

# **Baseline Study for Fur Trapping in the Suncor Study Area**

**May, 1996**

Prepared for:



Prepared by:

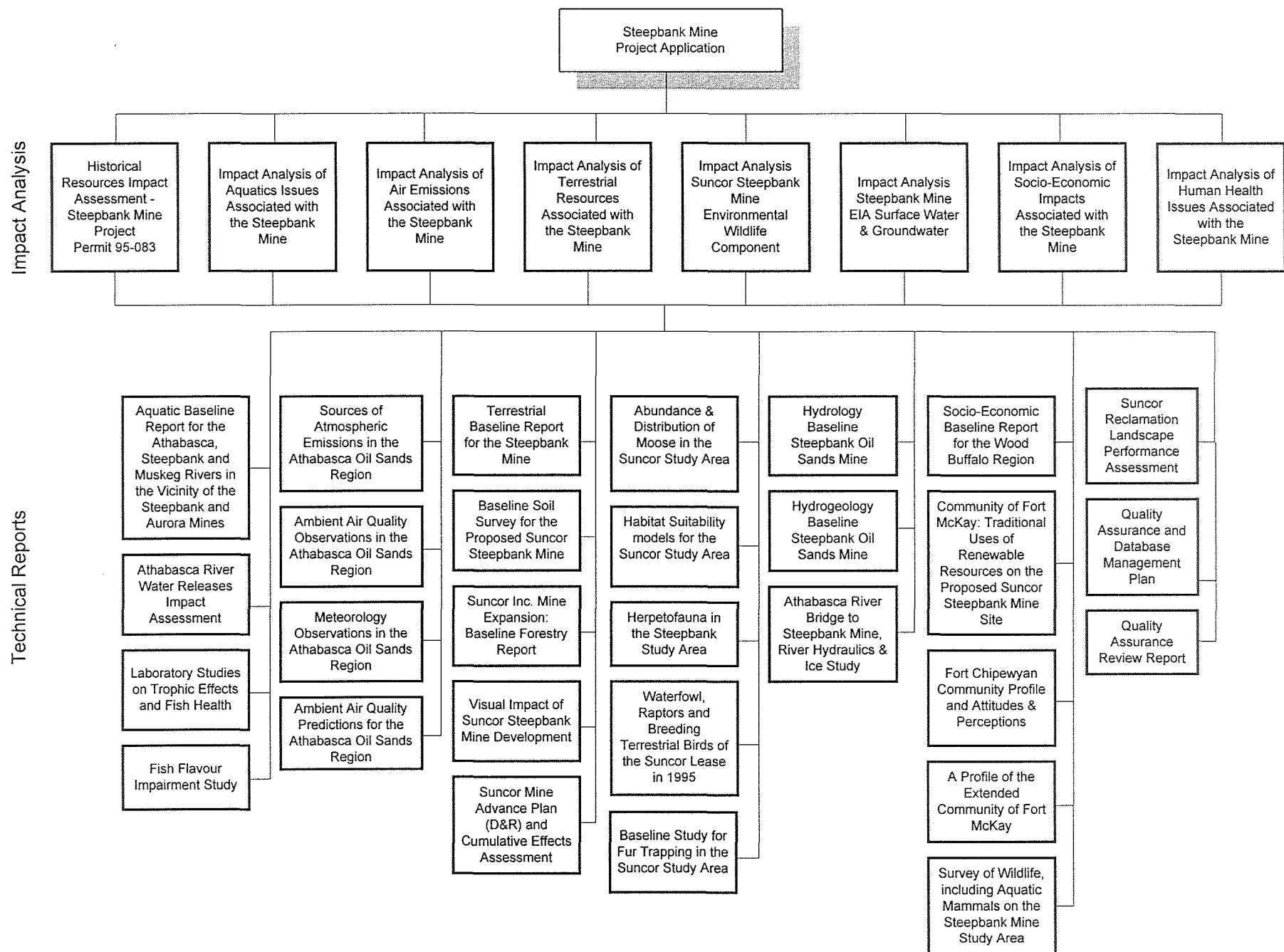


**Westworth, Brusnyk  
& Associates Ltd.**

**This report is one of a series of reports prepared for Suncor Inc. Oil Sands Group for the Environmental Impact Assessment for the development and operation of the Steepbank Mine, north of Fort McMurray, Alberta. These reports provided information and analysis in support of Suncor's application to the Alberta Energy Utilities Board and Alberta Environmental Protection to develop and operate the Steepbank Mine, and associated reclamation of the current mine (Lease 86/17) with Consolidated Tailings technology.**

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**BASELINE STUDY FOR FUR TRAPPING  
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Fort McMurray, Edmonton**

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Edmonton, Alberta**

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## EXECUTIVE SUMMARY

Information on the economic returns and levels of use on Registered Fur Management Areas (RFMAs) in the Suncor Steepbank Mine study area was obtained during winter 1995. Four RFMAs occupy portions of the study area; RFMAs #587 and #2156 are located west of the Athabasca River and RFMAs #2297 and #2453 are located east of the river. RFMA #587, which occupies an area of 328 km<sup>2</sup>, is the largest of the four trapping areas. In contrast, other RFMAs range in size from 223 to 279 km<sup>2</sup>. Most access on these RFMAs has been created as a result of oil exploration or timber harvesting, although trappers sometimes create short sections of trail to provide access to streams or cutlines. Each RFMA has one active cabin, which is also used for recreational purposes.

Trapping effort varied widely among these RFMAs. Trappers on RFMA #587 and #2156 established 57 and 32 trap sets, respectively, during the 1993-94 trapping season. In contrast, only seven sets were made on RFMA #2453 and none on #2297. Approximately one-half of the sets on all RFMAs were for beaver. However, in terms of the number of animals harvested, the red squirrel, which accounted for 44% of the harvest was the most frequently trapped furbearer, whereas the beaver and muskrat, which accounted for 31% and 9% of the harvest, respectively, ranked second and third.

Total trapping revenue for these four RFMAs from 1984-85 to 1993-94 has been estimated at \$64,925; however, because of variable fur prices and trapping effort, annual trapping income has fluctuated widely. Trapping revenue peaked at \$15,705 in 1986-87 and was lowest in 1990-91 when trapping on the four RFMAs generated only \$2,863. The peak return for a single RFMA was recorded in the 1984-85 season when RFMA #587 generated \$5,080. In terms of economic return, the beaver was the most important furbearer, followed by the fisher, and lynx. These species accounted for 43%, 23%, and 11% of the revenue, respectively; however, the revenue generated by lynx varied widely among seasons because of dramatic fluctuations in population abundance and fur prices.

