FINDING OF NO SIGNIFICANT IMPACT

Proposed Eradication of Introduced Fox on Chirikof Island

Alaska Maritime National Wildlife Refuge

SUMMARY:

Foxes were introduced, for fur farming, on over 225 islands in Alaska beginning about 1836. Islands with large seabird colonies were preferred for introduction of non-native foxes because foxes would feed on the abundant seabirds and other native birds. This practice resulted in the near extirpation of Aleutian cackling geese (formerly known as Aleutian Canada geese), the devastation of many colonies of fossorial and surface-nesting seabirds, and reduction of populations of other native insular avifauna.

Chirikof Island was first stocked with arctic foxes in about 1891 (sources vary) with 6 or 8 pairs of blue (arctic) foxes from North Semidi (Aghiyuk) Island (Bower 1915). More arctic foxes were added on other occasions, including some probably brought from the Pribilof Islands. For instance, another 40 pairs of arctic foxes were released on the island in 1897. Chirikof eventually became the largest producer of blue (arctic) fox pelts of all islands stocked by the Semidi Propagating Co. a subsidiary of the Alaska Commercial Company which succeeded the Russian-American Company (Bower 1915, Bailey 1993, Isto 2012).

The biological environment of Chirikof Island has been severely degraded as a result of the introduction of foxes. Seabird populations have been severely reduced by fox predation.

Marked recoveries of seabirds and other bird populations have been documented after the removal or natural disappearance of non-native foxes on islands.

Failure to remove introduced fox would prevent fossorial and surface-nesting seabirds from recolonizing. Furthermore, crevice-nesting seabirds may continue to decline because of sustained predation, and other nesting seabird species would remain restricted to only areas inaccessible to foxes. Compared to seabird populations before the fox farming era, mere relict numbers of some species probably now exist, and the only way that the Refuge can attempt to partially restore such populations is by rendering islands free of exotic predators.

If foxes remain, the possibility exists that ptarmigan could be eliminated or restricted to the highest and most rugged portions of the island.

Duck populations would not recover on the island until foxes are removed. Differences in waterfowl nesting populations between islands with fox and without these introduced predators are perhaps most dramatic on certain islands south of the Alaska Peninsula (Bailey and Faust 1980). Islands with introduced foxes are further aggravated by waterfowl habitat destruction if cattle are present compared to nearby cattle-free islands.

Removing introduced foxes from Chirikof Island will benefit breeding populations of black oystercatchers, semipalmated plovers, red-necked phalaropes, and other shorebirds. Failure to remove foxes would likely prevent recovery of winter wrens, song sparrows, rosy finches, and other resident and breeding populations of passerine birds. Also, Aleutian cackling geese undoubtedly nested on fox-free islands south of the Alaska Peninsula (Bailey 1993).

To restore breeding habitat for waterfowl and seabirds, the Alaska Maritime NWR proposes to initiate a long term project to eventually eradicate arctic and red foxes on Refuge islands located in the Aleutian Islands, Alaska Peninsula, and Gulf of Alaska units of the Refuge. Chirikof Island is currently the highest priority.

PROPOSED ACTION:

The Refuge proposes to initiate a long term project to restore the natural biodiversity of Chirikof Island. A vital first step in this restoration is the eradication of foxes from the island using the preferred alternative of Traps and Firearms. The Refuge proposes to use any or all of the following methods to remove foxes: leg-hold traps, bodygrip traps, cage traps, neck snares, and firearms.

Environmental consequences from trapping and shooting are expected to be negligible.

ALTERNATIVES CONSIDERED:

Traps and Firearms

Steel leg-hold traps (no. 1 3/4), bodygrip traps, cage traps, neck snares, and firearms would be used to eliminate the foxes. These have shown to be effective on smaller islands. They are more selective than toxicants but require considerably more time and personnel. Use of traps and firearms alone entails a tremendous amount of labor on even moderately large islands (>5,000 acres), and the risk of leaving a few foxes on an island is much greater when only traps and firearms are used. If foxes escape traps and become wary of them, no other backup means are available except shooting and snares, which on most islands amounts to only incidental removal. Trapping difficulty is chiefly a function of island size, topography, and accessibility.

Toxic Baits

Although islands as large as Amchitka (73,000 acres) were cleared of foxes with compound 1080 and aerial dispersal of strychnine pellets prior to the ban of such materials in 1972 , the Refuge does not propose to use toxic baits on all islands on which foxes are to be removed. Specific environmental assessments have been prepared for large islands like Kiska, where the use of traps and other means are virtually unfeasible. Other predicides also could be tried on selected islands, but it is essential to first experimentally determine the efficacy of the chemical used.

Biological Control

Red foxes would be introduced to compete with and act as control agents of the arctic foxes. Hypothetically sterile red foxes may function as biological control agents against arctic fox. Analysis of the zoogeography of arctic and red foxes and of historical records on fur farming reveals that red and arctic foxes do not coexist for any length of time on the same island.

