

The Possibilities

of

FUR BEARERS

on

THE WILLAMETTE NATIONAL FOREST

by

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in the
Willamette National Forest

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Table of Contents

	page
Introduction	4
Beaver.	6
Muskrat.	8
Raccoon.	9
Mink.10
Otter. . . . .	.11
Fisher . . . . .	.12
Marten . . . . .	.13
Wolverine. . . . .	.14
Fox. . . . .	.15
Skunk. . . . .	.16
Badger . . . . .	.17
Weasel . . . . .	.18
Other Considerations . . . . .	.22
Summary. . . . .	.24
Recommendations. . . . .	.27

Pictures and Tables

	page
Bear.	3
Their Tracks Identify Them. . . . .	.19
Martin, otter, mink, beaver . . . . .	.20
Fox, coon, skunk . . . . .	.21
Badger. . . . .	.17
Fur Bearers of the Willamette National Forest. . . . .	.28
Income of Licensed Trappers from Fur in Oregon. . . . .	.29



Introduction

The purpose of this thesis is to point out the possibilities of raising fur bearing mammals as a business or profitable enterprise to the governing agency or people of the area on our publically owned forest lands. The reasons the Willamette National forest was chosen are because it is a typical area for our western fur bearers, the area had to be limited because there are some different considerations for each area. Although the information on the life history was taken in Oregon and California, the management data from the Willamette National Forest, most of this information could be applied to any forest area west of the Mississippi River if not in the whole United States and Canada.

It was once a very valuable resource of this state but has dwindled to one of little importance today, bringing some \$250,000 to the state annually. "When the fur trappers first entered the Northwest, Oregon produced enormous amounts of furs. Today, after years of over-trapping, most of the fur bearing species are only a pitiful remnant of their former number". (1, p. 22). There is no reason why our streams and forest lands should not be producing many times their present fur crop without any interference with other land uses.

There has been relatively little study along this line and only one state, Montana, has attempted to manage its fur bearers. There is insufficient information on the life history

and management; therefore more research is needed, but from the information available it points definitely in favor of the fur bearers.

Not all the animals that have been or could be classed as fur bearers will be considered in this paper. Bear have been considered by the author as big game. Wolves, coyotes, cats, and Mountain lions are considered as predators and probably some of the very minor ones have not entered the author's mind.

The first part of this thesis contains the important points on life history of each animal that is needed in management. The second part is an outline for management of fur bearers on the Willamette National Forest.

Beaver

The beaver, the largest member of the rodent family, weighs about forty pounds and is considered as the most valuable and beneficial fur bearer of the Pacific Northwest. This aquatic animal may be distinguished by its long, webbed hind feet and large, paddle-like tail. The tail of the beaver is used as a rudder, a prop or third hind leg, as a signal of alarm, in walking, and to pack the mud in its dams. There are three different kinds of beaver in Oregon. The Willamette is included in the range of the Pacific beaver. The beaver is vegetative in its food habits, living upon cattails and the bark from cottonwood, willow, alder, aspen, and other broad-leaved trees and sometimes conifers, principally, but will eat other plants sometimes. This animal seldom goes beyond two hundred feet from water in search of food.

The presence of this animal can easily be detected by the numerous dams they construct across streams made mostly from mud and sticks. Beaver dams are beneficial to man in several ways. These dams collect seed. Willow and aspen start growing on them which makes a permanent dam, checking the rate of flow of the water, doing much in preventing erosion and stabilizing stream flow. Beaver dams make good feeding ground and spawning areas for fish. In cold water they may warm it so fish can live there. They raise the water making the surrounding area more productive, and driving out ground burrowing rodents. These dams make

good reservoirs for irrigation. Beaver dams may be detrimental to man in the following way: in flooding good lands, stopping drainage, and making the water too warm for fish life. The animal itself is not above doing damage by cutting off fence posts, bridge stringers, dam sills, and the like. Probably the greatest objection in forested areas is the cutting and drowning out of trees. However, the tree that grows along stream banks is of low commercial value.