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This baseline report was prepared for Suncor Inc., Oil Sands Group (Suncor) by Westworth, Brusnyk & Associates Ltd. as part of the Suncor Steepbank Mine Environmental Impact Assessment (EIA). Mr. Don Klym was the Suncor project manager and Ms. Sue Lowell was the Suncor project coordinator. Mr. Steve Tuttle was Suncor's task leader for the wildlife resources component. Mr. Hal Hamilton of Golder was the EIA project manager.

The component leader for the wildlife resources impact assessment was Mr. Lawrence Brusnyk. Mr. Greg McCormick and Mr. Doug Skinner served as principal authors of this baseline report. The field work was conducted by Mr. Greg McCormick. Mr. Julian Powder, Mr. Willie Boucher, Mr. Jules Flobert and Mr. Basil McDonald of Fort MacKay provided information on trapping activities in the study area. Ms. Kari Donnelly and Ms. Carol Brittain were responsible for word processing and report formatting.

Mr. Lawrence Brusnyk, Mr. John Gulley (Suncor), and Ms. Bette Beswick reviewed the draft of the report.

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## **1.0 INTRODUCTION**

### **1.1 Background**

The exploitation of wildlife for commercial and recreational purposes has long been an important activity for people residing in the Athabasca Oil Sands region (Parker 1979). Fur trading began along the Athabasca River in 1778, when Peter Pond established a winter trading post at a site 64 km south of Lake Athabasca. During that same year, Roderick Mackenzie constructed a trading post at Fort Chipewyan, which served as an important fur trading centre for almost a century. In 1902, another trading post was erected approximately 90 km north of Fort McMurray.

In recent years, however, industrial development, particularly oil sands extraction, has greatly altered regional land-use and employment patterns in northeastern Alberta. Although industry has provided economic and employment opportunities, it has affected the lifestyle of those who rely on fur trapping as a source of income.

Recently, Suncor Inc., Oil Sands Group (Suncor) identified a need to obtain new oil sands resources in order to continue operations into the future. As a result, studies are being conducted to determine the feasibility of developing a mine for oil sands extraction on new leases in the vicinity of the Steepbank River. Because four Registered Fur Management Areas (RFMAs) could potentially be directly affected by the proposed mine and ancillary developments, a study was conducted by Westworth, Brusnyk & Associates Ltd. to provide information on patterns of use and the economic value of the fur resource on these trapping areas.

### **1.2 Objectives**

The goal of this study was to obtain information on the economic returns and levels of use on four Registered Fur Management Areas that are included in the Suncor Steepbank Mine study area (Figure 1). Specific objectives were to:

- determine the nature and extent of use of local wildlife resources,
- estimate fur production and revenues generated as a result of the harvest of furbearing

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mammals, and

- record the locations, habitat types, and set types used by trappers to harvest furbearers.

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## 2.0 METHODS

### 2.1 Information Retrieval

Information about the species composition and number of animals harvested on each of the four RFMA's in the Suncor study area was obtained from fur harvest records maintained by Alberta Environmental Protection, Fish and Wildlife Services. This information included fur affidavits for the 10-year period from the 1984-85 to 1993-94 trapping seasons, maps showing the configuration and size of RFMA's, and a summary of trapping regulations. Mean fur prices for Alberta for each season were obtained from Alberta Environmental Protection, Natural Resources Services, Wildlife Management Division. Economic returns from trapping in the Suncor study area were estimated by summing the product of mean annual fur price and the annual harvest of each species of furbearer for each RFMA.

### 2.2 Trapper Interviews

Interviews with trappers and trapline visits were conducted to obtain additional information about trapline productivity and the effort expended to trap various species of furbearers. Four trappers, each associated with one of the RFMA's in the Suncor study area, were interviewed to obtain specific information about the number of registered partners trapping on each RFMA, travel routes used during the trapping season, cabin locations and access, species harvested and trapping effort allocated to each species. Information was also collected about hunting activity and recreational use on the RFMA's. However, little information was available about trap set characteristics and trapping effort in RFMA #2297 for the past two years because the registered trapper had been injured while operating an all-terrain-vehicle on his RFMA.

To obtain more detailed information about trap sets and the use of various habitat types by trappers, RFMA's #2156 and #2453 were visited in conjunction with one of the trapper partners from each area. This part of the study was conducted between 21 and 28 February 1995, after the long-haired fur season had closed. As a result, the only active sets on any RFMA were beaver (*Castor canadensis*) sets and these were present only on RFMA #2156; however, these sets were being removed at the time of the study. Because trapping had virtually ceased, this portion of the study required that participating trappers make a special trip to their RFMA with a Westworth, Brusnyk & Associates' staff member.

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All trappers participating in this study received financial remuneration and those who volunteered to visit their RFMA were supplied with fuel for the trip.

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### 3.0 RESULTS

Two of the four RFMA's in the study area are located west of the Athabasca River and two are located east of the river (Figure 1). RFMA #587, which is located west of the Athabasca River, is registered to B. McDonald, who has been trapping in the area for 12 years (Table 1). RFMA #2156, which is also located west of the Athabasca River, is registered to two trapper partners; J. Flobert, who has been trapping the area for 29 years is the senior partner, whereas S. Yurkiw, who has been trapping on the RFMA for approximately five years, is the junior partner. W. Boucher, who has been trapping in the area for 20 years, is the only registered trapper on RFMA #2297, although until the 1993-94 season, R. Boucher was also registered as a joint senior partner. RFMA #2453 is currently registered to two senior partners, J. Lindstrom, who has been trapping in the area for 17 years, and J. Powder, who has been trapping for 14 years.

#### 3.1 Description of Registered Fur Management Areas

RFMA #587 includes the Dover and McKay Rivers as major features. This RFMA has recently been reduced in size from 618 to 328 km<sup>2</sup> but it is still the largest of the four trapping areas (Table 1). The length of trapline on RFMA #587 is also greater than that of the other RFMA's included in this study. The trapper, B. McDonald, operates a total of approximately 132 km of trapline (Figure 2), although not all of this line is trapped during a single season.

RFMA's #2156, #2297, and #2453, which occupy areas of 223, 279, and 243 km<sup>2</sup>, respectively, are smaller in area. Important features of RFMA #2156 include Poplar Creek and Poplar Creek Reservoir. The partners on this RFMA operate approximately 32 km of trapline (Figure 3).

The Steepbank River is a major feature of RFMA's #2297 and #2453, both of which are located east of the Athabasca River. Because of health concerns about one of the partners, no furs were harvested on RFMA #2453 in 1990-91 and trapping effort has been low since then. During the past season, only 14 km of trapline were used on this RFMA (Figure 4). W. Boucher has about 30 km of trapline on RFMA #2297 (Figure 5) but he has not been active on his line in the past two years as a result of an accident.

