

## **FINDING OF NO SIGNIFICANT IMPACT**

### **Environmental Assessment for Restoring Wildlife Habitat on Rat Island, Alaska Maritime National Wildlife Refuge, Aleutian Islands Unit**

#### **SUMMARY**

The U.S. Fish and Wildlife Service (Service) proposes to restore the natural biodiversity of Rat Island within the Alaska Maritime National Wildlife Refuge (NWR) by eradicating invasive Norway rats. The Environmental Assessment (EA) attached to this document analyzes the consequences of the following two alternatives: 1) no action; and 2) the proposed action - eradication of non-native Norway rats by aerial broadcast of bait containing the rodenticide brodifacoum. We chose the proposed action over the no action alternative. This Finding of No Significant Impact (FONSI) documents our conclusion that the proposed action will not have any significant impacts on the quality of the human environment.

#### **ACTION PURPOSE & NEED**

Two key purposes of Alaska Maritime NWR are: (1) to conserve marine birds (i.e., seabirds), other migratory birds, marine mammals and the habitats on which they rely; and (2) to secure an enduring resource of wilderness, to protect and preserve the wilderness character of the area as part of the National Wilderness Preservation System, and to administer the area for the use and enjoyment of the American people in a way that will leave it unimpaired for future use and enjoyment as wilderness. The purpose of the proposed action, consistent with the purposes of the Refuge, is to restore native habitat for wildlife, especially seabirds, and wilderness character of Rat Island by permanently removing introduced rats. The detrimental impacts introduced rats have on island ecosystems is discussed in the EA.

#### **SUMMARY OF PROPOSED ACTION**

Rat Island is a 6,861 acre uninhabited island located 1,300 miles southwest of Anchorage, Alaska in the central Aleutian Islands. The proposed action will use two island-based helicopters to spread pelletized bait containing brodifacoum. Aerial application of the rodenticide during fall was chosen because it is a feasible and cost-effective method of eliminating the ongoing environmental damage caused by rats. This method was selected after consideration of other eradication techniques because it is the most successful and tested method of accomplishing the proposed action on an island as large as Rat Island. Some non-target mortality of birds is expected but the loss of individuals will have no significant population-level effects. Timing of bait application, application rate, and bait characteristics are all designed to minimize effects on non-target species. Most rats will die underground, reducing secondary poisoning to predators and scavengers. Furthermore, any carcasses found during and immediately after baiting will be removed. Bait stations may be selectively used as well. Although no bait will be deliberately broadcast into the marine environment, some bait drift into both marine and fresh water is

possible. Nevertheless, during a previous study on other Aleutian Islands where pellets were broadcast to mimic the application proposed at Rat Island, analysis of water samples revealed no detectable brodifacoum. The project is designed to reduce marine mammal disturbance yet maximize efficacy of eradication. The safety of personnel involved in the proposed action will be emphasized through careful planning and training. Rodenticide will only be used according to label directions and consistent with all other pertinent regulations. All permits for use of rodenticide will be obtained prior to application.

Pending final approval of permits and pesticide regulation compliance, Rat Island eradication operations will begin in fall 2008 when rodent productivity and food resources are declining, after breeding seasons have ended for birds and marine mammals, and before severe winter conditions persist.

## **EFFECTS AND FINDINGS**

There will likely be some limited mortality of individual birds (e.g., common ravens) that directly ingest bait during the proposed action. However, non-target mortality of individuals on Rat Island will not affect populations of any bird species as a whole within the Rat Islands group of the Aleutians. Indeed, we expect there will be long-term benefits to bird populations on Rat Island as a result of rat eradication, which is one of the primary purposes of the proposed action.

Analysis of potential effects of the proposed action on marine mammals indicates no risk of significant effects to those using Rat Island and surrounding waters, namely Steller sea lions, harbor seals, and northern sea otters. Actions will be taken to avoid concentrations of northern sea otters, thereby reducing concern for this species. Helicopter operations will likely cause temporary disturbances to Steller sea lions and harbor seals, but overflights and associated activities are not expected to injure or decrease their fitness.

The human environment on Rat Island (including other biological resources, water resources, historic and cultural resources, or human uses and values associated with the island) will not be significantly affected. Except for government researchers, humans very rarely visit the island, and there is little, or no, subsistence use of resources from the island or surrounding waters. Additionally, the EA determined that the wilderness character of Rat Island will not be permanently compromised; instead wilderness character is being restored as a result of rat removal.

The proposed action is designed to restore the biodiversity of Rat Island by removing all Norway rats on the island, but Norway rats are common elsewhere in the world. The proposed action will have no effect on abundance of the species elsewhere.