The beaver has few enemies except man, and readily comes back if protected. This animal is considered to be monogamous, bearing four young each year after the third year, and a gestation period of three months. The beaver is suited for management in that it reproduces fast, is easily trapped, and planted in a new area, and is easily kept out of areas in which it is doing damage. It is impossible to tell the sex of the beaver without internal investigations and in planting we should be sure that they are not both of the same sex.

The above information leads me to believe that this is a very valuable animal without considering its valuable fur and great esthetic value. This is the only fur bearer that has been protected and propagated on the Willamette National Forest. The beaver would make a very valuable fur bearer on the Willamette River and its tributaries. There is no reason why this area would not produce many times the beaver it now produces.

Muskrat

The muskrat is a small rat-like aquatic animal with a long tail; a vegetative feeder causing no damage to farm crops, living mostly on cattails. This animal has no other value than its fur which when taken singly amounts to little, but when taken as a group is very valuable because of its large numbers. The muskrat does no damage to the forest but is destructive in burrowing around dams and in irrigation ditches and drainage canals. This animal has several enemies; such as the dogs, wild cats, house cats that have gone wild, coyotes, hawks, and the like, but due to their prolific reproductive habits, they easily overcome their enemies. The muskrat produces six to eight young in each litter and one or more litters each year after a gestation period of twenty-one days. They have not been raised successfully on farms because they have a saturation point above which they will not exist.

There are two kinds of muskrats in Oregon. One is the Oregon Coast muskrat on the Willamette River.

The above information indicates that the muskrat is a good fur bearer and should be increased. The muskrats would be very profitable fur bearers on the Willamette with its many lakes and streams.

Raccoon

The raccoon, or coon, is a dark cat-like animal with a large, bushy tail encircled by several white rings. The coon is a forest loving animal traveling far along water courses gathering most of its food from the water as a fish, crayfish, and clams, although it will eat anything including a large variety of fruits and poultry. The coon is not considered detrimental although it has been known to kill ducks, chickens, game birds, and eat the eggs of birds in a few cases.

There are two kinds of coon in Oregon. The Willamette being included in the range of the Northwestern Raccoon. The fur of this animal is very valuable but is a very cunning animal and very hard to trap.

The raccoon is a good reproducer, producing two to five young each year in the late spring after a gestation period of sixty-five days.

The raccoon should be a very valuable fur bearer because of its non-destructive food habits and its valuable fur. The Willamette National Forest with its vast area of timber and numerous water tributaries, would be an ideal habitat and there is no reason why the area should not be supporting many times its present number.

Mink

The Western mink that inhabits Oregon is a large Weasel-like animal weighing about three pounds. It is a very wicked fighter. The mink is one of the few wild animals that can stand the inroads of civilization being a very hearty animal no matter how close it has been trapped. They seem to remain in small numbers, but are slow to increase when trapping is removed. The mink ranges along water courses but will stray from them in the search of food which consists of crayfish, frogs, rodents, small birds, and game birds. This animal will kill poultry, but adequate housing will protect poultry from any enemies. The ducks eaten in California were those wounded by hunters and should be charged to the hunter rather than the animal.

The mink is a prolific reproducer, producing from six to eight young in the early spring after a gestation period of fifty-two days. They increase at a slow rate in protected areas, and for some yet undetermined reason there is a high mortality rate.

The information available indicates that this is a beneficial animal in spite of the slight damage he does. The mink's beneficial habit and his very valuable fur makes him one of Oregon's best fur bearers. The Willamette National Forest with its large wilderness area and numerous water ways is an ideal home for this valuable bearer and should be producing many times the present number.

Otter

This large mink-like animal has a long and low body with short legs, a long tapering tail, and a small head with small eyes and ears. It possesses one of the most valuable furs in Oregon. The Western Otter is aquatic in nature, ranging along streams from the Arctic to the Equator, living mostly upon fish, snakes, birds, crayfish, and other aquatic animals.

Serious complaints of mischievousness has ever been rendered against the otter. The otter is another of those animals that can stand civilization in the face of our great land settlement, and years of over-trapping has never caused the otter to become extinct. The otter has very few enemies.