Access created by industry provides most travel routes on these RFMA's. Much of this access is via oil

exploration roads dating back to the 1950s and recently-constructed logging roads. However, because forestry operators now block entrances to logging roads when timber harvesting has ended, trappers frequently must travel around blockages to gain access to travel routes. Older routes used by trappers often require yearly maintenance, which usually involves removing vegetation with either a chain saw or by hand. Two of the RFMAs included in this study also have short sections of trail that were created by a trapper cutting a narrow path through the forest. This was done to create access to a stream or cutline, or to reduce the distance between existing travel routes.

One cabin, which is also used for recreation in the off season, is maintained for trapping purposes on each RFMA, although three of the four RFMAs also have older cabins that can no longer be used. Active cabins require upkeep and often require extra maintenance as a result of break-ins. Active cabins on RFMAs #2453 and #2297 are located along the Athabasca River, whereas access to the active cabins on RFMAs #527 and #2196 is by means of all-terrain or 4-wheel-drive vehicles. B. McDonald (RFMA #587) is able to snowmobile to his trapping area directly from his home.

### 3.2 Trapping Methods and Patterns

#### 3.2.1 Seasonal Trapping Patterns

The commercial trapping season in the Fort McMurray area (Zone 1) usually opens 1 October and ends 15 May (Table 2). However, the season for long-haired furs usually closes by 31 January, whereas the season for beaver, muskrat (*Ondatra zibethicus*), and otter (*Lutra canadensis*) usually remains open until April or May. Trappers interviewed for this study indicated that, during October, November and the spring trapping season, they usually trap along the Athabasca River, primarily for beaver. Traps for terrestrial furbearers, such as the coyote (*Canis latrans*), fox (*Vulpes vulpes*), lynx (*Felis lynx*), mink (*Mustela vison*), and fisher (*Martes pennanti*) are also normally set early in the season but are removed by the end of the long-haired fur season. Between October and February, traps are usually checked at three or four day intervals; however, during the spring beaver season, in late April and the first week of May, traps are checked daily. Most trappers cease trapping before the season officially ends on 15 May.

B. McDonald estimated that he had made 57 trap sets, one-half of which were for beaver, on RFMA #587 during the 1994-95 trapping season. Similarly, J. Flobert indicated that beaver sets comprised over

one-half (n=17) of 32 trapping sets on RFMA #2156 and that he had also set a number of traps for mink and fisher during the 1994-95 season. In contrast, only seven sets, four of which were for lynx, were made on RFMA #2453; however, J. Powder indicated that he expected to harvest approximately 20 beaver during the spring season.

### 3.2.2 Description of Trapping Sets

The three active trappers involved in this study used similar trapping techniques. Most trap sets were placed in the vicinity of river courses and streams. The majority of these sets were for beaver, although most sets for fisher, mink and otter were also located in riparian habitats or near beaver lodges. Beaver sets on RFMAs in the Suncor study area frequently consisted of two or more traps set at a single location, whereas a single trap was set at each location for most other species. Drowning sets with either leghold traps or Conibear traps were used to trap beavers, although only Conibear traps were used in beaver sets on RFMA #2156. During the spring season, trappers also frequently shot beavers on open water. Conibear traps attached to a toggle were preferred for otter sets, which were usually made where otters had been previously observed by a trapper.

Most trappers used a snare or a leghold trap in a cubby set, which was usually placed in a mixedwood or coniferous forest, for lynx. A similar set type was also commonly used for fisher, although a boxed Conibear set was sometimes used for this species. This type of set is made by placing bait at the rear of a wooden box and setting a Conibear trap at the entrance. The boxed Conibear set was also frequently used to trap mink. Coyote, fox and wolf (*Canis lupus*) sets were usually made with a snare attached to a toggle; however, sometimes the snare was attached to a large tree. Sets for coyote, fox and wolf were frequently placed in dense mixedwood stands to facilitate concealing snare cables; however, some sets for these species were also placed along cutlines under trapper's trails in open areas of mixedwood and aspen (*Populus tremuloides*) forest. A small single-spring leghold trap in a tin can was usually used to trap weasels (*Mustela erminea*, *M. nivalis*). This type of set is designed to capture the animal in the area of the chest and quickly kill it.

### 3.3 Species Composition of the Fur Harvest

In terms of the total number of animals harvested, the red squirrel (*Tamiasciurus hudsonicus*) and



beaver were by far the most important furbearers in the Suncor study area (Table 3). From the 1984-85 to 1993-94 seasons, red squirrels and beavers comprised 44% and 31%, respectively, of the fur harvest; however, the contribution of individual species differed among RFMAs. For example, red squirrels ranged from 4% of the fur harvest on RFMA #2156 to 62% on RFMA #2297 while beavers ranged from 19% of the harvest on RFMA #2297 to 50% on RFMA #2453. The muskrat, which accounted for 9% of the total harvest, was the third most frequently trapped furbearer in the Suncor study area. Overall, other species of mammals contributed only 16% of the animals in the fur harvest.

Because lynx population dynamics follow those of the snowshoe hare (*Lepus americanus*) and therefore cycle at approximately 10-year intervals, the contribution of lynx to the fur harvest has varied widely among seasons. Peak numbers of lynx were captured in the 1989-90 season when 17 lynx comprised 6% of the individual animals in the fur harvest in the Suncor study area (Table 4). In contrast, lynx did not comprise more than 2% of the harvest in any of the other seasons examined in this study and a total of only 24 lynx were captured in these nine seasons.

### 3.4 Economic Value of the Fur Resource

The economic income derived from fur trapping fluctuated widely both over time and among trapping areas. These disparities resulted largely from variations in fur prices and differences in trapping effort among RFMAs. Fur prices, in general, have declined over the last 10 years, although they increased somewhat in 1993-94 (Table 5). For example, the average pelt price for beavers, which provided much of the income from RFMAs in the Suncor study area, declined from \$37.98 in 1986-87 to \$14.04 in 1992-93 before rising to \$33.48 in 1993-94.

Low fur prices appear to have contributed to reduced fur harvests. During the mid-1980s, the annual harvest of beavers on RFMAs #587, #2156, #2297, and #2453 exceeded 140 animals annually (Table 4). In contrast, only 40 beavers were harvested on these RFMAs during the 1993-94 trapping season.

Based on mean fur prices for Alberta and fur harvest affidavits from the four RFMAs, total revenue from trapping in the Suncor study area over the past 10 years was estimated at almost \$65,000 (Table 6). Annual trapping revenue for the study area peaked in 1986-87 when it reached \$15,705 and was lowest in 1990-91 when revenue was estimated at only \$2,863, 20% of the 1986-87 level. The \$5080 generated

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by RFMA #2297 in the 1984-1985 season was the greatest estimated annual trapping revenue from any RFMA in the study area. In contrast, no furs were harvested nor revenue generated on RFMAs #2453 and #2297 in 1990-91 and 1992-93, respectively.

