A Preliminary Survey of Historic Southeast Alaskan Fur Farming

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Introduction

This initial survey is an attempt to summarize obscure, widely scattered and diverse primary, secondary, and tertiary sources concerning historic era, commercial, southeast Alaska fur farming. It is not meant to be the definitive work on the subject, but rather a stepping stone for further and more detailed cultural, economic, biological, historic and social research concerning this and interrelated topics.

The author commenced this quest approximately twenty-eight years ago while living and working in southeastern Alaska (Map 1). This project began sometime in early 1982 when the author commenced informal oral interviews with knowledgeable individuals and couples concerning this and related topics. It soon became obvious that very little research material was readily available, nor existed concerning southeastern Alaskan fur farming. The vast majority of this early material appeared to be merely anecdotal observations. The one positive note at the time was the number of living, former practitioners of this bygone enterprise. At the time, the author felt that the topic was a glaring example of a period in history only superficially explored. Up to the present, it could be said that it is largely an ignored chapter in the cultural history of Alaska.

Over the next several months, lengthy visits and phone calls were placed to the able and dedicated staffs of the University of Alaska-Fairbanks Library, Alaska State Library, Alaska Historical Library, and Alaska State Archives. These efforts proved to be invaluable portals to a treasure trove of little known, and only then recently catalogued reference materials. Additionally, the Federal Archives in Seattle, and later Anchorage, house a limited number of historic file boxes concerning “closed” special use permit files from the Tongass National Forest. Heartfelt thanks go out to Madonna L. Moss for her enlightened and timely securing of these historical treasures from the overzealous actions of Forest Service bureaucrats. Without her efforts, these few remaining record boxes would have been destroyed, and my task all the more difficult to accomplish. Furthermore, these historic files contain a wide assortment of additional information and materials reflecting the scope and breadth of the historic activities on the Tongass National Forest. In time, these files may well help shed new light on many subtle aspects of the daily lives of historic rural southeast Alaskan residents, companies and communities.

The cultural and social history of Alaskan fur farming has not been widely studied nor is it fully understood. Up to the present, it has been a topic left for anecdotal or eclectic observation. Some even thought it irrelevant or meant for some esoteric exercise. There have been less than a handful of in-depth contemporary studies focusing on various aspects of Alaskan fur farming via cultural geography, history, and anthropology (Huston 1963; Janson 1985; Roberts 2006a, 2006b). These contemporary studies provide an introductory glimpse into potential research opportunities concerning this promising area of study.

Based on this author’s limited and sporadic research into southeast Alaskan fur farming, it appears that the topic, and its subsets, deserves a much more thorough examination (Roberts 2006a, 2006b). It is hoped, through this paper, to introduce the reader and

possible researcher, to a rich and varied assortment of information available for gleaning on the general topic of southeast Alaskan fur farming (Roberts 2006b).
The author recommends that not only southeast Alaska fur farming, but other geographic regions of the state provide a wealth of cultural, historical, economic, biological, ecological, and numerous other interrelated research opportunities for inquiry. Furthermore, the author suggests that historic era Alaskan fur farming was a culturally and economically significant enterprise. It functioned primarily throughout the Territory of Alaska at the close of the nineteenth and first half of the twentieth century. The enterprise was supported, at varying degrees, at all levels by federal, territorial, and local government. Various agencies, bureaus, offices, and organizations contributed to its longevity (Roberts 2006a).

Many, but not all of the early entrepreneurs commenced their businesses on public lands controlled and managed by the federal government. A significant number of these enterprising individuals, families, and companies operated within or near established communities (Roberts 2006a). In southeast Alaska, federal public lands are managed by the U.S. Department of Agricultures' Forest Service, and Department of Interior's National Park Service and Bureau of Land Management. The vast majority of these federal public lands are managed by the U.S. Forest Service under the 17 million acre Tongass National Forest. However, a number of fur farming sites were recorded in what would become Glacier Bay National Park, as well as several incorporated and unincorporated communities throughout the southeast Alaska region (see Map 1 and Appendix C).

Survey Methodology

Historic information concerning southeastern Alaskan fur farming was gleaned from multiple and varied sources (Roberts 2006a, 2006b). A major resource for site-specific information in this study is USDA-Forest Service "closed" historic special use permit files retrieved by Madonna L. Moss. These 18 boxes of historic files inconsistently and sporadically include written, mapped, and sometimes photographic data concerning specific aspects of the research topic. The file boxes also include other permitted historic activities on National Forest lands within southeast Alaska. This historic data delimits specific areas under special use permit by various permittees over time and space. In some cases, these files include a sketch map and photographs depicting then existing improvements and activities by individuals, families, and/or companies. Additionally, commencing in the mid-1970's, the Alaska Region of the USDA-Forest Service began to comply with existing federal laws and agency regulations concerning inventorying cultural resources on federal public lands within the Tongass National Forest (Carlson 1990:112). Additionally, several early cultural resource surveys were completed which noted southeast Alaskan fur farms. These early-cited surveys are merely reports shared by coworkers, and do not represent a total or complete listing of fur farms on the Tongass National Forest (Roberts 2006b). All of these early reports were gleaned for relevant Alaska Heritage Resource Survey (AHRS) site reference numbers. Over the succeeding years, numerous subsequent cultural resource surveys have been accomplished. These latter research and on-the-ground surveys have not been consulted for this study. The author recommends that interested researchers consult with the Alaska Forest Service, Tongass National Forest and/or the Alaska State Historic Preservation Officer in Anchorage for further information.

In the initial course of this study, Christine Ruhsenberger Roberts collaborated on a number of early fur farming interviews. These initial eleven collaborative interviews took place between approximately 1982 and 1983. Over the succeeding years, twenty-four interviews were completed (Appendix A). These various interviews span some twenty-eight years. Furthermore, several audiotape (cassette) recorders were utilized for eighteen of these interviews. Interviews or personal communications averaged approximately sixty to ninety minutes in length. Communications were had with a limited number of knowledgeable individuals and/or couples from throughout the region on various aspects of southeast Alaskan fur farming (Roberts 2006b). The interviews tended to be broad and general in nature and scope. No outline or formal questions were prepared beforehand. However, much useful information was gleaned concerning southeast Alaskan fur farming and related topics. Written permission for the scholarly use of the material and tape-recorded information was granted by all but one individual (i.e., Russell Mills of Sitka, Alaska). To date, these audiotapes, the author's personal journal entries, and hand written notes have not been transcribed or archived. Individual interviews, by Julie Hursey, with Fred Birch, Jr. and Jeri Hildebrand Frink were excerpted from a KFSK-FM radio (Petersburg, Alaska) broadcast program on local area fur farm history in the fall of 1983 (Roberts 2006b).

Researching the topic, the author commenced by compiling hand written data on 5 by 7 inch index cards. Data collected includes, but is not limited to the following: site or island name; general geographic location; individual site specific number given by the author on U.S. Geological Survey quadrangle(s); permittee name and/or company; names of partners, coworkers, managers, and/or hired help (when available); reference citation(s); application date for special use permit (when available); issuance date for special use permit (when available); closing date for special use permit (when available) ; status of the permit (i.e., transferred, relinquished, abandoned, change in status, etc.); total acreage under permit; year and species stocked, pelted, or died (when available); yearly accounting of profit/loss (when available); improvements (i.e., structures, gardens, etc.) and dimensions (when available); equipment (i.e., boats, skiffs, docks, seines, grinders, etc.); type and volume of scheduled feed provided to fur bearers; relevant dated comments from historic files, books, reports, documents, and informants concerning daily routines and observations.

Inconsistent, inaccurate, and incomplete information often made the above task challenging. Historic correspondence from permittees, agency representatives and informants periodically and inconsistently shed some light on issues, insights, and tribulations. The above information is not consistently available nor always recorded within the historic special use permit files. Oral history Interviews provided extremely valuable primary and supplemental information. It also yielded important insights concerning the daily and seasonal aspects of the enterprise not covered in texts, files, correspondence, and reports. However, it must be pointed out that there are large, gaping holes in the currently available data, and future research and documentation will fill in these unfortunate and incomplete lapses and omissions.

Subsequently, the author had assistance from Mr. Erik Hedl in developing a Microsoft Access program incorporating the above into a searchable, relational database.

Mapped data was compiled on U.S. Geological Survey (USGS) topographic quadrangle sheets (1:250,000 feet scale) from throughout southeastern Alaska. Individual maps utilized for this regional survey include the following: Bradfield Canal (BFC), Craig

(CRG), Dixon Entrance (XDE), Juneau (JUN), Ketchikan (KET), Mount Fairweather (XMF), Petersburg (PET), Port Alexander (XPA), Prince Rupert (XPR), Sitka (SIT), Skagway (SKG), Sumdum (SUM), Taku River (XTR), and Yakutat (YAK). No fur farm information or sites were noted or recorded by the author on the Bradfield Canal (BFC) quadrangle. Each fur farm noted by the author was given its own chronological site number based on its respective USGS quadrangle (Appendix C). An example would be that for Spuhn Island, located along Lynn Canal. Spuhn Island is situated on the Juneau topographic quadrangle and was given the site number: JUN-05. This refers to the site as the fifth fur farm recorded by the author on the Juneau quadrangle.

Many of the fur farm sites demarcated in this study incorporate more than one island/location under the same site number. Rationale for this classification or designation mirrors historic special use permits issued to individuals, families, and companies during this era.

Individual Island and/or fur farm site location(s) were further located using information available through the USGS. The USGS provides both written (Orth 1971) and electronic data concerning Alaska geographic place names, as well as latitude and longitude information (USDI-U.S. Geological Survey). Non-specific or currently unknown fur farm site location(s) are categorized as “undetermined” based on currently unavailable information (Appendix D). The author was also provided with invaluable information and geographic map data from the U.S. Forest Service, Wrangell Ranger District. The Wrangell Ranger District shared Geographic Information System (GIS) data and maps from its Tongass Land Management Plan (1997), and amendment (2008). David Rak and Susan Wise Eagle selflessly shared their time and energy in this project. Collaborative information was shared in the development of a GIS-ArcInfo layer. This information layer is designed to demarcate historic fur farm sites for current and future cultural heritage research, interpretation, and long-term management.

Individual fur farm site numbers were hand drawn by the author on electronically generated USGS quadrangle maps provided by the Wrangell Ranger District. Only known or confirmed fur farm sites were demarcated on the thirteen individual quadrangle sheets from throughout southeastern Alaska. These thirteen maps will reside with the Alaska State Historic Preservation Officer in Anchorage, Alaska, following a review by Tongass National Forest Heritage Resources Staff. An electronic GIS layer demarcating these historic fur farm sites will reside with the Tongass National Forest Heritage Staff.