The young of the animal, two or four in number, are born in the spring after a gestation period of sixty-two days, and remain as a family: father, mother, and young until the young are almost grown.

The otter being a great traveler, travels far along streams in search of food which seems to be their only limiting factor. There is no sound reason against a decided increase in the animals and the many streams of the Willamette River should be producing to their capacity, instead of so very few as today.

Fisher

The Western fisher which once was plentiful in Oregon is almost extinct today. This fox-like animal with a broad head and short ears is a true dweller of the forest, living only on forest lands and traveling far and wide in the search of food. The principal foods of the Western fisher are rodents of all kinds up to and including rabbits, small birds, but has never been known to catch game birds and is said to be especially fond of porcupines. These animals travel the high ridges and go great distances each day. It takes a large area to accommodate one fisher but several of these animals may travel the same circuit. The beast spends a great deal of his time in trees and is as much at home there as any squirrel.

The fur of this animal makes very beautiful and durable garments. The young, from two to four in number, are born in March after a gestation period of 352 days. The main reason why this animal has become so scarce is because of its long gestation period, so when a female is trapped, the young are also trapped. It is not yet known if this animal can be produced on fur farms or not. The fisher is one of our most beneficial fur bearers living mostly on rodents which is one of the greatest enemies of the forest besides man. The only objection of this animal is its long gestation period. The Willamette National Forest with its large mountainous area should be producing large numbers of this fur bearer in place of the very few it does today.

Marten

The marten is rich golden brown in color looking very much like the mink except the marten is larger and more rangey. This animal is a very valuable fur bearer, probably the most valuable on the Willamette and was once very abundant throughout the Northwest, but has become almost extinct. There are two kinds of marten in Oregon, the Willamette being included in the range of the Pacific Marten. The marten is a dweller of the forest, traveling far and wide, up to fifteen miles a day, sometimes in groups of several, in the search of food. The menu for this fur bearer includes all kinds of small animals and birds, mostly rodents. It has been known to kill poultry and game birds, and eat eggs, but is not termed as detrimental. The marten possesses one of the most beautiful furs in Oregon and is very easily trapped, but is trapped only by professional trappers today.

This dweller of the forest and mountains bears from two to six young each year after a gestation period of 267 days. There is high mortality in the young. This is one of our greatest fur bearers in Oregon that is in the danger of becoming extinct, and could well afford to be increased throughout the state. Because of its large, forested, mountainous area, the Willamette would make an ideal habitat for this animal and something should be done about increasing it.

Wolverine

The wolverine is the largest member of the weasel family and known as king of the forest. Incidents have been known where this animal has run mountain lion, bears, and other large animals away from their kill without even a fight. Being bold and vicious this animal fears nothing, not even man, living upon the kills of other animals and eating anything it finds.

This wide roamer of the woods has little value as a fur bearer and is known by every trapper as a trap robber. This timberline animal once inhabited the Cascade mountains of Oregon but has long since been exterminated. The fur of the wolverine is very durable but has little beauty, therefore is low in value.

The wolverine is not recommended for a fur bearer on the Willamette because of the low value of its fur, trap robbing, habits, its difficulty to catch, and because it has become extinct and would be hard to start again.

Fox

Oregon and Washington once produced more fox than any other area in North America but today there is only a few wild fox in either or both states. Of the four kind of fox in Oregon, two are ranged on what is now the Willamette National Forest. As you already know, the fox is a very fast, sly, cunning animal who is exceedingly difficult to trap and it has been suggested that his long bushy tail is used in making quick turns. The food of the fox consists mostly of mice and small rodents and birds including some game birds and eggs. The fox is especially fond of poultry and will do great damage if he can get to them. The Oregon gray and Cascade red fox both range mostly in forested area and are the two found on the Willamette. Both of these fox have been known to eat deer, pigs, calves and etc.