On average, RFMAs in the Suncor study area have produced \$5.95 for each km<sup>2</sup> of area over the 10-year period considered in this study (Table 7). Although the total economic return from the fur harvest was greatest for RFMA #587, RFMA #2156 produced the greatest return per unit area. Overall, the greatest revenue per unit area was produced in the 1986-87 season, whereas the lowest revenues per unit area were produced in 1990-91.

In terms of economic returns, the beaver was the most important furbearer harvested in the Suncor study area (Table 8); this species accounted for 43% of estimated fur revenues over the past 10 trapping seasons. The fisher, which accounted for 23% of trapping revenue, was the second most important species, while the lynx, which accounted for 11%, was third. However, as a result of population cycling and dramatic fluctuations in pelt price, the percentage of total revenue generated by lynx varied widely from 1984-85 to 1993-94. In 1984-85, lynx pelts were worth almost \$600 (Table 5) and the capture of only three lynx accounted for almost 20% of the fur revenue generated in the Suncor study area. This species provided an even greater proportion of the fur revenue in 1989-90, apparently as a result of a cyclic peak in the population, despite moderate pelt prices. During the 1989-90 season, the capture of 17 lynx accounted for 43% of the estimated fur revenues from the Suncor study area. In contrast, because of low harvest rates coupled with pelt prices of only \$82 and \$121 in the 1992-93 and 1993-94 seasons, respectively, this species accounted for less than 3% of fur revenues during these seasons. In contrast, the red squirrel, which contributed the greatest number of individual animals to the fur harvest, provided only about 2% of the total revenue generated by trapping in the Suncor study area.

### 3.5 Other Uses of Wildlife by Trappers

Trappers in the Suncor study area also harvest a variety of wildlife that is not sold as fur to commercial buyers. Pelts from some trapped animals are retained by the trapper and are used for making clothing, such as hats, gloves and boots. This clothing is primarily for personal use, although some is sold. Most hides used for clothing are commercially tanned but some are tanned by hand.

Very few animals are hunted solely to provide bait for trapping because an adequate supply can usually be obtained from the carcasses of previously-trapped furbearers. However, moose, which can be hunted throughout the year by three of the senior trappers involved in this study, are an important source of food for local trappers. Geese, ducks and other wildlife are also sometimes hunted for food, although these species are not considered as important as moose to local trappers.

### **3.6 Recreational Use of the Wildlife Resource**

Because the four RFMA's examined in this study are readily accessible from the Athabasca River, they receive use from recreational hunters, fishermen and outdoor enthusiasts with all-terrain vehicles. This latter type of use has been increasing steadily in recent years. However, the heaviest use occurs during the autumn hunting season, when recreational deer and moose hunters are active. Early in the season, hunting occurs primarily on the west side of the Athabasca River (RFMA #587 and #2156), because the open river restricts access to RFMA's #2297 and #2543, which are located to the east of the river and are not accessible by road. However, after the river has frozen, some hunting also takes place on these two RFMA's.

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#### 4.0 DISCUSSION

Wolforth (1971) characterized trappers in the Mackenzie Delta region as "specialist" or "non-specialist" on the basis of their dependence on trapping as a source of income. Specialist trappers made a major commitment to trapping, including a large capital outlay for specialized equipment and most of their time was spent trapping or engaged in activities required to support trapping. Conversely, for the non-specialist trapper, trapping is a part-time activity used to supplement income from other sources, such as wage employment or social assistance. Specialist trappers tend to harvest a wider variety of species than non-specialists, who usually concentrate their efforts on a limited number of species that are easy to catch without specialized equipment.

Two of the four trappers involved in this study, J. Flobert and B. McDonald, could be considered "specialists" because of their commitment to maintaining their trapline and the investment that they have made in snowmobiles and other equipment. However, J. Flobert indicated that he considered trapping a lifestyle and a recreation because the economic returns from trapping did not cover his annual expenditures and capital outlay.

Because of declining fur prices, trapping is no longer a viable industry in terms of economic returns, and in the last decade it has become primarily a lifestyle and recreational activity. However, compensation provided by industry for the loss of habitat and animals has provided some income to trappers and the potential for future compensation claims also is a factor in motivating trappers to continue trapping.

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**5.0 LITERATURE CITED**

**Parker, J.M. 1979.** The Athabasca oil sands historical research project. Prep. by Alberta Environment and Canada Environment for AOSERP, Edmonton. AOSERP Proj. HE 2.4. 75pp.

**Wolforth, J. 1971.** The evolution and economy of the Delta community. Prep. for Indian and Northern Affairs, Ottawa. 163 pp.

# **TABLES**

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6.0 TABLES

**Table 1.** Details on Registered Fur Management Areas (RFMA) in the Suncor study area, February 1995.

RFMA	Location	Area (km <sup>2</sup> )	Trapper(s)	Years on RFMA
587	Tp 92-94, Rg 10-12, W4	328	B. McDonald	12
2156	Tp 91, Rg 10-12, W4	223	J. Flobert	29
			S. Yurkiw	5
2297	Tp 91, Rg 7-9, W4	279	W. Boucher	20
			J. Linstrom	17
2453	Tp 92, Rg 7-9, W4	243	J. Powder	14

**Table 2.** Summary of 1994-95 trapping regulations in Zone 1.

Species	Season	Special Regulations
Squirrel	Nov 1 - Feb 28	
Beaver	Oct 1 - May 15	
Muskrat	Oct 1 - May 15	
Mink	Nov 1 - Jan 31	
Otter	Dec 1 - Apr 15	8 basic quota plus 2 otter for each township above 2 townships
Weasel	Nov 1 - Feb 28	
Marten	Nov 1 - Jan 31	
Fisher	Nov 1 - Jan 31	4 basic quota plus 1 fisher for each township above 2 townships
Wolverine	Nov 1 - Jan 31	1 may be taken per trapping area
Fox	Oct 1 - Jan 31	
Coyote	Oct 1 - Jan 31	
Wolf	Oct 1 - Mar 31	
Lynx	Dec 1 - Jan 31	4 basic quota plus 2 lynx for each township above 2 townships



**Table 3.** Contribution of furbearer species to total harvest in the Suncor study area, 1984-85 to 1993-94.

Species	Registered Fur Management Area								Overall	
	587		2156		2297		2453			
	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total
Red squirrel	755	51	20	4	742	62	52	15	1569	44
Beaver	506	34	220	40	229	19	168	50	1123	31
Muskrat	107	7	75	14	93	8	51	15	326	9
Weasel	5	<1	54	10	32	3	44	13	135	4
Mink	20	1	83	15	4	<1	7	2	114	3
Fisher	30	2	33	6	32	3	9	3	104	3
Fox	12	1	10	2	35	3	0	0	57	2
Coyote	5	<1	24	4	8	1	0	0	37	1
Lynx	14	1	1	<1	22	2	4	1	41	1
Otter	11	1	25	5	6	<1	0	0	42	1
Wolf	4	<1	7	1	0	0	0	0	11	<1
Marten	0	0	3	1	1	<1	2	1	6	<1
Wolverine	1	<1	0	0	0	0	0	0	1	<1
Total	1470	100	555	100	1204	100	337	100	3566	100