Other than the single site referenced above, this document does not include site specific information due to concerns raised by Tongass National Forest Heritage Resources Staff. For further information, one is advised to consult with the Alaska State Historic Preservation Officer and/or Alaska Forest Service Heritage Resources Staff. A separate “restricted” summary document displaying site-specific information, as well as historic place names information, will be shared with the State Historic Preservation Officer and USDA-Forest Service Alaska Heritage Resources Staff.

Environmental Setting

The southeast Alaska region has been characterized as a large, temperate rain forest; widely referred to as the Alexander Archipelago or Alaska’s Southeastern Panhandle (Map 1). Broadly speaking, it encompasses the area between Yakutat and Dixon Entrance; and the outer coastal islands to the coastal mountain range separating Alaska

and Canada (Roppel 1978; Suttles 1990b). Topography ranges from sea level to several thousand feet elevation. “It is about 125 miles wide and 475 miles long” (Huston 1963:5).

The lush, dense vegetative cover for the region can be characterized as dominated by a western Hemlock (Tsuga heterophylla) and Sitka spruce (Picea sitchensis) forest (Hulten 1968; Viereck and Little 1972, 1975). Its maritime climate and rugged topography result in frequent rainfall, cloudiness, and fog (University of Alaska-Southeast n.d.; National Weather Service n.d.) Summers are cool and winters are generally mild (Huston 1963:5; Suttles 1990a:17). Annual precipitation throughout the region varies dramatically due to a localized orthographic effect (Thomson 1981:23-24). July is considered the driest month of the year; while October is the wettest (University of Alaska-Southeast; National Weather Service). Storm fronts move throughout the region from the south and southeast, with an average of one storm per month during the summer and two storms per month during the winter. Accumulated snowfall is generally restricted to the more northerly portion of the region and its higher elevations (Hartman and Johnson 1984). Daylight during the summer solstice reaches approximately 17 hours, and during the winter solstice averages approximately 6 hours. Maritime influenced temperatures for the region fluctuate gradually between summer and winter. Average summer temperature is about 65 degrees in July. Occasional sunny day temperatures can rise into the 70’s and 80’s. Winter means a mixture of snow, rain and sunshine. Mean January temperature is 24 degrees (University of Alaska-Southeast n.d.; National Weather Service n.d.).

Two daily tidal fluctuations include two ebb (low) and two flood (high) tides (Suttles 1990b:19; Thomson 1981). Depending on latitude and geographic location, tidal fluctuations between low and high tides range approximately 26 feet throughout the region.

Southeast Alaska supports a wide and diverse population of wildlife. In general, wolves (Canis lupus), brown bear (Ursus arctos), black bear (Ursus americanus), moose (Alces alces), deer (Odocoileus hemionus sitkensis), and a number of fur bearing species inhabit the region. Marine life in the region tends to move with the seasons. A number of whale species pass through the area, as well as the Steller sea lion (Eumetopias jubatus), and at least two species of seal (Phoca vitulina and Callorhinus ursinus). Sea otter (Enhydra lutris) are rapidly re-establishing themselves after nearly being hunted to near extinct prior to 1900. All five species of the anadromous Pacific salmon are present (Suttles 1990a:24), as well as a multitude of other salt-water species: eulachon (Thaleichthys pacificus), herring (Clupea harengus), halibut (Hippoglossus stenolepis), black cod (Anoplopoma fimbria), steelhead (Salmo gairdneri), rockfish (Sebastes spp.), and tuna (Thunnus thynnus and T. alalunga) to name but a few.

Specific regions or areas throughout the Alaska Territory appear to have been thought to be conducive for the early commercial raising of furbearers. Ashbrook and Walker (1925: Figure 1) list six geographic regions where early fur farming was practiced: (1) southern or southeast; (2) Prince William Sound; (3) Lower Cook Inlet; (4) Kodiak-Afognak; (5) Islands off the Alaska Peninsula; and (6) Aleutian Islands. Interior and West Central Alaska would soon be added to these initial areas (Huston 1963; Janson 1985).

Ideally, foxes were stocked on islands and/or in pens during the early fall of the calendar year. Blue fox (Alopex lagopus) mating or “barking” season was reportedly about February 1st and continued for approximately 140 days. Gestation was approximately 51

days in length (Ashbrook and Walker 1925:19). Minor variations in this cycle were reported for red fox (Vulpes vulpes) by Ashbrook (1923:36-52). Ashbrook confirmed that red fox mating took place between February and March. The ocestram (heat) period occurred once a year and lasted approximately three or four days. Reportedly, whelping (birth) occurred between early January and April 30th. Weaning of the young fox took approximately eight weeks. It was soon determined that young fox could only be left alone between "late May and early June when the whelping season was over and the young would be able to forage for themselves" (Huston1963:42). Fox pelts were reportedly prime throughout December and into January.

Mink (Mustela vison) breeding season spans from March to April depending on the latitude. Both genders may breed with more than one partner. "The young within a single litter can be the result of fertilization by different males and/or two different ovulations more than a week apart. The total gestation period varies from 40 to 75 days" (ADF& G n.d.; Fur Commission USA 2007). Mink tend to be born during May and June. They grow rapidly and are adult in size by September. Generally, mink fur is considered prime in November and December when their guard hair is thickest. This is when the fur farmer pelts out his surplus population (C. Johnson 1983, Leekley 1980; Nore1983; Fur Commission USA 2007).

The care and feeding of commercially raised furbearers varied with each fur farmer. No one standard recipe or feeding schedule appears to have prevailed. Nor was there agreement by fur farmers as to what was the best type of feed. They did agree on one thing: that any food source must be "nutritious, palatable, plentiful, and reasonably cheap (Huston 1963:58).

In early 1931, Dr. Jule B. Loftus, then the Alaska Territorial Veterinarian, reported in his monthly report to the governor, that…"feeding of foxes in Alaska varies with the availability and kind of food in the different districts. Preserving food by cold storage is the most satisfactory means of holding it over from the season of plenty. Salting down fish is the worst practice and is fast falling into disuse."

"The ideal method is to grind fresh food each day, fish or meat, vegetables, and cereals, all to be fed raw. Vegetable matter and fresh raw food are absolutely essential to pen raised animals. A high protein ration lacking in vegetables and cereals will produce a fox that is rusty early in the fall and having very poor powers of reproduction." (Loftus 1931).

Historical Background

Early Russian explorers and trappers (e.g., Promyshlenniki) are widely credited with the discovery and exploitation of what would become Alaska, and the initial and subsequent commercial exploitation of various species of furbearers. Initially, these furbearers (e.g., Alopex lagopus and Vulpes vulpes) were not considered as important, or as valuable as the abundant sea otter and fur seal populations. This perspective changed with the ever-increasing demand for quality fur pelts (The Alaskan 1895:1, 1900a:1, 1900b:1, 1900c:1; Bancroft 1959:108). It could be said that the initial United States' interest in Alaska, like that of the Russians, was obtaining quality furs. With the rapid exploitation of the region's abundant natural resources, large numbers of people rushed to the Alaska territory to seek their fortune. The wild game of Alaska soon became an important source of food for the growing population. These entrepreneurs took advantage of the ready supply of abundant wildlife to supplement their cache, and their income by selling the furs. This

widely diversified socio-economic system appears to have persisted up to the relatively recent past. “This combination of the frontier life with an eye to the market has become a tradition and today there are many Alaskans who supplement their larder and income by occasional trapping” (ADF&G n.d.; Institute of Social, Economic, and Government Research 1966:7).

Early fur farming in the Alaska Territory began with the introduction of blue fox (Alopex lagopus) to select Aleutian Islands and beyond (Ashbrook and Walker 1925:1; Bailey 1993; Bancroft 1959; Huston 1963:17; Janson 1985, Chapter1:2; Roberts 2006a). Simultaneously, red fox (Vulpes vulpes) and their color variations (e.g., silver, black and cross) were also introduced and proved profitable in the pen or corral method (Lydekker 1900:242). In the late 1920’s, mink was becoming an increasing and valuable economic resource. The Department of Interior, in a press release dated 1928, referred to mink farming as, “A novel industry which is rapidly developing in Alaska” (Department of the Interior 1928). By the 1930’s, mink reportedly gained even more importance when shorthaired fur became more fashionable (Eddy 1983:1), and fox farming virtually disappeared (Huston 1963:105).

These early efforts and unimaginable profits set in motion a meteoric raise in the commercial raising of various species of furbearers. It also meant Euro American settlement and development of remote and rural locations throughout the region. The majority of these early fur farm companies were owned and operated by individuals, families, and partnerships. However, a number of these businesses were owned by shareholders (Roberts 2006a). Many such businesses were left to on-site managers and/or laborers for their daily operations. It has been estimated that approximately half of these early fur farms had to hire help to operate their various businesses. This expense could mean a significant outlay of money otherwise reinvested in the fur farm business.

Copious accounts from the 1920’s through the 1960’s note Alaskan fox farms ranged from “40 to over 6000 acres” (Ashbrook and Walker 1925:5; Huston 1963:38; Greely 1970:172). This broad-brush reference appears early and tends to generalize for all of the Alaska Territory. Over time, individual southeast Alaska fur farm site acreage varied from approximately one to over 8000 acres based on information presented here (Appendix G).

Throughout its duration, Alaska fox farming incorporated two distinct management schemes (Huston 1963:45; Janson 1985, Chapter1:1; Roberts 2006a). One, the island or free running of Alopex lagopus (blue fox) on suitable islands. This initial technique allowed the foxes to “roam freely over the entire island, where they choose their mates and make their dens” (Ashbrook and Walker 1925:1). Entrepreneurs turned the foxes loose on the island(s) and then they had to forage for themselves for food. By the mid-1920’s the vast majority of fur farmers were providing at least supplemental feeding (Ashbrook and Walker 1925:24). Supplemental feeding was accomplished by establishing a combination “trap-feed houses” at intervals around the exterior of the island(s) (Ashbrook and Walker 1925:24; Huston 1963:51). The second management scheme was the pen or corral raising of both blue fox (Alopex lagopus) and red fox (Vulpus vulpus) (Huston 1963:105-106). Pen or corral raising of fox introduced a new dimension to a rapidly evolving enterprise. It proved to be a specialized effort, very different from the free running of blue fox on islands. It meant daily replenishment of fresh water and the exclusive feeding of their livestock.

Pens or corrals were built in various configurations and sizes. Janson (1985) suggests that they were usually 1000 to 1500 square feet in area. For the most part, enclosures had dirt floors. In later years, chicken wire or heavier gauge wire mesh was used in some places as a form of flooring to keep animals above or away from the bare ground surface (McCay 1984). This token effort proved somewhat helpful in minimizing the spread of parasites and diseases, as well as minimizing and/or prevention of matting of the animals' fur.