## **PUBLIC INVOLVEMENT**

The EA was prepared and released for a 30-day public comment period on the Alaska Maritime NWR web site beginning December 12, 2007, through January 11, 2008. Over 800 notices of availability were mailed directly to agencies, organizations, and

individuals. More than 150 notices were sent by e-mail. A press release was distributed to news outlets in Alaska and the nation. Refuge staff gave three radio interviews about the project. The notice of availability, a list of frequently asked questions, and a fact sheet about the project were mailed to communities in the Aleutian Island geographic area including: City of Adak, villages of Atka and Nikolski, and Unalaska.

During the public comment period, we received 37 responses: 22 from individuals, 6 from conservation organizations, 2 from trade associations, 2 from Native organizations, 2 from governmental agencies, 1 from a professional scientific organization, 1 from a non-profit research institute, and 1 from an academic institution.

Of the 32 comments that expressed an opinion, 30 were in support of the proposed action, and 2 comments were opposed. Not all comments clearly stated support or opposition to the proposed action (e.g., some offered suggestions of alternative products or techniques). Based on the balance of public comments received, the effects on the quality of the human environment are not highly controversial.

The following section addresses the subjects of the material issues raised during the public comment period.

### **1. Choice of Rodenticide**

One comment pertained to our choice of rodenticide. Two rodenticides used in rat eradications in the U.S., brodifacoum and diphacinone, were initially considered for use on Rat Island. We selected brodifacoum as the rodenticide to use in the proposed action primarily because of its proven success in the vast majority of eradication efforts worldwide (Howald et. al. 2007), and thus its ability to achieve the purpose of the proposed action. While diphacinone has been used successfully 5 times in island rat eradications, brodifacoum has been used successfully 200 times (Howald et. al. 2007). Based on the best available scientific information available to the Service at this time, there have been no confirmed successful eradications with diphacinone that have been carried out by hand or aerial broadcast. We recognize that testing of diphacinone and its potential for use as an island eradication tool by broadcast is ongoing elsewhere. However, because of the relatively large size of Rat Island (one of the larger islands targeted for rat eradication in the world), which necessitates an aerial broadcast, and the difficulty of carrying out an eradication operation on an island as remote as Rat Island, which necessitates an approach that can maximize the likelihood of successfully eradicating rats on the first attempt, we chose to use brodifacoum rather than diphacinone for the proposed action. Additional rationale for our selection of rodenticide is outlined in the EA.

### **2. Non-target Issues**

We recognize that brodifacoum has greater non-target hazard than diphacinone. Nevertheless, because of increased likelihood of success in removing all rats at Rat Island with brodifacoum, the short-term non-target impacts are deemed non-significant and

acceptable to gain long-term benefits to the island ecosystem as a result of the proposed action. Furthermore, negative population level effects are not expected for any native species or subspecies in the Rat Islands group. Worldwide, rats have caused the extirpation and extinction of native and endemic taxa on a number of islands. The negative impacts of rats and other non-native predators (such as arctic fox) on native species have been documented in the Aleutian Islands (e.g., Bailey 1993, Byrd et al. 1994, Ebbert and Byrd 2002), as have the cascade effect on island ecosystems (Croll et al., 2005). Therefore, removal of rats from Rat Island to allow for restoration of native biodiversity is a positive management action.

### **3. Seasonal Timing of the Action**

One comment pertained to the seasonal timing of the proposed action. The timing of the proposed action was chosen to balance three factors: rat biology, impact on non-target species, and safety of personnel. The objective is to maximize efficacy on rats (i.e., eradication) within a seasonal timing window that minimizes disturbance to non-target species (by conducting operations outside the summer peak of wildlife breeding seasons) and avoid periods when winter conditions increase safety issues for personnel and/or compromise bait availability due to snow or ice cover. Rat eradication using broadcast baits on top of, or during, snow has never been attempted, and its probability of success is unknown. The timing window for the proposed action will be from approximately October 1 (after most bird and marine mammal breeding has been completed) until the first snowfall of the winter (see EA for more details). This is also a time period when the reproductive season for rats is waning. According to historical weather data for the region, it will be feasible to have enough flying days to complete bait broadcasts prior to snowfall.

### **4. Marine Mammal Disturbance**

Aleutian-region marine mammals, including Steller sea lions, northern sea otters, and harbor seals are protected by the Marine Mammal Protection Act. Steller sea lions and northern sea otters are also protected by the Endangered Species Act (ESA). The project will not occur unless we have satisfied all legal requirements for these species prior to the proposed action. The process ensures the procedures and methods of the proposed action are reviewed by the responsible agencies. To minimize potential impacts on individual Steller sea lions, the proposed action includes special treatment of the small rocky islet southeast of Ayugadak Point which hosts a small Steller sea lion rookery. If weather allows, bait stations will be deployed on the islet as early as August 2008 in lieu of a helicopter broadcast later. Broadcast of bait on the islet will occur if weather does not permit access prior to the aerial broadcast of bait on Rat Island.