**Table 4.** Annual fur affidavits for RFMA's #587, 2156, 2297, and 2453.

Year/RFMA	Beaver	Coyote	Weasel	Fisher	Fox	Lynx	Marten	Mink	Muskrat	Otter	Squirrel	Wolf	Wolverine
<b>1984-85</b>													
587	48	2	0	2	0	1	0	0	48	0	0	2	0
2156	11	2	12	1	0	0	0	1	1	1	2	1	0
2297	73	2	20	5	8	2	0	0	80	0	400	0	0
2453	24	1	23	3	2	0	0	0	2	0	32	1	0
<b>1985-86</b>													
587	73	1	0	2	0	1	0	0	0	2	55	0	0
2156	30	2	0	4	0	0	0	6	2	2	0	0	0
2297	16	0	0	0	0	0	0	1	4	2	0	0	0
2453	23	0	3	5	0	0	0	3	20	0	14	0	0
<b>1986-87</b>													
587	54	1	4	5	0	0	0	4	29	2	150	0	0
2156	41	1	2	4	2	0	0	31	10	2	1	0	0
2297	29	0	0	9	8	2	0	2	0	2	100	0	0
2453	38	2	18	5	1	0	0	4	0	0	4	0	0
<b>1987-88</b>													
587	34	0	0	4	3	0	0	6	22	0	122	0	0
2156	32	0	15	2	0	0	0	21	0	2	2	0	0
2297	17	0	0	1	2	1	0	0	7	0	37	0	0
2453	22	0	0	3	0	0	0	0	22	0	0	0	0
<b>1988-89</b>													
587	71	1	0	1	2	0	0	4	0	0	200	0	0
2156	22	3	5	0	1	0	0	6	29	3	1	0	0
2297	22	2	8	2	8	1	1	1	0	0	80	0	0
2453	19	0	0	1	0	0	0	0	0	0	0	0	0
<b>1989-90</b>													
587	40	0	0	2	6	5	0	2	0	0	126	0	0
2156	5	0	2	5	1	0	0	6	7	0	3	0	0
2297	27	0	0	5	2	10	0	0	0	0	0	0	0
2453	18	0	0	1	7	2	0	0	7	0	2	0	0
<b>1990-91</b>													
587	84	0	0	3	0	3	0	0	0	0	0	0	0
2156	20	1	1	7	0	1	0	3	5	4	0	0	0
2297	14	2	2	4	2	0	0	0	0	0	50	0	0
2453	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>1991-92</b>													
587	25	0	0	5	0	3	0	2	0	0	50	0	0
2156	38	6	2	7	6	0	2	4	13	3	0	3	0
2297	31	2	1	5	2	4	0	0	0	0	50	0	0
2453	7	1	0	0	0	1	0	0	0	0	0	0	0
<b>1992-93</b>													
587	38	0	0	3	0	1	0	2	0	4	40	0	0
2156	20	11	2	1	1	0	0	2	7	0	3	1	0
2297	25	0	0	1	3	0	2	0	0	2	25	0	0

**Table 5.** Average prices (\$) of pelts taken in Alberta, 1984-85 to 1993-94. Colour phases of fox have been omitted. (from Alberta Fur Production Records).

Species	Year									
	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94
Beaver	25.75	31.80	37.98	24.67	20.29	16.86	12.12	15.21	14.04	33.48
Coyote	61.39	64.62	71.05	39.97	25.60	19.75	19.88	38.48	43.53	45.48
Weasel	2.52	3.05	2.35	2.52	1.54	1.98	4.58	4.12	5.40	6.26
Fisher	186.66	208.91	231.75	159.42	94.27	59.02	56.40	49.07	33.29	39.73
Fox	37.08	32.25	30.26	22.83	14.84	12.45	10.71	15.64	15.03	21.81
Lynx	598.27	658.55	506.20	392.74	235.68	128.80	80.20	90.48	82.12	121.90
Marten	54.94	58.17	106.16	106.35	79.91	68.18	51.08	58.00	43.63	64.17
Mink	31.38	38.23	48.15	45.42	37.13	32.98	26.55	38.18	25.23	28.06
Muskrat	2.81	2.93	3.85	3.80	1.79	1.40	1.05	1.63	1.50	2.77
Otter	40.54	37.58	39.04	31.05	37.25	29.65	25.08	54.63	66.44	110.75
Red squirrel	0.94	0.88	0.70	0.79	0.66	0.91	0.85	1.47	1.85	1.44
Wolf	80.07	79.35	78.77	83.51	74.86	87.07	130.23	112.27	87.63	93.05
Wolverine	255.80	208.69	178.92	161.03	141.17	121.10	228.57	194.29	181.29	139.29

**Table 6.** Total value of furs (\$) taken on four trapping areas in the Suncor study area.

Year	Registered Fur Management Area				Total
	#587	#2156	#2297	#2453	
1984-85	2625	780	5080	1487	9972
1985-86	3586	2229	634	1971	8420
1986-87	3777	4230	4686	3012	15,705
1987-88	1997	2164	1073	1105	6339
1988-89	2871	933	1223	480	5507
1989-90	1692	606	2063	719	5080
1990-91	1428	927	508	0	2863
1991-92	1047	2049	1265	235	4596
1992-93	1106	973	696	239	3014
1993-94	2150	1160	0	119	3429
Total	22,279	16,051	17,228	9,367	64,925

**Table 7.** Trapline productivity by RFMA size (\$ per km<sup>2</sup>).

Year	Registered Trapping Area				Overall
	#587	#2156	#2297	#2453	
1984-85	8.00	3.50	18.21	6.12	9.29
1985-86	10.93	9.44	2.27	8.11	7.73
1986-87	11.52	19.01	16.80	12.40	14.65
1987-88	6.10	9.70	3.85	4.55	5.91
1988-89	5.70	4.18	4.38	1.98	4.20
1989-90	5.16	2.72	7.43	2.96	4.74
1990-91	4.35	4.87	1.80	0.00	2.81
1991-92	3.19	9.19	4.52	0.97	4.28
1992-93	3.37	4.36	2.14	0.98	2.72
1993-94	6.56	5.20	0.00	0.49	3.19
Mean	6.49	7.22	6.14	3.86	5.95

**Table 8.** Contribution of individual furbearing species to total revenue (\$) from traplines in the Suncor study area, 1984-85 to 1993-94.