This animal bears on the average of four young each year after a gestation period of fifty-six days. Although this animal possesses a very valuable fur, it is not recommended as a managed fur bearer on the Willamette because of its predatory habit, its slyness making it very hard to trap, and would be in direct competition with fur farm, the fur being their principle asset, however more study is needed before too definite a domestic statement is made.

Skunk

Several different species of skunk range somewhere in Oregon but none live in the higher mountains which almost leaves the Willamette out of the picture but some of them have been found in the western valleys at the lower elevations. We are all familiar with this little black and white striped or spotted animal with the unpleasant odor who lives on insects and small rodents and occasionally get into chicken coops. The skunk seems to like civilization living around old houses and barns. The fur of this little animal, taken individually, amounts to little, but taken as a group amounts to a considerable sum because of the large number.

The skunk is a prolific reproducer producing from six to ten young after a gestation period of 62 days. They are not recommended as fur bearers for the Willamette principally because it is out of their natural range. However, they should make good fur bearers elsewhere because of their beneficial habit and the revenue they will bring. In the event that they become too thick here, they can be trapped out. Then there is the possibility of raising a more valuable fur bearer on the same area; so more study and research should be carried out before too definite a conclusion should be drawn.

Badger

This large and powerfully built animal ranges mostly east of the Cascade mountains in the open country, with a few being found on the west side. There are very few of these animals on the Willamette because it lays west of the Cascade summit and out of their natural range. This animal lives in the ground and feeds upon rodents, digging many large and numerous holes in search of food. These holes are dangerous to man and detrimental to his agricultural lands.

The badger's fur is tough with long hair and rather beautiful with little value but becoming more valuable as time goes on. The badger is not recommended as a fur bearer for the Willamette because it is out of its natural range, its destructive habits, and low-priced fur. However, this is a matter for more study and research for other more suitable places are for this animal because his activities in controlling rodents may outweigh his destructive habits although there is considerable doubt in the author's mind.



Weasel

The weasel is a small, long, low animal that is a very wicked killer, killing more than he can eat, apparently just for the fun of killing. There are several species of weasels in Oregon ranging from sea level to the top of the highest mountains. This little animal lives mostly upon rodents and other small birds and animals traveling far in the search of food. If he gets into your chicken coop, look out, for he will usually kill every chicken before he leaves. The fur of the weasel has little value, probably the least valuable fur bearer in Oregon. The weasel produces from five to six young usually every year but breeds irregularly.

It has been stated that this animal should be left to increase because of its effect in controlling rodents especially in the high mountains, but there is some doubt in the author's mind because of the detrimental effect to game birds and poultry, and their low value as a fur bearer. Maybe an animal more valuable as a fur bearer should take its place. However this is a subject for further investigation.

Their Tracks Identify Them

DRAWINGS BY HOWARD L. HASTINGS



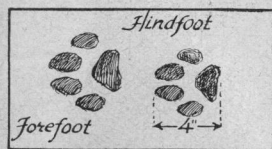
THE BROAD FEET OF THE CANADA LYNX ENABLE IT TO STAY ON TOP OF THE SNOW, WHEN MOST OTHER MAMMALS WOULD BREAK THROUGH AND BE AT A DISADVANTAGE

THOUGH THEY ARE SMALLER, A COYOTE'S TRACKS ARE HARD TO TELL FROM A TIMBER WOLF'S. THOSE OF A COYOTE ARE USUALLY FOUND ALONE. THE WOLF RUNS IN PACKS



WHEN THE FOOTPRINTS ARE LARGE AND THE CLAWS OF FOREFEET SHOW, YOU KNOW A GRIZZLY, AND NOT A BLACK BEAR, HAS PASSED

MAGNIFY A HOUSE CAT'S TRACK FOUR TIMES, AND YOU HAVE THOSE OF THE COUGAR. LIKE THE BOB CAT'S, THE FIFTH FRONT TOE, AND THE LONG CLAWS, DO NOT SHOW



TRACKS HARDLY DISTINGUISHABLE FROM THOSE OF A DOG, BUT LARGER, WARN THE HUNTER THAT HE HAS CROSSED THE TRAIL OF A TIMBER WOLF