This latter method required a high fenced enclosure, denning areas, well-drained soils, adequate fresh water supply, cheap and readily available fed source, and sufficient shade for the furbearers. This latter form of management was more expensive due to necessary construction, extensive supplemental feeding, and transportation costs (Huston 1963:40). Again, this latter form of management is very different from the island raising of blue fox (Alopex lagopus). Janson (1985, Chapter 12:3) believes that the various color phases of the red fox "proved more adaptable to pen raising than the Blues, even though (or maybe because) the males usually were more vicious". Both of these management methodologies were widely incorporated and utilized throughout southeastern Alaska for its duration.

Pen or corral methodology also served to protect newly emerging young foxes from predators exploiting them. These predators were principally bald eagles (Haliaeetus leucocephalus), ravens (Corus corex), and crows (Corvus brachyrhynchos and C. caurinus) (Huston 1963:96-98). Incidental reference to the Steller's jay (Cyanocitta stelleri) was also reported (Huston 1963:97). Several fur farmers reported that young fox pups were especially vulnerable to these predators as they initially emerged from their dens (Bahovec 1983; McCay 1984; Stolpe 1982). Cora Johnson (1983) reported that fox farmers were paid $1.00 to $2.00 for each eagle they killed.

A later variation on the pen or corral raising method commenced in the late 1920's and early 1930's with the pen raising of mink (Mustela vison). Mink were held in a confined area or series of separate pens called "colony houses" (Kellogg and Bassett 1941:3). They were paired together for controlled breeding, feeding, and care (Ames 1947:15; H. Bergmann 1993; Gunn 1947:23; Huston 1963:45,107-113; Nore 1983). Most were kept off the ground in their 16 gage, 1-inch mesh wire cages (Kellogg and Bassett 1941:3).

Early on, a majority of these early fur farm entrepreneurs commenced their operations on public lands managed by the federal government; more specifically, the Tongass National Forest and U.S. Land Office (predecessor to the Bureau of Land Management). Entrepreneurs on federal public lands were required to obtain a fur farm lease or commonly referred to as a special use permit for both island and/or pen raised furbearers. Permits were issued to citizens of the United States only. The special use permit process involves submission of a written application by the applicant or his/her agent. Information compiled for the permit includes: (1) applicant and/or company name. Specific requirements for a corporation mandate that at least 75% of its stock must be owned by citizens of the United States. If the percentage falls below the above threshold, it was considered sufficient cause for cancellation of the permit. (2) Areas, which were available for permitting. Initially, Islands suitable for fur farming were not to exceed 2500 acres. Locations on the mainland were not to exceed 80 acres. (3) Kind (e.g., species) of fur bearing animals to be raised. (4) Species, number, sex and value of animals to be introduced when stocking. (5) Proposed plan of fur farm operation. (6) Improvements contemplated. (7) Existing improvements on site, if any. The Forest

Service mandated that the applicant or company stock no less than four pair of animals on islands up to 500 acres in extent; 7 pair on islands from 500 to 1500 acres, and 10 pair on islands of 1500 acres or more. Permittees were also to complete “stocking and construction necessary for properly caring for animals” within the first fall following issuance of their special use permit. Special Use Permits for an “exploratory period” were issued for the first three years of operation. An annual $25 rental fee was charged (Greely 1970:172). At the end of the exploratory period, the rental fee would be adjusted “based upon the extent and risks of the business established and a proper return on investment and enterprise, and will not be burdensome “(Flory 1922). In this same memorandum, permittees were prohibited from killing game animals or birds, or collecting birds’ eggs for the purpose of feeding them to their furbearers. They were also prohibited from disturbing native [sic] burying grounds or totem poles, and from molesting natives [sic] in the cultivation of land which they have been accustomed to cultivate prior to the issuance of the permit (Flory 1922). Furthermore, “all” fur farmers operating within the Territory were to obtain an annual license under Alaska game laws. Individual licenses were issued for each island or location by the Alaska Game Commission (Huston 1963:67).

Under early federal management of the region and its resources, the USDA-Biological Survey (later to be known as the U.S.D.I.- Fish and Wildlife Service), the U.S. Land Office, and Forest Service agreed to arrange for fur farming uses on Alaska public lands. Under this special use process, a permit system was established. Islands from 101 to 500 acres were charged $50 per year. $170 per year was charged for islands between 501 and 1,000 acres. Permits for 1,001 to 2000 acres brought $200. In addition, the permits for lands between 2,001 and 3,000 acres generated a $250 annual fee. In 1925, J.M. Wyckoff endeavored to explain the Forest Service methodology employed in arriving at the “annual charge assessed against the many fox farmers occupying lands within the national forests of Alaska” (Wyckoff 1925:6). However, commencing in 1932, the Washington office of the Forest Service authorized a 50% reduction in the annual Alaska permit fee due to poor economic conditions within the fur farming industry (Heintzleman 1937; Sperling 1937:6; U.S. Forest Service Historic Special Use Permit Files n.d.a.).

In order to better regulate and manage the rapidly growing fur farm industry, the Territorial and Federal governments enacted numerous laws and regulations. One of these early laws mandated the fox-branding program. The law was administered by the Alaska Territorial Department of Auditor and continued from 1923 through 1943. F.S. Burch and Company of Chicago was charged with the production of the branding irons or tattooing device used in the marking of individual furbearers (Janson 1985, Chapter 11:6; Roberts 2006a). F.S. Burch and Company operated a large hardware, farm supply, and mail order business. The Burch branding iron was designed so that it would fit inside the fox’s ear. This unique design was developed in collaboration with the Territorial Auditor and the U.S.D.A. - Biological Survey. A finalized design was adopted, with a configuration of two letters and one number. The instrument was designed so that the brand or tattoo was actually applied to the inside of the fox’s ear. The two letters came out on the wide or lower portion of the fox’s ear, and the number in the point or upper portion of the ear (Janson 1985, Chapter 11:7; Roberts 2006a; U.S. Forest Service Historic Special Use Permit Files n.d.a). Individual price for one of the branding irons was ten dollars (Alaska Territorial Department of Audit n.d.; Roberts 2006a; U.S. Forest Service Historic Special Use Permit Files n.d.a). Records, held by the Alaska State Archives and Historical Library, document this process. Apparently, no reference was

made as to the date the branding iron was issued or commercial geographic area (i.e., specific fur farm) where the brand was to be used. Rarely, a hand written notation was made in the index records, which referenced individual, and minimal succession information. Successor fur farm operators were required by law to notify the regulatory agencies (e.g., Territorial and Federal) upon transfer or sale of livestock and fur farm improvements; however, this proved difficult to enforce. In many cases, these agencies were the last to learn of the end of one company and the beginning of the new or successor entrepreneur(s). Furthermore, branding irons were not always transferred from former to successor fur farmers as required. Thus, the seemingly confusing and convoluted record for brand and permittee ownership and transfer (Roberts 2006a; U.S. Forest Service Historic Special Use Permit Files n.d.a).

From its earliest beginnings, Alaska fur farming was a “chancy business” (Janson 1985, Chapter 9:6), and a gamble at best according to Ernest Weschenfelder (1993:25). His parents, Gene and Marie Weschenfelder, purchased a homestead, as well as leased federal lands on Spuhn island (near Juneau), and established one of the longest operating blue fox fur farms in the region. At the time, fur farming was a new and rapidly evolving industry and his father, and most others, knew very little about what it entailed (Weschenfelder 1993:25). By the latter 1920’s, necessary basic knowledge concerning the proper care and treatment for raising furbearers was more common (Huston 1963:37). Ernest Weschenfelder recalls that as a boy in the 1930’s various furbearers brought almost unbelievable prices for their pelts. For example, blue fox fur were said to average $100 apiece, and a good mink pelt brought $30 (Weschenfelder 1993:25).

By 1923, virtually every available and reasonably suitable fox farm island site throughout the region was utilized (Huston 1963:31; Roberts 2006b). A majority of these early fox farm entrepreneurs claimed and settled on islands where blue fox (Alopex lagopus) were allowed to run free, subsisting on whatever flora or fauna was available to them. On some islands, the furbearers were able to forage for up to fifty per cent of their diet (Huston 1963:39; Mills 1924:25). Their diet consisted chiefly of wild birds and their eggs, small mammals, insects, wild berries, intertidal fauna and flora, as well as marine mammals (e.g., seals, walrus, porpoise, and various species of whale) and their carcasses (Huston 1963:61; Janson 1985, Chapter 2:2).

Initial desirable locations for this enterprise appear to have been islands developed in relative close proximity to villages, towns, and cities. These locations were thought to best be “at least a half-mile away from other islands or the mainland” (Huston 1963:38). This was to minimize the opportunity for furbearers to swim and/or access the exposed tidal ground for their escape. Subsequent entrepreneurs that followed were forced to choose less desirable island locations throughout the region. These early sites were settled based on their desirability to meet intuitively suitable criteria. This initial criterion was considered to be: (1) sufficient isolation in order to keep the animals from being disturbed or able to escape, and (2) enough inexpensive feed available within the local area. It was also advantageous to locate close to other fur breeders so as to profit from their experience (Ashbrook and Walker 1925; Huston 1963:37).

Once the fur farm site was chosen, reasonable judgment was given to where the residence, feed and trap house(s), storage house(s), cookhouse(s), smokehouse(s), skinning house, woodshed, dock, and other relevant structures and garden would be located. These were considerations for the island, pen/corral, and mink raising methods. An additional consideration was the possibility of a secondary residence site for ”proper

distribution of caretakers" (Ashbrook and Walker 1925:15; C. Johnson 1983). Secondary cabins and/or houses were mentioned when more than one partner or nuclear family lived on an island (C. Johnson 1983; Wooton 1983). It was also noted as rationale for reducing the risk of potential poachers visiting the island (C. Johnson 1983; Ward 1983; U.S. Forest Service Historic Special Use Permit Files n.d.a).