Species	Year										Overall
	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	
Beaver	4,017	4,516	6,153	2,590	2,719	1,517	1,430	1,536	1,404	1,339	27,222
Coyote	430	194	284	0	154	0	60	346	479	0	1,946
Weasel	139	9	56	38	20	4	14	16	11	69	376
Fisher	2,053	2,298	5,330	1,594	377	767	790	834	166	318	14,528
Fox	371	0	333	114	163	199	21	125	60	22	1,409
Lynx	1,795	659	1,012	393	236	2,190	321	724	82	0	7,411
Marten	0	0	0	0	80	0	0	116	87	0	283
Mink	31	382	1,974	1,226	408	264	80	229	101	84	4,780
Muskrat	368	76	150	194	52	20	5	21	11	25	922
Otter	41	225	234	62	112	0	100	164	399	1,218	2,555
Red squirrel	408	61	179	127	185	119	43	147	126	29	1,423
Wolf	320	0	0	0	0	0	0	337	88	186	931
Wolverine	0	0	0	0	0	0	0	0	0	139	139
Total	9,972	8,420	15,706	6,339	4,506	5,080	2,863	4,596	3,013	3,429	63,924

# FIGURES

## 7.0 FIGURES



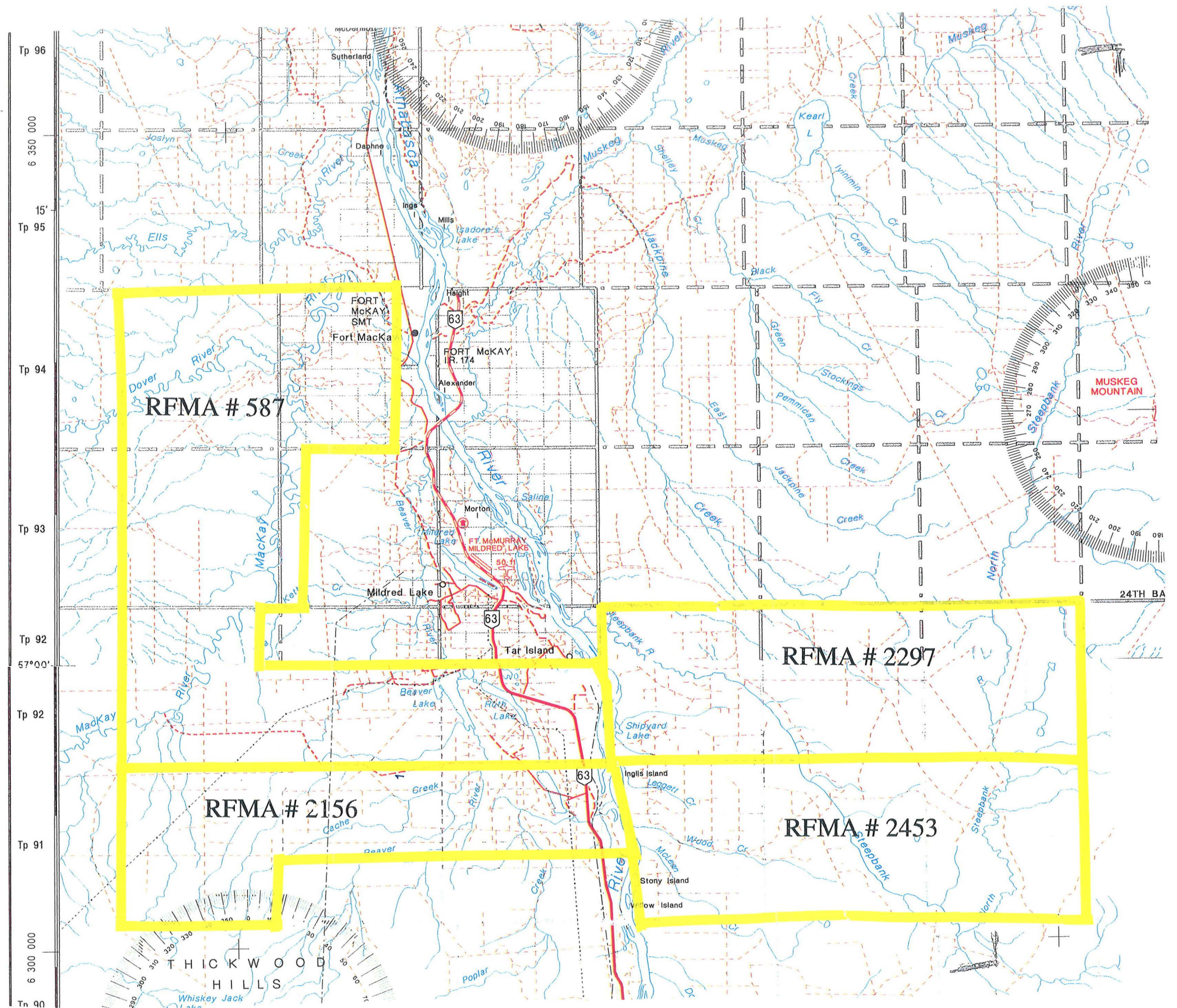
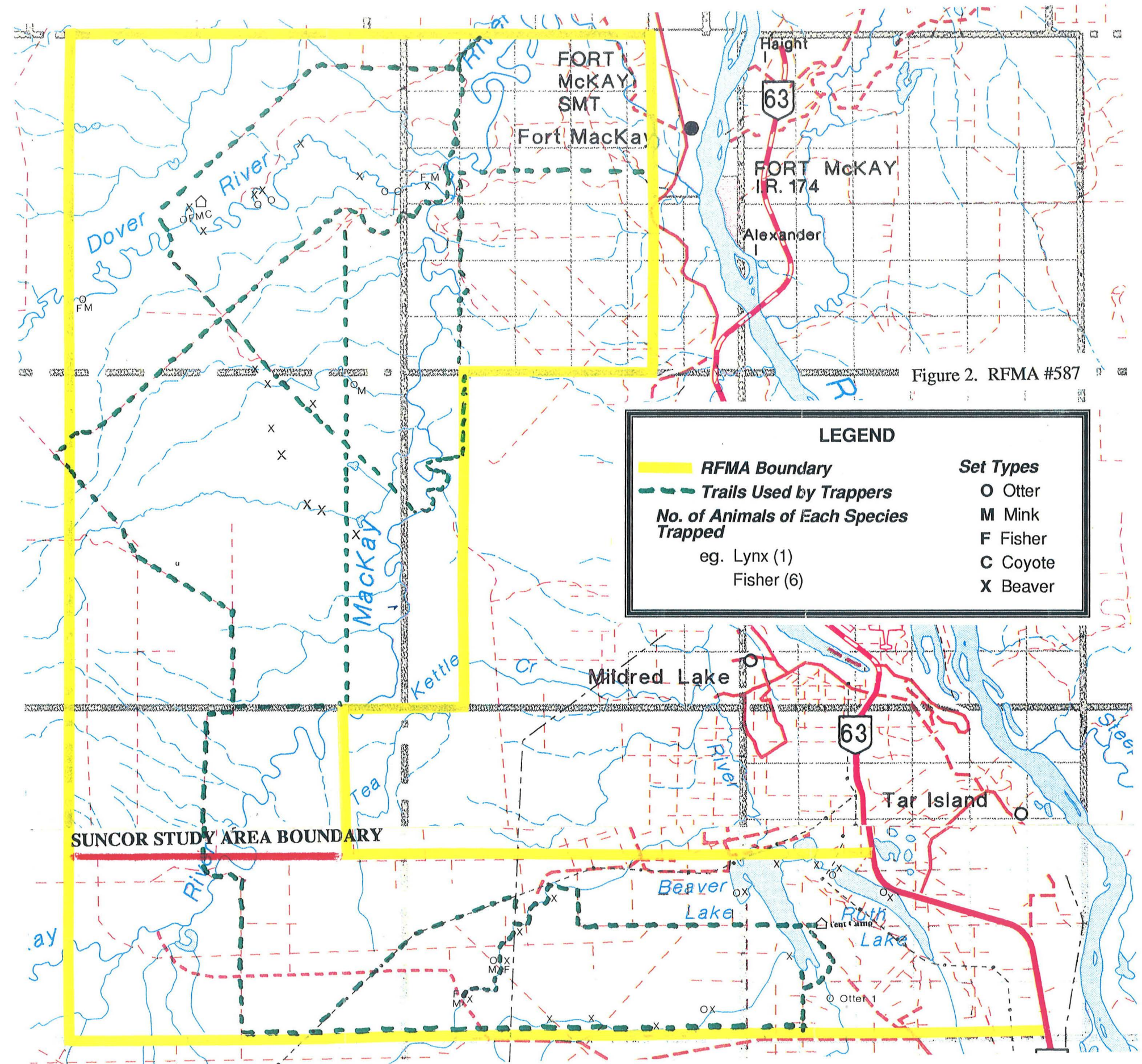