THE STURDY-LEGGED WOLVERINE MAKES LARGE TRACKS FOR ITS SIZE, LEAVING CLEAR MARKS OF ITS HAIRY SOLES AND SEMI-RETRACTILE CLAWS



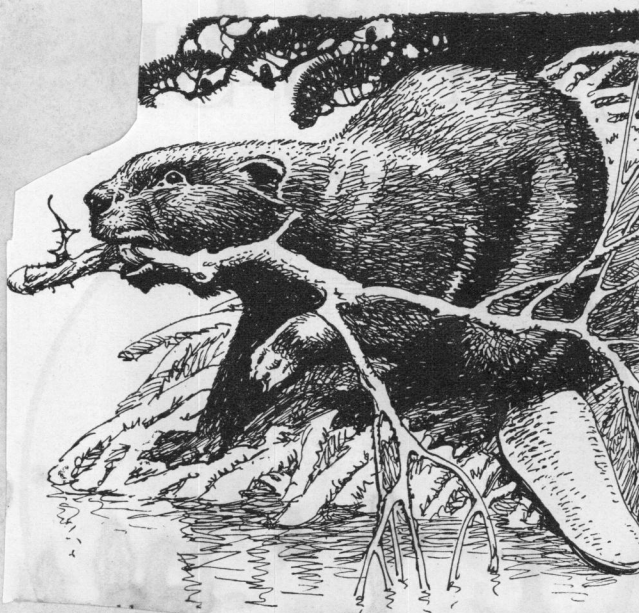
Marten are
scarce now



I've never forgot the first time I saw a she-
otter takin' a swim with her young on her back



Mink



Beaver



Fox



Coon



Other Considerations

There are some other very important considerations other than the animal himself in managing fur bearers on the Willamette National Forest or any other forest for that matter.

First, the settler in or near the area will do a great deal of hollering at any small amount of damage done by any of these animals and there are some that are without regard for the good they do. While it is true that proper housing of poultry and care of other domestic crops will prevent a great deal of this damage that at times the fur bearer as a whole can do damages in certain areas but can be trapped out of these areas or perhaps the settler can be compensated for the damage.

Second, that due to the large cruising radius of most of these animals, they will stray far from Forest Service land, and this is undesirable because of the damage they may do and the owner lose control of the animal. But if the area is not too thickly populated this movement will not be great and perhaps they are as desirable in the areas they go to as they are on National Forest land.

Third, is that settlers in these "shoestring" vallies who have a hard time subsisting can make considerable money from trapping in the winter.

Fourth, is the old angle that the people object to this because they are sure all fur bearers are predatory animals and detrimental to the country. This can be overcome by

education and propoganda that these Wild Life Clubs are putting out probably will do the trick in time.

Fifth, is that the National Forests were set aside for raising timber but that has spread to include grazing, watershed protection, recreation, and others; therefore there is no reason why it should not include management of fur bearers if they do not interfere with other important land uses and there is no apparent reason why it should.

Sixth, can you catch what you are trapping for and no other animal? The statement has been made that you can. In my experience which is very limited, I would say that it is true where professional trappers are doing the trapping, but sometimes they will catch animals they did not set the traps for, but this should not be great and could be taken into account.

Seventh, ~~there~~ will be many difficulties in the management, particularly enforcement, but I see no reason why they could not be ironed out in time.

Summary

In summarizing, a brief review of the life history of each fur bearer will be considered as it effects its desirability as a fur bearer.

The beaver himslef is not detrimental, but what he does in cutting forest trees, fence posts, bridge stringers, and dam sills is very little. The numerous dams he constructs are beneficial in controlling erosion, stabalizing stream flow, making good breeding and bedding grounds for fish, warming up the water in very cold streams and makes resevoirs for irrigation. However, these dams are detrimental in that they flood the land, and make the water too warm for fish life and probably other life. It is easy to keep the animal out of the area in which he is, or can do damage. The beaver's valuable fur and high esthetic value makes him a very valuable animal.