Although it appears unequivocal that reproducing red fox will eliminate arctic fox on the same island, it is not known whether this will occur when the dominate reds are unable to reproduce. Also, if it requires almost as many reds to be released on a given island as there are arctics present, the efforts and cost of implementing this biological control technique would be too high to be practical.

No Action

Continuation of current management, taking no action to eliminate foxes from Chirikof Island would allow the foxes to continue suppressing the population of birds by predation and would not allow the restoration of those populations.

ALTERNATIVES ELIMINATED FROM CONSIDERATION:

Chemical Sterilants

Since the objective on islands is total elimination of foxes rather than simply control, the use of chemosterilants or reproductive depressants, such as diethyestibesterol, are not satisfactory alternatives (Oleyar et al. 1974, Linhart et al. 1968).

Epizootics

This would involve the planting of rabies, distemper, encephalitis, or other deadly diseases into the fox population. Since these could be transmitted to marine mammals or raptorial birds and thus spread beyond the confines of Chirikof Island, the use of epizootics is believed too hazardous to consider.

Cyanide Projectiles

M-44 or M-50 "coyote getters" would be used to eliminate the foxes. These are metal tubes which contain spring-loaded cartridges that release sodium cyanide (NaCN) dust into the mouth of an animal that pulls on a scented or baited cloth affixed to the top of the tube. These devices kill only one animal and secondary poisoning is unlikely. Use of cyanide devices is very labor intensive since individual sets must be made and periodically rechecked. However, cyanide devices complement trapping and provide an alternate means of eliminating foxes, particularly those that become wary of traps. Cyanide projectiles are especially useful in rugged, difficult to reach areas because, unlike traps, they do not have to be frequently rechecked. Moreover, it is in such inaccessible parts of an island that a few foxes are likely to survive. Cyanide devices should be used with traps and firearms on all smaller islands far from human habitation.

Use of M-44 or M-50 "coyote getters" is strictly controlled and using them in this project would be "off label" or not authorized. They were previously used on the Refuge for the allowed use of protecting an endangered species, the Aleutian cackling goose. That program was successful and the species has been de-listed. As there are no endangered species to protect on Chirikof Island, this alternative shall not be considered.

VALIDITY OF THE ENVIRONMENTAL ASSESSMENT:

Chirikof Island was not included in the Environmental Assessment: Proposed Eradication of Introduced Fox on Alaskan Islands 1985 because it had been selected by the State of Alaska to under ANILCA. It was believed that the island would become State property. That State selection was determined to be invalid and the State vacated its claim to the island in 1997. Ownership of the island remained with the Federal Government with management by the Alaska Maritime National Wildlife Refuge.

Recent reviews of biological conditions of the islands considered in the Environmental Assessment have determined that conditions are essentially unchanged from 1985. In all respects, the biological conditions and problems on Chirikof are the same as or worse than those of the islands studied in the EA. A Determination of NEPA Adequacy, detailed in the Environmental Action Statement, determined that the EA is still pertinent and that Chirikof Island may be covered by the analysis, alternatives, and findings of the EA.

DECISION:

It is my decision to select the alternative "Traps and Firearms" for implementation on Chirikof Island. This alternative will best meet the objective of removing foxes from Chirikof Island and contributing to the restoration of natural biodiversity on the island.

Use of traps and firearms will allow targeting of foxes with minimal collateral take of other species. Other alternatives would be able to meet the objective, but would present undesirable consequences.

FINDING OF NO SIGNIFICANT IMPACT:

Following review of the Environmental Assessment and the supporting references, I have determined that the proposed eradication of introduced foxes on Chirikof Island, by means specified in the selected alternative, is not a major Federal action which would significantly affect the quality of the human environment. Successful completion of this project would contribute to the restoration of natural biodiversity on Chirikof Island.

REFERENCES:

Bailey, Edgar P. 1993. Introduction of foxes to Alaskan islands-history, effects on avifauna, and eradication. Fish And Wildlife Service Homer AK.

Bower, Ward Taft. 1915. Alaska fisheries and fur industries in 1915. U.S. Govt. Print. Office 1917. 140pp.

Isto, Sarah Crawford. 2012. The Fur Farms of Alaska: Two Centuries of History and a Forgotten Stampede. University of Alaska Press. 250pp.Linhart. S.B., H.B. Brusman, and D. S. Balser. 1968 .

Field evaluation of antifertility agent stilbestrol for inhibiting coyote reproduction. American Wildlife and Natural Resources Conf. 33: 316-327.

Oleyar, C.M. and B. S. McGinnes. 1974. Field evaluation of diethylstilbestrol for suppressing reproduction in foxes. Journal of Wildlife Management 38: 10 1-106.

SIGNATURE APPROVAL:

Mitch Ellis

Jan 7, 2015

Mitch Ellis

Date

Regional Chief of Refuges,

Alaska Region

U.S. Fish and Wildlife Service