Figure 1. Location of the four RFMAs in the Suncor study area.







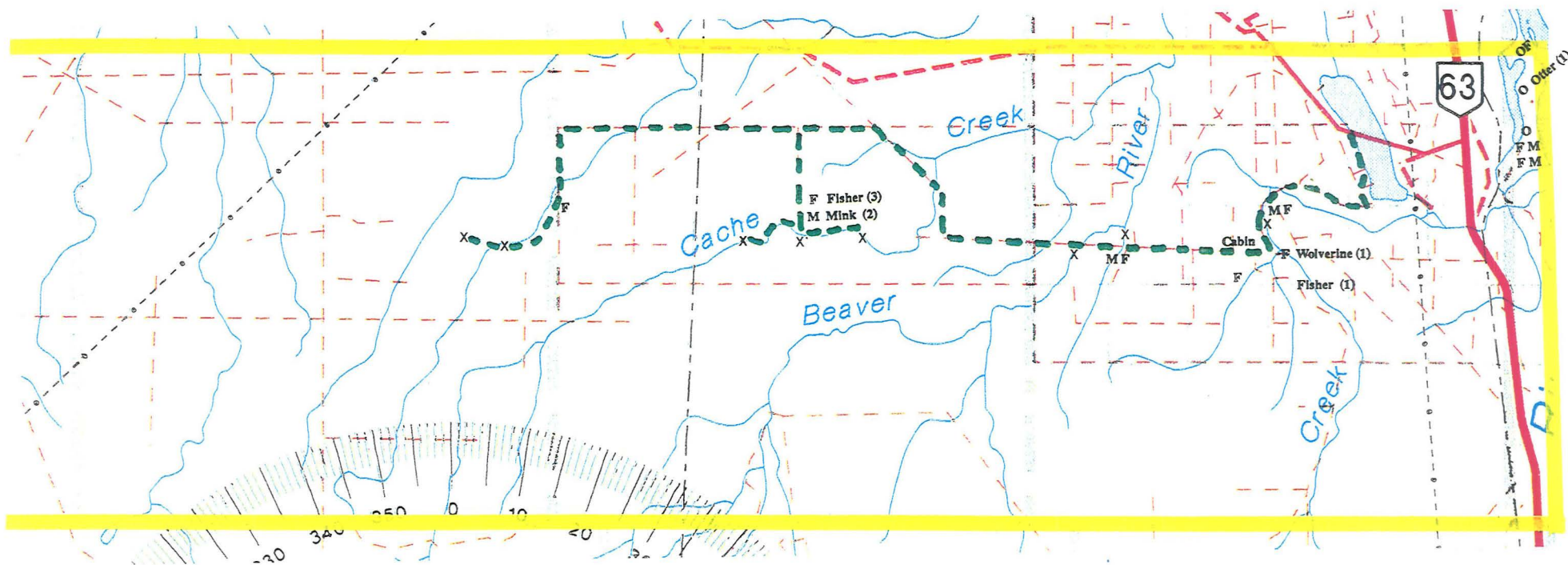
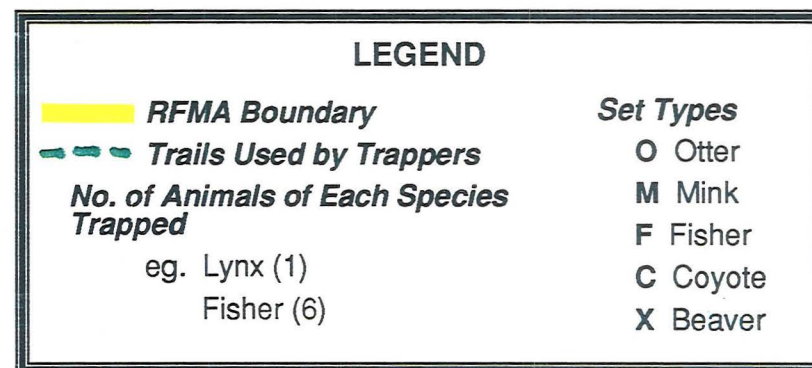