### **5. Cultural Site Protection**

There are no unique characteristics such as cultural, traditional, or historic sites or ecologically critical areas that will be adversely affected. Adherence to existing laws and regulations will further ensure that the eradication operation does not harm the cultural

resources. The Service regional archaeologist has reviewed the proposed action and determined eradication operations will not cause adverse effects to cultural and/or historic sites. The proposed action is also being reviewed by the State Historical Preservation Officer. If needed, further consultation will take place to ensure effects on historic properties are fully considered as required by Section 106 of the National Historic Preservation Act. Additionally, we must comply with federal regulations relating to the protection of historic or archaeological sites.

## **6. Restoration of Biodiversity**

Rat Island was selected for the proposed action because it is the smallest uninhabited refuge island with an invasive rat population that will not be re-invaded by rats from nearby islands after eradication. There are other smaller refuge islands with introduced rats, but rats on nearby islands may disperse and re-occupy soon after eradication. Larger uninhabited rat-invaded refuge islands have more diverse non-target risks, greater diversity of habitat that can support rats, and are bigger than the largest successful rat eradication in the world making them more difficult to treat. There are virtually no seabirds nesting on Rat Island and relatively few birds of any kind. The intent of restoring the natural ecosystem function on Rat Island is to re-establish native seabirds and other native species, thus returning this wilderness island to a healthy natural community. The recovery of other Aleutian Islands after fox eradication and the recovery of other islands after rat eradication give us confidence that native wildlife and plants will be restored on Rat Island after rats are removed. The protection of natural biodiversity is mandated by the Alaska National Interest Lands Conservation Act (ANILCA), Service policy, and other legal authorities. The proposed action reinforces these mandates.

## **7. Rodenticide Approval**

The EPA is currently considering Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Section 3 registration for a bait containing brodifacoum for conservation purposes; the selected rodenticide for this action. The proposed registration is very specific and allows use of the product only according to label directions. Currently there is no other existing or proposed federal registration of brodifacoum for application by aerial broadcast. There is a FIFRA Section 3 registration for diphacinone for conservation purposes that allows aerial broadcast, but we are aware of only five times this active ingredient has been used for island eradication of rats, and never by broadcast technique. The proposed action will pose minimal risk to the public health and safety. The risk to the public from applying brodifacoum rodenticide in a manner approved by EPA is negligible.

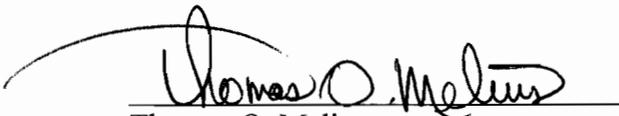
## **8. Significance of the Action to Rat Island Wildlife**

The EA considers the proposed action in both context and intensity of impacts on individuals as well as populations of non-target species. The proposed action is intended

to have lethal impacts on the target species (rats), and will also have limited impacts on other individual animals, including mortality. However, wildlife populations will not be affected globally or regionally. Individual animals that are afforded special regulatory protection and/or are thought to be particularly rare or vulnerable will not be adversely affected by the action. We have the same accountability not to disturb threatened and endangered species; it is evaluated similarly on and off the refuge. The proposed action will be reviewed by the appropriate agencies with authority to permit the proposed action. The project cannot proceed without their concurrence; the proposed action will not cause significant damage to threatened or endangered species.

### **FINDING OF NO SIGNIFICANT IMPACT**

Based on a review and evaluation of the information contained in the EA and in the supporting references listed below, I have determined that the proposed project is not a major federal action that would significantly affect the quality of the human environment as defined in Section 102 (2)c of the National Environmental Policy Act of 1969. This determination is made after full consideration of the context and intensity of the project. There are no known irreversible or irretrievable commitments of resources. The analysis of the EA indicates there will not be a significant impact, individually or cumulatively, on the quality of the human environment. The proposed action will not jeopardize any federally-listed threatened or endangered species or their habitats. Rat eradication is consistent with the Service responsibility to manage and conserve migratory bird populations under the Migratory Bird Treaty Act, the National Bald Eagle Management Guidelines, conventions and other applicable laws including the ANILCA which gives legal purposes of the Alaska Maritime NWR to conserve marine birds, other migratory birds, marine mammals and the habitats on which they rely; and to protect and preserve the wilderness character of the area. The proposed action will not establish a precedent for any future action with significant effects. I agree with this conclusion, and therefore find that an EIS does not need to be prepared.

  
Thomas O. Melius  
Regional Director

March 14, 2008  
Date

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