In many cases, caretakers and/or sharecroppers conducted the day-to-day operations of fur farms throughout the Territory and region while owners and/or corporations oversaw the business aspects. Historically, the Forest Service special use permit for the individual fur farm was issued to individuals, partners, and/or corporations, but could be subleased (e.g., sharecropped) to others. These "others" did not always appear on official documents. In many cases, Forest Service field officials knew about the situation, but could do nothing except occasionally reference what was transpiring in their official correspondence to agency managers. Subleasing of fur farms on the Tongass National Forest continued until the Alaska Regional Office drafted a letter dated March 1, 1938. The letter states that… "no transfer(s) of permit would be allowed for islands over 1000 acres in area" (Heintzleman 1940). On February 20, 1940, the circular letter was amended to read …"Permits for islands of more than 1000 acres which are now stocked may be transferred, providing the sale of improvements receives the prior approval of this office". Any proposal for transfer of title to improvements by sale, foreclosure or other means must be reported by the present permittee to the Forest Officer in charge of the Division or to the Regional Forester. Approval will be contingent on the ability of the prospective purchaser to furnish satisfactory proof of financial ability to conduct the enterprise" (Heintzleman 1940).The amended letter further states... "A fur farm permittee who desires to leave his island and to turn over the operation of the enterprise to some other party on a share, rental or other basis, must first obtain authority from the Regional Forester. Ordinarily, such an arrangement will be allowed only temporarily as the policy of the Forest Service is in general to have fur farms and other enterprises on National Forest lands owned by men who are the actual operators. In other words, anything tending toward the share-cropping system of land use is to be discouraged as not being to the best public interest" (Heintzleman 1940). Permittees were then required to notify the nearest Forest Service office of the terms and conditions of the actual on site fur farmer operating under the special use permitted site. They were to clearly state if it was an agreement for shares, lease or contract sale basis. As of February 20, 1940, unoccupied islands over 1000 acres would no longer be available for fur farming permits (Heintzleman 1940).

The vast majority of the early fur farm corrals and structures were made from locally available rough logs, beach combed materials, or milled from Alaska lumber processed within the southeastern region (H. Bergmann 1993; Stolpe 1982). Sadly, there does not seem to be a standard size or general configuration for these structures on the landscape. They were placed where the individual or company felt they best served their needs. When and where historical information is available, the aforementioned Microsoft ACCESS fur farm database documents specific sites, structural descriptions, dimensions, and calendar year when they were present on site.

Many fur farmers sought necessary supplies from wherever they were available. In many cases, they would periodically travel by skiff to larger boat to the nearest cannery, village, town or city for supplies. Informants state that these irregular trips for supplies may be every three months or more (C. Johnson 1983; Mills 1983; Wooton 1983). Their stay could be a matter of hours to over a week (C. Johnson 1983; Tenfjord 1982). Where

available, the weekly and/or monthly mail boat served as their main source of supply, news and contact with the outside world. Much later, milled lumber, feed, and supplies were regularly shipped via barge from Seattle (Huston 1963:109). Even today, the region relies on barge shipments from the Seattle area for the vast majority of its supplies and goods.

Two interesting observations were made by informants. In conjunction with his fur farm operations, Mr. Harold Stolpe (1982) and his partner and then brother-in-law (e.g., Kurt Nordgren), claim to have utilized portions of an abandoned saltery as a home base for their blue fox operations on nearby islands. They also reportedly pen raised a limited number of silver fox at the saltery site. Their use and occupation of a long abandoned saltery suggest the multiple use, adaptability and thrifty nature of these early entrepreneurs. A second informant shared in passing that her mother was a mail-order-bride to a noted early fox farmer (Tenfjord 1982). She grew up loving the Alaska great outdoors and its wildlife.

Generally, a successful fox pen site was considered to incorporate the following: (1) it was located on fairly well drained soil, and faced southerly for maximum solar gain; (2) a high wire fence enclosure was necessary; (3) sufficient sleeping/nesting house(s); and (4) adequate fresh water (Huston 1963:50). Configuration of the pen(s) varied with each fur farmer. Shapes “were built square, oblong, or long and narrow. They were usually from 1000 to 1500 square feet in enclosure space” (Huston 1963:51; Janson 1985, Chapter 12:4). Ashbrook (1923:10) claims that pens between 800 and 1500 square feet were ample.

Throughout this entire era, movement of breeding stock out of Alaska was strictly regulated (Janson 1985, Chapter 10:5; Roberts 2006a). Bower and Aller (1917a:109) in 1915 state… “Some hesitation was felt in the matter of removing all restrictions upon the shipping of live animals from the Territory. This was due in large measure to the demand in previous years from permits authorizing the shipments of foxes. However, since the law did not expressly authorize the department to prohibit the shipment of live animals and since it was felt that the desire for Alaskan foxes for use on fox farms in eastern North America and elsewhere had passed its maximum, the policy of requiring permits for shipment was discontinued. In order to determine the amount of such shipments the collector of customs at Juneau was asked to keep a record of all shipments of the character in question. It developed that in the calendar year 1915 live fur bearing animals were shipped from the Territory of Alaska as follows: 58 foxes, 34 mink, and 1 black bear. From another source, it has been learned that foxes have been imported in Alaska; three pairs of silver gray foxes have been brought, presumably in 1915, from Edmonton, Alberta, for a ranch at Tolovana. It would seem that the absence of restrictions upon the exporting of live fur bearing animals from Alaska had during the year no material adverse effects upon the natural supply of the wild stock”. This form of prohibition on the export of wild foxes was designed to prevent the indiscriminant removal and export of a valuable natural and commercially viable resource outside the Territory. Only commercially acquired breeding stock (i.e., purchased from legitimate fur farms within the Territory) were allowed to legally be exported. This effort helped, to a limited extent, to curtail the illegal poaching and illicit export of foxes. Lastly, it was designed to safe guard and allow for the natural replenishment of wild populations of furbearers throughout the Alaska Territory (Cleary 1924; Leekley 1980).

In conjunction with the development and expansion of the fur farming industry came formal fur farm organizations (see Appendix B). These organizations aggressively represented their members in lobbying federal and Territorial officials and their representatives. Initially they focused their attention against what they perceived as unfair competition from the federal government. They also voiced their support for favorable legislation, research, and veterinary assistance concerning their enterprise. For example, the Southeast Alaska Blue Fox Farmer's Association, formed in December 1923, petitioned for the cessation of selling blue fox breeder stock from the federally managed Pribilof Islands Reserve. The Association complained to whoever would listen that the effort was in direct competition with private enterprise (Janson 1985, Chapter 2:6; Roberts 2006a). Along with other business interests, the association pressed for the hiring of a Territorial veterinarian and establishment of an experimental fur farm in southeast Alaska. When the Southeast Alaska Blue Fox Farmer's Association was formally organized on December 15, 1923, its forty-nine charter members spelled out the following goals: (1) promote the interests of the fox industry by exchanging ideas on feeding, breeding, and care of livestock; (2) cooperate in marketing; and (3) mutual protection of livestock and resources against poachers (The Pathfinder of Alaska 1923:23).

From the earliest beginnings of the commercial raising of Alaska furbearers came reports regarding the illegal taking of furbearers and their pelts (Bahovec 1983; Barkdull 1956:8; The Fur Farmers Bulletin 1924). Illegal poaching was reportedly a common practice (Ashbrook and Walker 1925:29; Janson 1985, Chapter 11:1). Several historical accounts suggest that it was a widespread and active means to supplement ones income. On more than one occasion, such individuals were warned and/or shot if they persisted in such activity (C. Johnson 1983; Mills 1983; The Fur Farmers Bulletin 1924; Weschenfelder 1993:28). Poachers proved to be extremely difficult to apprehend due to limited law enforcement resources and officers. As well as the extensive, wild and remote region where this activity took place. At least one fur farm poaching incident has been widely reported. In 1924, Mr. Billy Grey was shot and killed by a posse of local fur farmers (Janson 1985, Chapter 11:1-3; Schooler 2003:183). The men in the posse claimed self defense and were cleared of blame. Following the incident, The Fur Farmers Bulletin of the Southeast Alaska Fox Farmers Association reported the event and declared, via an editorial, that it was a deplorable act. The editorial declared: "Taking human life is a serious matter under any circumstance, and generally held to be justifiable only in self defense. The preservation of property is not ordinarily a sufficient reason for killing a man. The fur farmers should bear this in mind and realize that if Ole Haynes is cleared, as is anticipated he will be, it will not be vindication of the principle of shooting poachers….The fur farmers might look on the matter from a selfish standpoint. A convicted poacher is worth $1000 to the party furnishing the evidence, when poaching is committed on property belonging to a member of the Association, but a dead poacher is worthless, to say nothing of the probability of the one who kills him being tried for murder " (The Fur Farmers Bulletin 1924, 1(4):6).

Agency and select historic correspondence, personal communications, and other sources indicate that specific individuals, families, and partners may have been heavily involved in fox farm poaching (Janson 1985, Chapter 10:6; U.S. Forest Service Historic Special Use Permit Files n.d.a). At least one individual in southeastern Alaska was given extensive news coverage for poaching foxes. He was arrested and convicted of the crime (e.g., L.B. McCoy) (Janson 1985, Chapter 11:4; U.S. Forest Service Historic Special Use Permit Files n.d.a., n.d.b.). As a result, his legitimate island fox farm special

use permit was canceled by the U.S. Forest Service and he was banned from further commercial fur farming in the Territory (U.S. Forest Service Historic Special Use Permit Files n.d.a, n.d.b.). These same historical records maintained by the leasing federal agency include correspondence and observations by land and resource managers concerning this sort of activity (Roberts 2006a, 2006b). It has been suggested that very little factual evidence or direct observation was provided to objectively make a determination as to guilt or innocence of suspected fox poachers.

Another illicit, commonly reported activity carried out by fur farmers and others during this era was moonshining or bootlegging. This was the illegal production of alcoholic beverages for personal and commercial consumption. Personal communications with a number of informants indicate that this was a widespread activity, which helped to minimally supplement struggling entrepreneurs during the Prohibition era (1920-1933)(Bahovec 1983; Birch 1983; C. Johnson 1983; Ward 1983; Wooton 1983). Lazzette M. Ohman (1988:2) suggests that many fur farms were merely fronts for this illicit activity.

Early Historical Observations on Southeast Alaska Fur Farming

As stated earlier, the production of blue foxes in southeastern Alaska commenced at the close of the nineteenth century and roughly continued throughout the first half of the twentieth century (Roberts 2006a). It proved to be a significant component in the regions limited, but growing economy (Greely 1970:170).

In southeast Alaska, initially fox farmers relied heavily on fresh, dried, salted, smoked and frozen fish to feed their livestock. A majority of these resources were acquired as scrap fish an fish heads, and obtained free from commercial fish traps and fishermen, canneries and from cold storage plants. Moreover, individual personal communications and various accounts suggest that many entrepreneurs and their families fished for feed from various sized skiffs to larger gas boats in reasonably close proximity to their fur farm. Later some even acquired their own refrigeration facilities where they froze quantities of fish and other feed for winter consumption by their livestock (H. Bergmann 1993, C. Johnson 1983, Marsh 1983).