Figure 3. RFMA #2156



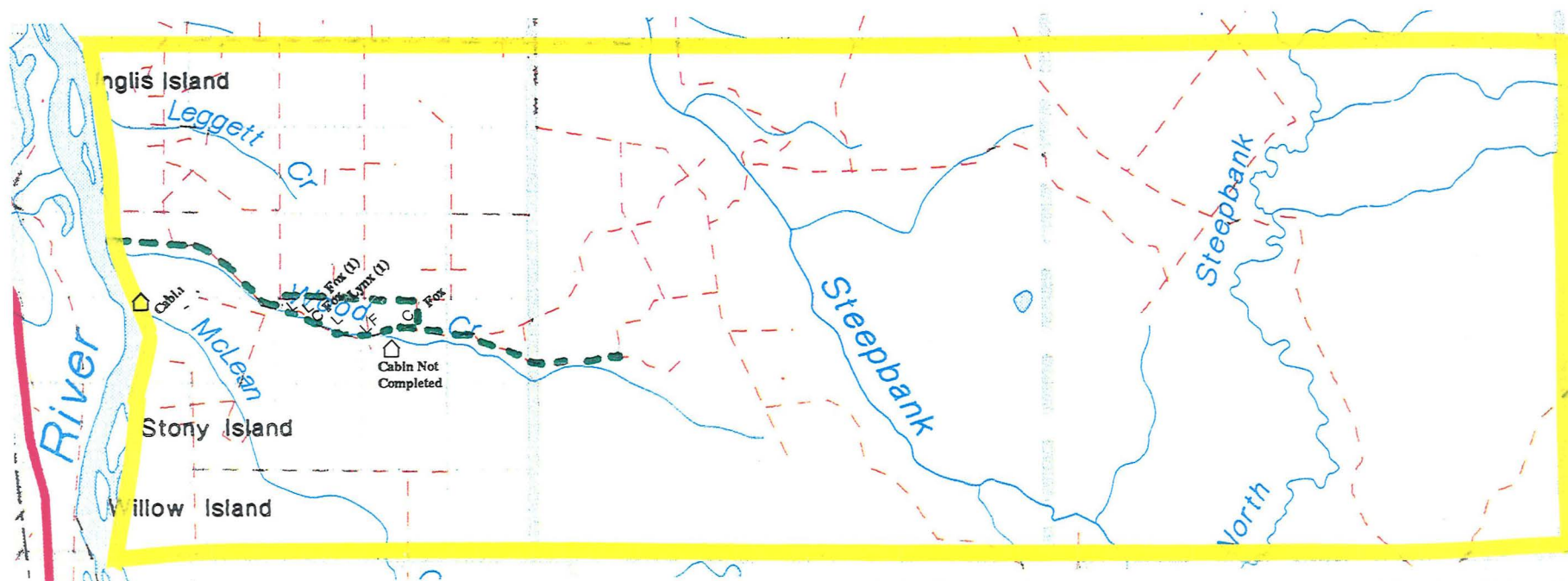
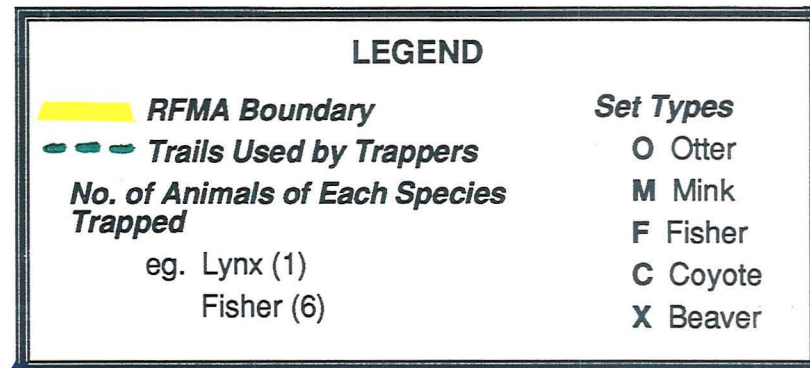


Figure 4. RFMA #2453



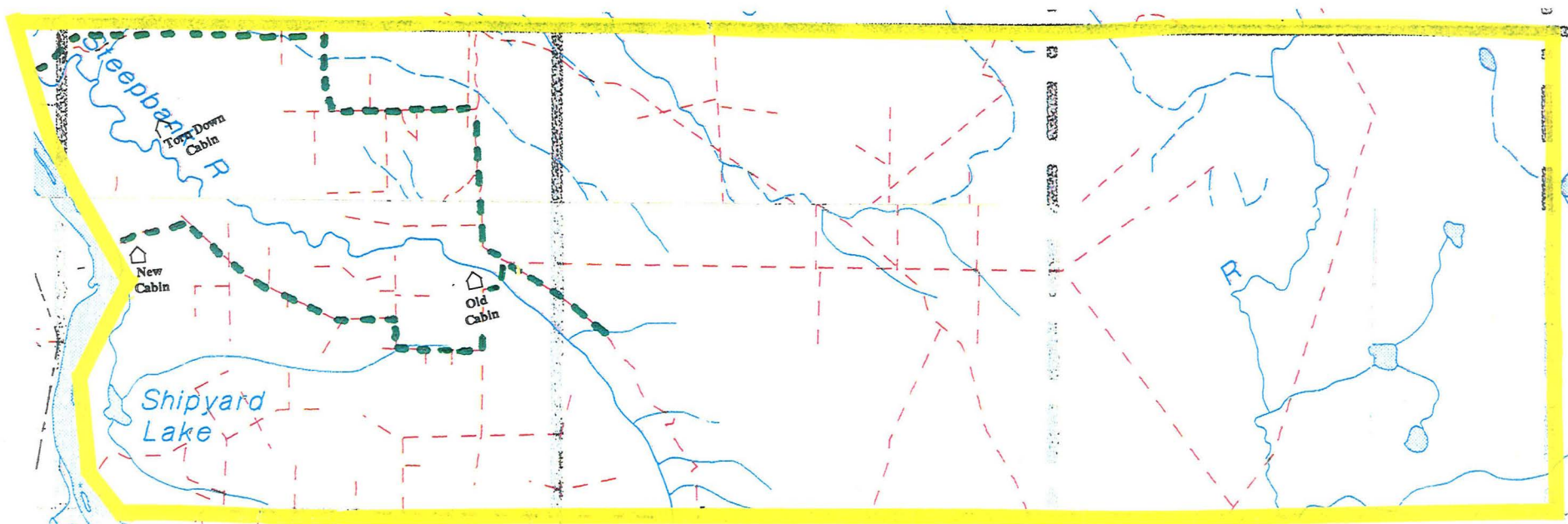


Figure 5. RFMA #2297

LEGEND	
<span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>	<b>RFMA Boundary</b>
<span style="border-bottom: 2px dashed green; display: inline-block; width: 20px;"></span>	<b>Trails Used by Trappers</b>
<b>No. of Animals of Each Species Trapped</b>	
eg. Lynx (1)	
Fisher (6)	
<b>Set Types</b>	
O	Otter
M	Mink
F	Fisher
C	Coyote
X	Beaver

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