The muskrat has no other value than its fur which taken singly amounts to little, but as a group it amounts to a considerable sum because of the great numbers of these animals. Their fur value, non-destructive habit, rapid rate of reproduction, and ease in which it becomes established makes the muskrat a valuable fur bearer.

The food habit of th e coon is mostly aquatic but will eat anything including poultry, game birds, and their eggs; however, the coon is not considered detrimental. Because of

his non-destructive habits, fast rate of breeding, and valuable fur, the coon should be valuable as a fur bearer of forest lands.

There is some question as to where the mink's food habit is beneficial or not; however, authors on the subject seem to agree that he is. The mink's food habit, prolific breeding, and very valuable fur make him one of Oregon's most valuable fur bearing mammals.

The otter is one of the few fur bearing animals which no serious complaint of mischievousness has been rendered against him. The otter with his beneficial food habit, resistance to civilization and over-trapping, together with his very long valuable fur is a very valuable fur bearer.

The fisher is beneficial in his food habits, for the good he does by controlling rodents far outweighs the damage he does to poultry and game birds. The only objection to this animal as a fur bearer is the long gestation period. However, with his very valuable fur he should be considered as a very valuable fur bearer in Oregon.

The food habits of the martin is very beneficial in that the destruction of rodents far outweighs what little mischief he does. The marten possesses a very valuable fur and is one of the very valuable fur bearers and is in danger of becoming extinct. Something should be done to protect this animal immediately.

The wolverine has long been extinct in Oregon so he is out of the picture. However, for a number of reasons he could not be considered a valuable fur bearer.

According to authors on the subject of fur bearers, the fox is a very beneficial animal in controlling rodents and has one of the most valuable furs. In spite of this, a decided increase in this animal is not recommended because of the direct competition with fur farms and the reported damage done.

The badger is usually considered destructive and has little value as a fur bearer.

The skunk is a beneficial animal in controlling insects but has little value as a fur bearer, therefore he has had little attention. Perhaps he is entitled to more consideration than he has had in the past.

The weasel is usually considered detrimental, but those who study his food habits find that he controls rodents, especially in isolated or wilderness areas. This animal has very little value as a fur bearer.

Recommendations

1. Close the Willamette National Forest to all trapping, except that necessary for the control of predatory animals, until trapping will not destroy the breeding stock.
2. The planting of beaver and perhaps muskrats. The live trapping and planting of beaver has proven successful where the animals have been protected from trappers. Although I know of no attempt to trap and plant muskrat, I see no reason why it would not be successful.
3. Place a man in the supervision office in charge of wild-life management.
4. Require trappers to have special permits stating where, when, and what they can trap before they can trap on National Forest land.
5. Through cooperation between the Oregon State Game Commission and the Forest Service and professional trappers, enforce these laws and educate the people to obey them. It is very easy to convince professional trappers that fur bearers should be managed and they will obey the laws.

Fur Bearers on the Willamette National Forest

	<u>1934</u>	<u>1935</u>
Beaver	400	300
Fox	50	70
Marten	500	1,000
Mink	1,000	1,000
Badger	40	50
Weasel	1,500	1,500
Fisher	20	10
Otter	150	150
Skunk	2,000	2,000
Raccoon	1,200	800
Muskrat	500	400

Taken from forest service estimates.

Income of Licensed Trappers from Fur in Oregon
1937-38

<u>Species</u>	<u>Income</u>	<u>Average price</u>
Otter	\$1,473	\$15.00
Mink	40,864	7.50
Raccoon	3,573	2.50
Muskrat	30,126	.75
Wildcat	2,502	2.00
Coyote	11,166	4.50
Cougar	927	5.00
Wolf	1,500	2.00
Badger	8,034	2.00
Bear	2,875	2.00
Skunk	2,459	.75
Fox	225	2.00
Weasel	201	.15
Beaver	Closed	10.00
Fisher	Closed	
Marten	<u>Closed</u>	10.00
Total	\$105,925	

This is the income to licensed trappers in Oregon which has been estimated to be about one-half of the total income because many farmers trap who do not have a license.

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