Generally, silver fox or their variations (i.e., red, black and cross fox) were raised within pens or corrals. Silver fox were considered more valuable than the more numerous blue fox. Commercial raising of silver fox appears to have begun in the more established areas within southeast Alaska. The following were noted for their early involvement in pen raising fur bearers. Juneau's Mendenhall Valley and the Lemon Creek area, as well as the Haines-Skagway, Sitka, and Petersburg area were credited as early focal points for this development. This form of fur farming was initially confined to the Chilkat River valley in the Haines area (Bower and Aller 1918:60; Everman 1914:118; Huston 1963:32; Janson 1985, Chapter 12:5-6; Jones 1915:121). This method required a high fence enclosure to keep the furbearers in and predators out. The wooden framework was covered with a heavy gauge wire. As referenced earlier, this form of fur farming focused initially on silver fox (Vulpes vulpes). However, there was also some experimentation with blue fox (Alopex lagopus), marten (Martes americana), muskrat (Ondatra zibethicus), beaver (Castor canadensis), raccoon (Procyon lotor) and similar furbearers (ADF&G).

Mink (Mustela vison) became a popular fur bearer on southeastern Alaskan fur farms during the early 1930's and into the 1940's when short haired, sleek furs became fashionably desirable (Nore 1983). These same areas and facilities also served as established points for the raising of various color phases of mink (Mustela vison). Mink required extensive care and supervision in order to produce quality fur. As a result, fur farmers focusing on mink tended to move closer to established communities. The advantages to operating their fur farms closer to communities were the more readily available commercial feeds for their livestock. Additionally, horse meat was reportedly shipped from Seattle as feed for their mink by at least two informants: Marsh (1983) and Nore (1983). This practice allowed for more systematic breeding, nutrition, parasites and disease control. Other advantages for the fur farmers include more readily available large commercial cold storage facilities, less land area and more focused development, schools for their children, possible supplemental employment, and enhanced social interaction (H. Bergmann 1993; Birch 1983; Gorman 1947:8, C. Johnson 1983; Stolpe 1982; Tenfjord 1982).

Early on the various federal and territorial agencies began to compile information and observations concerning this growing enterprise. In 1915, Bower and Aller (1917a:112) commented that…"The Bureau regrets that many people have gone into the business of fox farming without much knowledge of its requirements, no facilities for caring for their stock and apparently with no serious intention to pursue the business to any end. Dry-goods boxes, chicken pens and old cabins do not make suitable retaining pens or breeding enclosures. The lack of a proper supply of water and the use of improper food further insure failure".

Bower and Aller (1917b:115) report in 1916 that there was no satisfactory information at the time as to the number of fur farms operating throughout southeastern Alaska. In fact, "most of them can be scarcely be termed fur farms as yet, there being in some cases but one or two animals in restricted and improper quarters". The authors go further by stating that "The food supply available on the islands suitable for fur farming in southeast Alaska is almost unlimited, and the breeding of otter, minks, and martens will certainly be undertaken in the future by numerous parties. The business if properly handled will undoubtedly prove to be profitable".

By 1917, Bower and Aller (1918:63) state what seemed to be the obvious, "The history of fur farming in southeastern Alaska is, with one exception, a history of failure rather than success. The questions that naturally follow are: Why has almost every attempt resulted in failure? Is it because the region is not suited to the enterprise?"

In 1917, Bower and Aller (1918:64) quote Inspector Walker concerning his insights on fur farm failures. He listed three causes for failure: "First. Neglect due to irresponsible drinking men being left in charge, which either failed to care for the animals or allowed them to be poached off. Second. Persons going into the work with the idea that it would prove to be a "get-rich-quick" proposition, then becoming discouraged, running short of money and going out of business, or neglecting the animals after two or three years when they discover their mistaken idea. Third. Perhaps a portion of the failures have as a partial cause the lack of experience and knowledge of how to handle the animals, but such trouble if had by responsible, determined men would have been charges to experience, and they would have in the future profited thereby and in the end been successful".

In 1921, A.W. Greely (1970:170) refers to an expert's testimony before a Congressional Committee. The expert testified that "the Russian catch of these animals in 122 years numbered 589,834, while in 51 years the United States had taken 745,795---11,565 annually as against 4,835".This same expert continued: "Alaska is our most valuable fur-bearing possession. The industry ranks third in importance, only exceeded by those of fishing and mining. The success attained with the reindeer industry should be an incentive. Many lines give just as great promise of success and one of these is fur farming in all branches, which is capable of unlimited expansion. This work will make an otherwise barren area a region of much value, both to individual citizens and the commonwealth" (Greely 1970:170-171). With the development and expansion of commercial fur farming came the recognition of its importance to the Territorial economy of Alaska. According to Tewkesbury's (1947:93), Who's Who in Alaska and Business Index, "revenues derived from the gathering of furs in Alaska are of such importance as to rank third among the leading industries. Furs to the value of $2,300,000 are exported each year" from Alaska.

Ward Bower (1923:24-25) reported in his 1922 survey, "In September, a complete canvas of Southeast Alaska was made…which showed 75 fox farms stocked with approximately 4,500 foxes. At the same time there was on hand a total of 654,550 pounds of food, about half of which consists of salmon heads obtained from canneries, while the remainder was whole fish, chiefly chum salmon. It was estimated that to carry these animals through until the following summer approximately 642,000 pounds additional would be required, practically all salmon if obtainable. This means the average daily ration of about three-quarters of a pound of fish for each fox, to which is added about one-quarter of a pound of other food, chiefly cereals, other species of fish, such as halibut, sablefish, flounders, and herring, are used to some extent in Southeast Alaska, but are not regarded as the best fox food". "Few of these fox farmers do their own fishing, usually purchasing salmon from packing companies and operators of independent traps, purse seines, and other fishing apparatus" (Bower 1923:25).
Ward Bower in 1923 stated that…"In southeast Alaska, where more than 100 farms are established, it is estimated that at least 500,000 salmon and 500,000 pounds of fishheads from canneries are used annually for fox feed….Most of the salmon so used are taken by seines or purchased from local fishermen, but at least one fox-farm corporation in southeast Alaska operated a trap. All species of salmon are used, though the bulk of the supply consists of humpback, chum, and coho salmon" (Bower 1925:73-74). Mr. Bower probably refers to the Neil C. Gallagher fish trap and fur farm. This trap was reportedly operated along the west coast of Lynn Canal in the early 1920's. Also see Janson (1985, Chapter 9:5).

By 1923, according to A.W. Greely (1970:147) and Harry Sperling (1937), 512 special use permits of various kinds were in force on the Tongass National Forest. "Chief among these was 140 permits for fox farms, involving 78,000 acres…" Annual fur farms operating on the two Alaska National Forests is summarized by Huston (1963: Table 5:89), Roberts (2006a) and Sperling (1937) (Also see Tables 1 and 2).

"With the decline of fox fur prices the number of fox farms also declined. In 1939 there were 273 fur farming licenses in issue; by 1944 the total was down to less than 90 (57 in southeast Alaska and about 30 in the Aleutians); in 1947 there were only 62 fur farms, some of them raising mink. The next year there were only 30 fur farms, including mink, in the Territory. In 1966 there were only four fur farms, mainly keeping mink" (Institute of Social, Economic, and Governmental Research 1966:6).

"The total income obtained from raw skins has declined, mainly because the total harvest of land-based fur bearers has declined. As there is no reason to suspect that any of the animals have been trapped in such numbers as to exceed their sustained yield, the smaller harvest represents a smaller trapping effort. There is little doubt that the reason for this is that the prices obtainable for the pelts are not sufficient incentive in competition with other sources of income at the present time" (Institute of Social, Economic, and Governmental Research 1966:7).

"Clearly the resource is sound; how well is it likely to be used? The position regarding the land-based fur bearers provides some ground[s] for pessimism, because for a number of years the trapping effort has not been sufficient to produce the income which the resources certainly provide. An all-round increase in the harvest is not the answer: furs are a luxury item, and it is fruitless to produce large numbers of furs which are not in fashion. The collapse of fox farming in Alaska demonstrated this" (Institute of Social, Economic, and Governmental Research 1966:8).

Approximately ten years later similar comments were shared among federal land managers concerning the future prospects of fur farming within the southeastern Alaska region. An example of such communication is the following: "During the years of successful fur farming there was a distinct line of division south of which no ranch produced much fur. A line from Cape Decision north following Sumner Straits and south through Kashavaroff Passage to Ernest Sound. I would not recommend any of the islands on this division as suitable for free running of blue or silver foxes. They would be doomed to failure because of the short periods of dry cold weather in fall and early winter necessary to prime the furs before pelting. Possible exceptions would be the following islands on the northwest portion of the Division: Barrier Islands, Sumner Strait; Bluff Island, Shipley Bay; Green Island, Davidson Inlet; Eagle Island, Davidson Inlet; White Cliff Island, Davidson Inlet; Owl Island, Davidson Inlet." (Archbold 1945).

Southeast Alaska Native, Fur Farmer, and Forest Service Interaction

In 1867, the United States purchased what would become the Alaska Territory from the Russian Empire. This transaction proved to be a major catalyst for a succession of changes that transformed this cultural and physical landscape (Langdon 1993:88; Olson 1997:76; Roberts 2006a; Worl 2003:15). As a result, traditional Native laws were ignored, particularly that of land and resource ownership (deLaguna 1972; Goldschmidt and Hass 1946; Krause 1970). Newcomers, and the federal government, saw the land as totally "wilderness", and completely owned by the federal government. These newcomers seized lands, streams, and resources previously held by the indigenous populations (Langdon 1993:88; Olson 1997:76). Over the succeeding years, these federal public lands came to be managed by the U.S. Forest Service (Rakestraw 1981; Roberts 2006a; U.S.D.A. Forest Service 1997, 2008). Federal laws and regulations guide the U.S. Forest Service in how these lands are managed. Fur farmers on these public lands were required to abide by special use permit rules and mandated covenants (Roberts 2006a).

The resident indigenous populations have occupied the southeast Alaska region from time immemorial. The Tlingit, Haida, and later the Tsimshian exploited the abundant and varied resources (Arndt, Sackett, and Ketz 1987; deLaguna 1990; Drucker 1950, 1965; Emmons 1990; Goldschmidt and Haas 1946; Krause 1970, Niblack 1970; Oberg 1973;

Suttles 1990b). They lived in relative harmony with their environment; utilizing the land, ocean and interior waterways for the gathering of their primary sources of sustenance and material culture. The Tsimshian people of Metlakatla Island live on the only reservation within the state of Alaska, and came there seeking political and religious freedom from their native British Columbia home (Dunn and Booth 1990:294-297; Halpin and Seguin 1990:281; Inglis, Hudson, Rigsby, and Rigsby 1990:288).

The ninetieth and twentieth century witnessed not only the exploration and development of the region's abundant natural resources, but the scholarly interpretations of its cultural and physiographic evolution (Ackerman 1965, 1968; Agner 2002; Davis 1990; deLaguna 1960, 1972, 1990; Emmons 1990; Mann 1986).

