observations indicated that mink rarely move far from the stream edge. Mink 35-101, a juvenile male, moved the 1.2 miles once in 12 hours, and once in 16 hours. Mink 51-100 moved 1.1 miles within four hours.

Mink 35-101 was taken 29 times in 26 days. The average distance between points of successive capture was .45 miles, and the average time between captures was no more than 20 hours. Mink 51-100 was taken 16 times in 17 days. Recaptures averaged .3 miles and no more than 23 hours apart. These and other mink were often taken during daylight hours.

Data from Hemp Creek is especially interesting for the period September 3 to 25, 1952. In that period, the five trap stations took five mink: #35-101 twenty-nine times, #51-100 sixteen times,

#40 three times, #36 twice, and #39 three times. The first three were juvenile males, the last two adult males.

Mink 35-101 was taken on 21 days of the 23 day period and probably confined its activities to the 1.2 miles of stream. Mink 51-100 was first taken September 8, and was thereafter taken every day except for two short periods, September 11 to 12 after it was captured in the trap farthest downstream on September 10, and September 15 to 17 inclusive after release from the trap farthest upstream on September 14. It was taken again in this trap on September 18. This mink appears to have hunted both above and below the 1.2 miles of trapped stream.

Three of the five traps took both of these animals regularly. The two other traps were set only about 200 yards apart, one a short distance up a tributary of Hemp Creek, the other on Hemp Creek across from the mouth of the tributary and a short distance upstream from it. In these two traps, mink 35-101 was taken on in one (five times), and mink 51-100 only in the other (four times). It appears that while these two animals hunted much the same territory, there was a difference in the exact routes followed. There is evidence also that they tended to use different parts of the study area. If the length of the stream studied is divided in half, mink 35-101 was taken in the downstream half in 87 percent of its captures prior to September 20, but all subsequent captures were in the upstream half. Before September 20, mink 51-100 had 88 percent of its captures upstream, but after September 20, all were downstream. The animals appeared to switch areas of greatest activity as if avoiding one another.

The third juvenile male, #40, was taken on three consecutive days during the long absence of #51-100 from the traps, and in the one trap described above as successful only by #51-100. The appearance of #40 during the absence of #51-100 may be coincidence, but could also be taken as evidence of a new animal entering a temporarily unfrequented area, and moving out upon the return of the former occupant. The few recaptures of two adult males suggests that the study area was only part of larger hunting areas.

On this 1.2 miles of stream during three summers (1952, 1953, and 1954) the numbers of individual mink tagged were 11, 6, and 5 respectively. From all live trapping, 32 mink were aged, 17 adults and 15 juveniles. Of 36 sexed animals, 25 were males and 11 females. A total of 31 mink were sexed and aged, giving adult males 14, adult females 2, juvenile males 8, juvenile females 7. The low number of adult females is probably a result of their sedentary habits, as reported by Marshall (Jour. Mamm., 17: 382-392, 1936).'

Summary and conclusions: Mink have been found relatively easy to live trap, but a satisfactory marking method, suitable for use by one man under rough field conditions, has yet to be used. Until a more satisfactory method appears, we intend to use mapping of ventral pelage pattern as described by McCabe (*loc. cit.*) and ear clipping to denote previous capture.

Recapture data are too few to be conclusive. There is some indication, however, of movements up to two miles airline, of juveniles being more restricted in their travels than are adult males, and of adult females being most sedentary of all. A high proportion of juveniles in the data suggests a rather high rate of population turnover.