Development and resource extraction took many forms and was pursued in a seemingly zealous fervor. Mining, fisheries, furs, timber, trade, and transportation fueled the region's economy. In tandem with this development came settlement and expansion of camps, canneries, villages, towns and cities (Greely 1970).

The Native peoples of southeastern Alaska preferred the coastal areas for settlement, but utilized virtually the entire region of the Alexander Archipelago. With the arrival and settlement of Euro American populations came the adverse domination of Native populations. The region's Native populations were displaced from traditional lands and resources (Olson 1997:76; Worl 1990, 2003). Some felt these disruptions were unintentional, "often representing an intensification and acceleration of preexisting trends" (Cole and Darling 1990:128). However, others pointed out that Native peoples were discriminated against in legitimate civil, property, and religious rights by the dominate population (Dauenhauer and Dauenhauer 1994). Many traditional and customary use patterns and practices by Alaska Native Americans gave way to a pluralist attitude (Langdon 1977:158; Langdon 1979; Worl 2003). Reports and observations documented varying levels of discord in the subjugation of these Native populations by the newcomers (Langdon 1977:159). Moreover, not all situations resulted in conflict or loss of traditional lifeways (Case 1984; Fleek 2000). Contemporary Native populations still practice, to a varying degree, a wide range of traditional, social, economic, technological, and subsistence based activities (Fleek 2000; Kruse, Frazier, and Fahlman 1989; Kruse and Frazier 1989; Kruse and Muth 1990).

U.S. Forest Service historical correspondence (U.S. Forest Service Historic Special Use Permit Files n.d.a.) and legal actions provide a limited perspective on this long standing and sensitive issue. Two notable confrontations developed during the early 1920's. The first involved Native claims to a series of islands southwest of Prince of Wales Island. A letter dated December 10, 1921, was received by Juneau District Forester Charles H. Flory, signed by 180 people (Rakestraw 1981:125; USDA-Forest Service n.d.a.). These individuals protested the lease of specific islands to "fox farmers and any other parties." Petitioners claimed the islands had been… "used for many years as camping grounds by fishermen and trappers and contained many cabins, gardens, etc." (USDA-Forest Service n.d.a.).

They also protested any further leasing of the islands, claiming that these islands had been used for generations as trapping and camping grounds. A follow-up investigation was ordered by Mr. Flory. Subsequently, Ketchikan District Forester, J. M. Wyckoff carried out the field investigation which resulted in a recommendation that the said fox

farm leases be cancelled in early 1922 (Rakestraw 1981:125; USDA-Forest Service n.d.a.).

Mr. Flory, in a lengthy letter to William B. Greeley, Chief of the Forest Service, outlined the Alaska problem. He reported that Alaska was overrun by a "thieving class of whites and natives who seem to make their living by robbing fish traps, slaughtering game for sale, bootlegging, robbing launches, poaching on fox farms and similar acts of depredation."(Rakestraw1981:125). Additionally, Mr. Flory "recommended that fox farms keep armed guards on duty, as did fishtrap owners, and that the fur raisers organize for mutual protection."(Rakstraw 1981:125).

The second confrontation was instigated by Tlingit lawyer, William L. Paul, Sr. Mr. Paul has been acknowledged as one of the early figures in championing Alaska Native rights. Mr. Paul served as the first Alaska Native elected to the Territorial legislature. He served as a lawyer and advisor to numerous Alaska Natives concerning complaints against the Forest Service, and specifically fur farmers. Beginning in the early 1920's, he fought for Native recognition and title to traditional lands throughout the territory.

In one letter to Dr. E.W. Nelson, Chief of the Bureau of Biological Survey, in 1924, Mr. Paul remarked that …"Our first cause of complaint against the fox farmer, is that in nearly every instance the fox farmer has stolen the Islands from the Indian occupant. He makes an affidavit to the effect that there are no Indian claims. The Forestry Department [e.g., USDA-Forest Service] has confided to me that they have made in the past no adequate investigation of the affidavit of the applicant but have granted a lease of the Island with a view of facilitating the so-called "new business". Then Mr. Fox Farmer armed with a lease from the Government approaches Mr. Indian and tells him that Uncle Sam has given him the Island and "Please get off". In nearly every case the Indian is a very peaceful person, engaged in hunting his mink, land otter and other fur bearing animals on the coveted islands. His shack stands there and has stood in some cases on the very same site held by his Ancestors for Generations. In many instances the Fox Farmer uses this shack to keep the foxes' feed in, or else it is used by himself until he can build a suitable dwelling" (Paul 1924).

Subsequently, Dr. Nelson on March 1, 1924, sent a letter to William B. Greeley, Chief of the Forest Service. In his letter, Dr. Nelson attached Mr. Paul's letter and expressed his concerns:

"I assume, as a matter of course, that you do not desire to have the natives treated harshly in connection with the leasing of islands. Whether this has been done or not, the matter looks like one which might be taken up with a view to safeguarding the rights of the Indians. These people, as you are aware, are rather helpless in the face of the white man's invasion of their territory, and many of them, through lack of enterprise or for other reasons, have a difficult time in making a living."

"At the same time, I believe that we should make every reasonable effort to try and assist them as far as possible. I further believe, if Indians should be living on any islands which is to be leased for fox farming purposes, that the Forest Service might as well require that the applicant have the lessor pay the Indian some reasonable sum for his house or other structures and his squatter rights. In that way the Indian might move to another locality without feeling that he is being ruthlessly crowded out of the home of his ancestors."

I am not writing this in any spirit of criticism or implying that any injustice has been done in the Forest Service's administration, but merely desire to call attention to the possibilities in the course of routine business of taking action which might work real hardship on the ancient lords of the soil, who, I believe, are worthy of our kind consideration." (Nelson 1924).

In his reply of March 3, 1924, Acting Chief Forester E.A. Sherman responded to Dr. Nelson...."I am very glad to have the copy of Mr. Paul's letter. I entirely agree that every consideration should be given to safeguarding the rights of Alaska Indians in the lands they have hitherto been using. I am sure you appreciate, however, that sometimes this presents a very difficult question, particularly when the Indians use has been limited to occasional visits to the lands for the purpose of hunting and fishing. I am sending a copy of Mr. Paul's letter to the District Forester at Juneau and requesting him to look into the matter, particularly the charges that we have leased islands which the Indians have been using and that the lessee has forced the Indians to vacate. On receipt of a report we shall be very glad to advise you of its contents." (Sherman 1924)

Subsequent correspondence between Forest Service officials reflect their view that no such adverse actions were taken against Natives. In May of 1924, Charles. H. Flory drafted a letter to Washington, D.C. outlining his thoughts on the issue:

"I have requested the Supervisor to report so far as practicable the facts regarding the specific islands named in Mr. Paul's letter of February 18, and am enclosing herewith correspondence from him…. From the information given in these statements and from my general knowledge of the situation I am convinced that there is no islands occupied as fox farms under permit from the Forest Service which have been "stolen from Indian occupants".

"In some cases islands are occupied as fur farms which were formerly occupied by Indians or on which Indians had some color of claim. In such cases we are following the policy of requiring the applicant to make a satisfactory arrangement with the Indian before a permit is granted him. Usually this is done by securing a quit claim deed, copy of which is furnished to the Supervisor. So far as I know there have been no complaints from Indians regarding such arrangements. In addition to such cases, however, there are old Indian gardens on some of the islands, as well as on many other favorable spots in southeastern Alaska and a few old smoke houses, usually tumbled down or out of repair. In nearly all cases these have not been occupied for years. The gardens have grown up to vegetation and the shacks have decayed or in cases almost entirely disappeared. It is also probable that there are few if any of the islands nor indeed the mainland itself, where Indians have not at some time or other hunted and trapped. As stated, however, where Indians have occupied the land some arrangement with the applicant is required. Where the only Indian claims are abandoned gardens or shacks we have not regarded them as legal rights either on fox islands or elsewhere and I do not believe that they are such".

"The Indian Allotment Act and the regulations under it require in general that Indian allotments within the National Forests will be granted only instances where occupancy was established prior to the creation of the Forest and continued since that time. In my opinion, therefore, there is no question but that we are entirely within the intent of the law

and fair to the Indians themselves in granting permits on such islands as are now under lease".

"So far as telling the Indians to get off the islands is concerned, this has not been authorized nor as far as I know done unless in the case of some Indian who wished to hold up a permittee. It is recognized, however, that the fox farming industry requires exclusive use and are authorized under the terms of their permit, as well as by Territorial law of Alaska, to keep people off the island if they desire".

"You may be sure that we are endeavoring to safeguard the rights of the Indians so far as these rights exist. In fact I am of the opinion that we have been rather too liberal in this regard and have required applicants for fur farm leases to secure clearance from Indians in a number of cases where the Indians have not established rights which would be recognized under the law" (Flory 1924).

Additional subtle, but important interaction is summarized within the individual closed special use permit case files of the USDA-Forest Service. Several examples include the following: (1) in 1927, Adolf Thomsen and Company paid Rudolph Walton annually $60 for use of his 44.5 acre Native allotment site. Most of the fur farm improvements were reportedly located on the allotment site; (2) Oscar Johnson and Oscar Sirstad in 1923, agreed to fence and not molest an Indian grave on their fur farm island; and (3) Billie Jones laid claim to the fur farm island under permit to Fred Bahovec. Jones claimed the island was granted to him by his father-in-law, Kelp Bay Charlie. The claim was reportedly settled for $250 in1934. Numerous additional examples have been documented in the aforementioned Microsoft ACCESS database.

The Southeast Alaska Experimental Fur Farm

Simultaneously these early entrepreneurs recognized that they needed organizations and associations to help protect their personal, commercial and legal interests (Roberts 2006a: Appendix A). One result of this growing influence, the Territory of Alaska authorized the establishment of the Alaska Experimental Fur Farm in 1938. During its tenure, the Experimental Fur Farm was managed by two full-time biologists from 1939 through 1972. Dr. Jule B. Loftus (1939-1941) and Dr. James R. Leekley (1941-1972) served as its only two managers (Roberts 2006a). These two individuals and their staff conducted a range of research efforts to assist the fur farmers throughout the southeast Alaska region. It was funded and operated by the University of Alaska-Fairbanks until its closure at the end of 1972 (Arndt 1979; Leekley 1980; Roberts 2006a).

Located approximately eight miles south of the community of Petersburg, the Alaska Experimental Fur Farm, also locally known as the Petersburg Experiment Station (University of Alaska 1945), and as Substation No. 2 of the University of Alaska Extension Service (Bunnell 1937), comprised 36.93 acres of land on Mitkof Island. It was initially started under special use permit between the Tongass National Forest and Board of Regents of the University of Alaska.

Mr. Earl N. Ohmer, President of the Yukon Fur Farm of West Petersburg (now known as the community of Kupreanof), was an early entrepreneur and experimenter in fur farming methodologies. On his own, he practiced selective breeding of mink and various feeding mixtures (Arndt 1979). The results of his work prompted him to suggest that further research and experimentation needed to take place to further this important industry.

Ohmer (1935), in a letter to the editor of the Petersburg Press, included a proposal for an experimental fur farm that would serve all Alaskans.

Ohmer's proposal was presented to individuals, organizations, and various governmental entities. He received overwhelmingly favorable replies in return. Late in 1936, he contacted all known fur farmers in the Territory, urging them to sign the petitions circulated in support for his proposal for such an experimental fur farm (Petersburg Press 1936a, 1936b). The Territorial Legislature was presented with these petitions and other data in 1937 (Petersburg Press 1937). Territorial Senator Henry Roden introduced legislation and the appropriation of $15,000, to be matched by the federal government, for the establishment of such an Alaska Experimental Fur Farm somewhere in the Territory. The legislation was finally passed in March 1937.

In the spring of 1937, the Mitkof island site was selected. The Regents initially made special use application for the site on August 30, 1937. The Forest Service issued their special use permit October 1, 1937. However, the Regents were hesitant to make improvements on lands they did not own. Furthermore, at the time the Forest Service did not have transfer authority, so the parties went through the federal legislative process before a title for the land change could be made. The special use permit was closed out May 17, 1938. This is the same date formal transfer for the land to the University was made by Congress.

Work on the Mitkof Island site preceded quickly once title to the land was gained. Members of the local Civilian Conservation Corps (CCC) cleared the site during the summer of 1938, and construction began in September of that year (Petersburg Press 1938a, 1938b). Formal operations at the Experimental Fur Farm commenced in 1939 under the leadership and direction of Dr. Jule B. Loftus, biologist-in charge. Dr. Loftus was succeeded in 1941 by Dr. James R. Leekley. Dr. Leekley served as biologist-in-charge until the experimental fur farm closed at the end of 1972 (Arndt 1979; Leekley 1980; Roberts 2006a).

During its tenure the experimental fur farm conducted basic commercial fur bearer research. Projects range from long-term studies on disease and parasite prevention and control; pen raising of various species of fox, mink, and marten; long-term feeding of frozen salmon and flounder; crossbreeding; mink nutrition; and various options in the breeding and raising of marten (Fox 1970b; Huston 1963:120-123; Institute of Social, Economic, and Government Research 1966:7; Leekley 1980; Loftus 1939; University of Alaska 1945).

Furthermore, the Alaska Experimental Fur Farm, under the direction of Dr. Leekley, carried out a wide range of experiments on appropriate fur bearer diet. Leekley and his team developed a fresh and frozen fish recipe that contained a cereal mix with the following ingredients and amounts: cooked whole wheat 30%, cooked oat fragments16%, wheat germ meal 10%, dried brewers yeast 10%, beet pulp 5%, commercial liver meal 5%, dried skim milk 15%, dehydrated grass, or alfalfa meal (having a carotene level of 65 mg. or more per pound) 5%, ground limestone 3%, cod liver oil (containing at least 1800 I.U. of vitamin A and 175 units of vitamin D per grams) .5%, and salt .5%. This balanced mixture proved to be a suitable diet for foxes, mink, and marten which yielded healthy animals with quality pelts (Leekley and Cabell 1961; Leekley 1980).

One of the most publicized experiments conducted by the Experimental Fur Farm was in 1971. A series of lawsuits by fur farmers in the contiguous forty-eight states between 1961 and 1970 against the U.S. Air Force claimed adverse effects from sonic booms. The federal government sponsored an experimental study to see if sonic booms actually cause adverse effects to mink. Dr. Leekley led the $100,000 project. Seven hundred mink were brought to the Experimental Fur Farm and divided into three test groups. As a result of the study it was determined that there was no adverse effect on mink behavior, reproduction process, or growth of whelping mink or their offspring by sonic booms (Fox 1970a, Leekley 1980).

In March, 2003, Kris Thorsrud, with the Alaska Maritime National Wildlife Refuge (U.S. Fish and Wildlife Service) was "doing some research and came across references regarding unique 'golden' foxes transferred live from the Aleutians in the early or mid 1960's to the experimental station in Petersburg. In contacting the U.S. Forest Service in Petersburg", she was given my name as a person who would have fox information from the 1940's through the 1960's. She inquired if such information was accessible? If there was a way to access the fox materials from the 1960's?

She was attempting to "find out the outcome of those 'golden' foxes and the conclusion of the ponderings about their coat coloring". The previous Aleutian Islands National Wildlife Refuge Manager, Robert 'Sea Otter' Jones, was the person who saw, captured and shipped the golden foxes to the Petersburg Experimental Fur Farm. Apparently there was nothing in their records that follow up on what happened or was learned from the fur bearers.

In response to her questions and comments, I said that I had conducted an oral history interview with Dr. James R. Leekley in 1980. I did not recall any specific reference to the aforementioned foxes (Roberts 2003). Additionally, I suggested that she view a "Rain Country" (1994) video produced by KTOO-TV in Juneau. She was also referred to an Alaska Fish and Game biologist featured in the program who might be able to assist her. No further communications were had with Ms. Thorsrud.

Summary and Recommendations

Historical accounts, agency records, and personal communications indicate that historic southeast Alaska fur farming commenced at the close of the ninetieth and roughly continued through the first half of the twentieth century. It rapidly became an important component in the evolving Alaska territorial economy. Huston (1963:5; Table 5:89) claims that the southeastern region of the Territory was the leading fur farming area from at least 1929 through the early 1960's. Roberts (2006a: Appendix C) demonstrates that this successful enterprise commenced much earlier and continued well into the 1930's and beyond. This author also suggests that southeast Alaska fur farming continued successfully on private and federal public lands into at least the early 1940's when the world fur market collapsed. This latter event did not signal a complete abandonment of the enterprise by Alaska Territorial entrepreneurs. However, it did signal a dramatic reduction in practitioners of this bygone enterprise. It is suggested that historic era southeast Alaska fur farming continued well into the 1950's (Huston 1963:90), with several continuing until the early 1970's (H. Bergmann 1993; Institute of Social, Economic, and Government Research 1966; Leekley1980; Nore1983).

The commercial raising of furbearers in southeastern Alaska was a significant component in the regional and territorial economy. Early entrepreneurs raised and sold breeding stock (e.g., blue fox (Alopex lagopus) and red fox (Vulpes vulpes)) to others attempting to start their own fox farm business. Some early practitioners profited in the rapid development and growing enterprise. Fur farming proved to be a catalyst for a wide range of social and cultural, as well as environmental change. Bailey (1993) called island fox farming "the worst ecological catastrophe experienced in Alaska" because of the foxes predation on seabird colonies. Fur farming also precipitated the rapid opening of remote and relatively little used tracts of land throughout the southeast Alaska region. Fur farming, along with commercial fishing and processing, ushered in ever more restrictive catch and harvest regulations. Anadromous salmon, the primary source of fur farm feed, became more regulated and restricted over time due to competition from the various resource user groups.

Furthermore, the fur farmer and territorial fur farm industry appear to change and adapt rapidly to ever evolving and changing women's fashions. Along these lines was the introduction of artificial or substitute fur during and following World War II. Another explanation for the decline of Alaska fur farming was competition from other geographic regions of the United States and several foreign countries. The combination of all these various factors resulted in the precipitous decline in demand for commercially raised Alaskan furs. It prompted individuals, families, and companies throughout the Territory to further diversify their means for earning a living. Numerous informants suggest that many fur farmers shifted from fishing for fur bearer feed to selling their catch to canneries and cold storage operations.

Dwellings and other improvements on federal public lands were sometimes salvaged or moved, but many were simply abandoned and left on site. The fortunate ones (e.g., those in close proximity to established communities or cities) were sometimes able to sell their homes and improvements. Others merely transferred their commercial fur farm site permit(s) to a residence permit. The average residence permit encompassed the most valuable improvements on site, and a land area of approximately five acres.

Approximately two and a half years ago Sabra Ayres (2007), in her article for the Anchorage Daily News, reported that the owners of Spuhn Island, one of the longest operating fox farms within the region, was sold to a "husband and wife development team."

"The developers, Karla and Steven Allwine, advertised the 38 waterfront lots on Spuhn Island as pristine, secluded getaways with easy access to the Mendenhall Glacier and all the amenities of city life. Each lot is connected to city water, electricity, and even fiber-optic cable."

"Plots range from 1.3 to 3.4 acres with unobstructed views of mountains and water. Prices start at $169,900."

In order to allay concerns from the Southeast Alaska Land Trust and neighborhood associations, the Allwine's stressed that their development covenants "preserve the natural integrity of the island. The interior 57 acres of the 157-acre island will remain undeveloped to protect a family of deer, they said."

This example of once rural real estate being sold for luxury vacation-home investments began in the Sitka area over the past several decades. The State of Alaska began the practice when it sold small to larger islands to private owners. Many of these island parcels once witnessed varying levels of historic fur farming. It is hoped that they and others yet to be developed were given appropriate consideration for their historic values prior to their sale and transformation.

This preliminary survey documents a total of 374 fur farm businesses from throughout the southeast Alaska region (Appendix C), 103 of these fur farm sites have "undetermined" site specific coordinates (Appendix D). Over 294 individual islands/locations were utilized for historic fur farming purposes between 1899 and 1972 (Appendix C and F). Once again, this preliminary survey did not discover or note any fur farm site(s) on the Bradfield Canal quadrangle.

This preliminary survey highlights the need for a systematic and comprehensive research effort to document the full range of historic southeast Alaskan fur farming. It is the documentation of the routine and workaday world that is rapidly disappearing from throughout the southeast Alaska region. Additionally, this proposed effort has the potential to shed new light on numerous research opportunities available to those so inclined (e.g., personal communications with knowledgeable individuals and families concerning various aspects of southeast Alaska fur farming, a summary of boats used and their names, historic photography collections, the availability and gleaning of official territorial state and federal agency historical files, reports, correspondence, journals, and relevant topical articles, books, and bibliographies). It seems logical to also suggest that such efforts be performed as soon as possible due to the tenuous and fragile nature of the surviving practitioners and physical remains on the landscape. Such individual and regional settlement pattern surveys, reporting, and oral histories should be documented and shared with appropriate researchers and the public. One researcher comments that "It might seem counterintuitive, but documentation problems have been exacerbated by the introduction of the computer". "Over the last several decades, data have been stored on several generations of computer punch cards, floppy disks, and Zip drives, all of which are obsolete, or quickly becoming so."(Curtis 2009. 12(1):43).

Additionally, my friend and colleague, Madonna Moss deserves unending praise for saving eighteen boxes of invaluable Forest Service "closed" historical special use permit files, records, correspondence, maps, and photographs. Without this material, it would have been even more difficult to accurately portray this bygone way of life. This dilemma concerning the retention of historical records appears to be a continuing issue, as long as historical files and computer URL's are changed, modified, neglected and destroyed. Furthermore, Forest Service employees, David Rak and Susan Wise Eagle, were invaluable to the successful completion of this effort. They deserve both praise and recognition for their contribution to this effort. Finally, it is hoped that through this preliminary survey and research that an awakening and appreciation of this bygone enterprise will allow for meaningful interpretation, documentation, and long term management of this long neglected cultural resource.

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Appendix A
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X- Denotes audio cassette recording. Also see References Cited

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X	Frink, Jeri Hildebrand	1983
	Haaseth, Einar	2007
X	Haltiner, Beulah	1983
X	Ingle, Dorothy & Leonard	1997
X	Johnson, Cora	1983
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X	Leekley, James R.	1980
X	Loseth, Leif	1997
X	Lund, Dolores	1997
X	Marsh, Louise	1983
X	Mills, Russell	1983
X	McCay, Al	1984
X	Nore, Ingvald & Anna	1983
	Stolpe, Harold	1982
	Sundberg, Harry	2007
	Tenfjord, Norma	1982
X	Ward, John (Jack)	1983
X	Wooton, Frank	1983

Appendix B
Alaska Territorial Fur Farm Associations

Alaska-Yukon Mink Association	Juneau, Alaska
Cook Inlet Silver and Blue Fox and Breeders Association	Seldovia, Alaska
Northwest Fox Breeders Association	Seattle, Washington
Prince William Sound Blue Fox Farmers Association	Valdez, Alaska
Seldovia Fox Breeders Association	Seldovia, Alaska
Southeast Alaska Blue Fox Farmers Association	Juneau, Alaska
Southwestern Alaska Blue Fox and Fur Farmers Association	Kodiak, Alaska
The Blue Fox Farmers Association of South Central Alaska	Cordova, Alaska

Appendix C
Preliminary Numerical Total of Southeast Alaskan Fur Farms
USGS 1:250,000 feet scale quadrangle

Bradfield Canal (BFC)	0
Craig (CRG)	34
Dixon Entrance (XDE)	4
Juneau (JUN)	53
Ketchikan (KET)	27
Mount Fairweather (XMF)	10
Petersburg (PET)	92
Port Alexander (XPA)	37
Prince Rupert (XPR)	5
Sitka (SIT)	49
Skagway (SKG)	27
Sumdum (SUM)	24
Taku River (XTR)	3
Yakutat (YAK)	9

Appendix D
Preliminary Fur Farm Locations with “Undetermined” Coordinates
USGS 1:250,000 feet scale quadrangle

Bradfield Canal (BFC)	0
Craig (CRG)	1
Dixon Entrance (XDE)	1
Juneau (JUN)	31
Ketchikan (KET)	11
Mount Fairweather (XMF)	1
Petersburg (PET)	22
Port Alexander (XPA)	5
Prince Rupert (XPR)	0
Sitka (SIT)	6
Skagway (SKG)	23
Sumdum (SUM)	0
Taku River (XTR)	1
Yakutat (YAK)	1

Appendix E
Preliminary Numerical Total of Islands Used for Southeast Alaska Fur Farming
USGS 1:250,000 feet scale quadrangle

Bradfield Canal (BFC)	0
Craig (CRG)	41
Dixon Entrance (XDE)	4
Juneau (JUN)	23
Ketchikan (KET)	18
Mount Fairweather (XMF)	11
Petersburg (PET)	64
Port Alexander (XPA)	41
Prince Rupert (XPR)	7
Sitka (SIT)	43
Skagway (SKG)	5
Sumdum (SUM)	26
Taku River (XTR)	0
Yakutat (YAK)	9

Appendix F
Preliminary Range and/or Duration of Southeast Alaskan Fur Farms
USGS 1:250,000 feet scale quadrangle

Bradfield Canal (BFC)	0
Craig (CRG)	1917-1949
Dixon Entrance (XDE)	1924-1932
Juneau (JUN)	1909-1954
Ketchikan (KET)	1916-1957
Mount Fairweather (XMF)	1920-1942
Petersburg (PET)	1902-1972
Port Alexander (XPA)	1919-1953
Prince Rupert (XPR)	1920-1924
Sitka (SIT)	1918-1948
Skagway (SKG)	1914-1946
Sumdum (SUM)	1899-1948
Taku River (XTR)	1920-1933
Yakutat (YAK)	1920-1955

Appendix G
Acreage Under Historic Fur Farm Special Use Permit and/or Private Property Ownership. USGS 1:250,000 feet scale quadrangle

Bradfield Canal (BFC)	0
Craig (CRG)	19 to 8,523
Dixon Entrance (XDE)	53 to 340
Juneau (JUN)	2 to 4,521
Ketchikan (KET)	18 to 1,346
Mount Fairweather (XMF)	3 to 6,788
Petersburg (PET)	1 to 3,007
Port Alexander (XPA)	10 to 1,645
Prince Rupert (XPR)	40 to 1,375
Sitka (SIT)	2 to 5,626
Skagway (SKG)	? to 315
Sumdum (SUM)	3 to 862
Taku River (XTR)	14 to 70
Yakutat (YAK)	5 to 2,345

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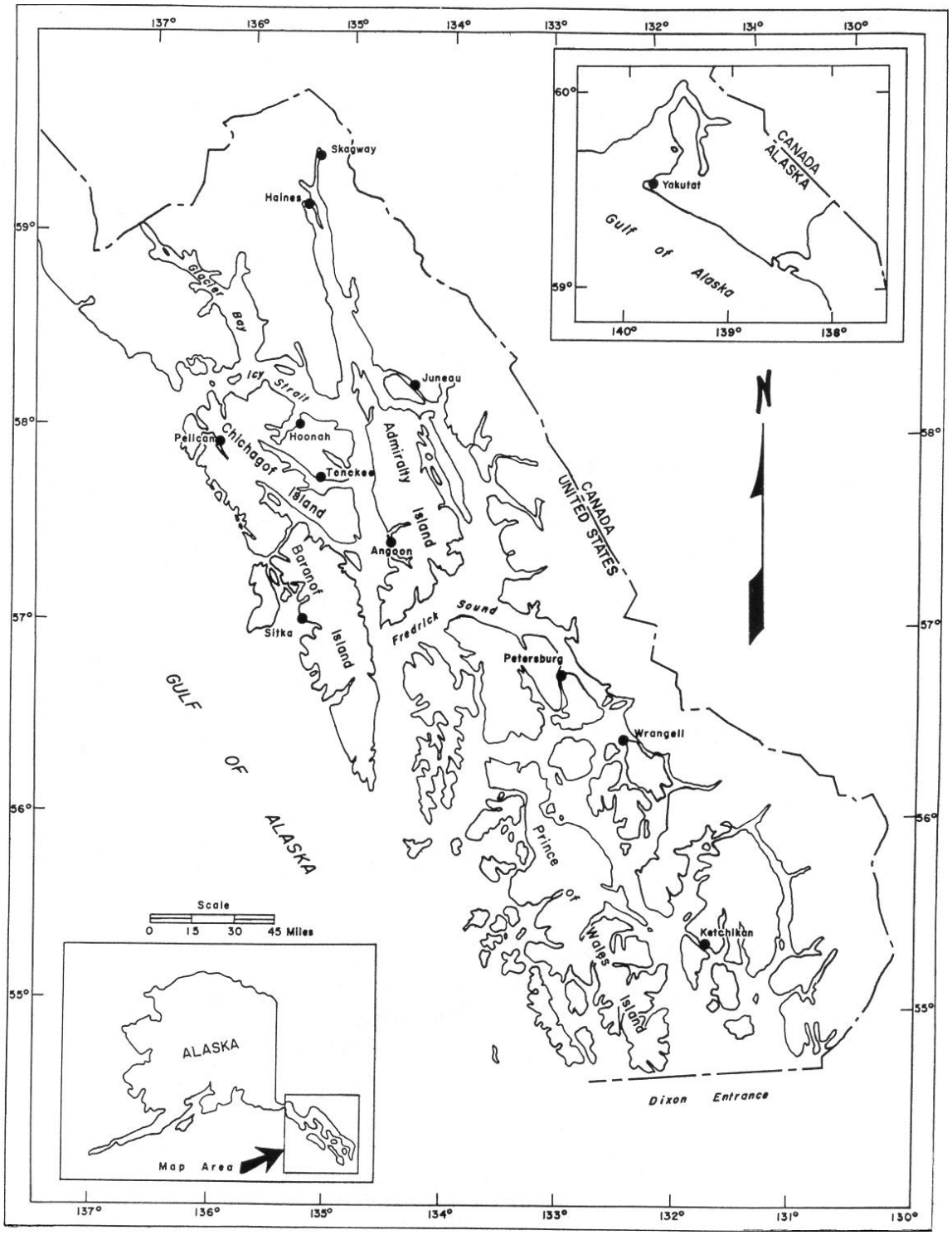
Year	Chugach NF	Tongass NF	Total
1912	1	2	3
1913	8	1	9
1914	10	1	11
1915	8	1	9
1916	11	2	13
1917	14	3	17
1918	12	3	15
1919	14	7	21
1920	24	35	59
1921	25	75	100
1922	29	108	137
1923	33	140	173
1924	35	157	192
1925	38	172	210
1926	35	160	204
1927	36	144	180
1928	38	138	176
1929	35	136	171
1930	29	134	163
1931	26	133	159
1932	22	127	149
1933	22	128	150
1934	24	126	150
1935	26	120	146
1936	26	120	146
1937	24	124	138*

*Note : Six locations are areas on the mainland. Records change to fiscal year basis in 1933.

Table 2: Huston, John Robert. 1963. A Geographic Analysis of the Fur Farming Industry in Alaska. Table V. Master's Thesis. Department of Geography. University of California, Berkeley. Berkeley, California.

* After 1947, the Statistical Reports were issued biennially.

Year	Chugach NF	Tongass NF	Total
1939	20	91	111
1940	16	82	98
1941	16	71	87
1942	16	51	66
1943	16	45	61
1944	15	42	57
1945	13	37	50
1946	14	35	49
1947	12	34	46
1949	12	22	34
1951	7	17	24
1953	4	9	13
1955	3	5	8
1957	3	1	4
1959	2	0	2
1961	0	0	0



Map 1
Southeast Alaska
source: USDA-Forest Service