

Mammal Trapping  
within the  
National Wildlife Refuge System  
1992-1996

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## EXECUTIVE SUMMARY

The National Wildlife Refuge System conducted 487 mammal trapping programs on 281 National Wildlife Refuges during the five-year period between 1992 and 1996. This report demonstrates the importance of trapping as a professional wildlife management tool. Mammal trapping also provided important benefits for public health and safety and recreational, commercial, and subsistence opportunities for the public during the period.

### 1. INTRODUCTION

This report provides an overview of mammal trapping activities that occurred within the National Wildlife Refuge System (System) between the years of 1992 to 1996. Information presented in the report should be considered preliminary. A complete validation of data presented has not been completed.

### 2. DESCRIPTION OF THE NATIONAL WILDLIFE REFUGE SYSTEM

In 1903, President Theodore Roosevelt ordered that a small shell and mangrove-covered island in Florida's Indian River be forever protected as a "preserve and breeding grounds for native birds." Paul Kroegel, a sometime boat builder, cook and orange grower, was hired to watch over this 3-acre sanctuary. His mission was clear: *protect the island's pelicans from poachers and plume hunters*. With this simple promise of wildlife protection, the National Wildlife Refuge System was formed.

The System now encompasses more than 92 million acres consisting of various categories of areas that are administered by the U.S. Fish and Wildlife Service as wildlife refuges, wildlife ranges, wildlife management areas, waterfowl production areas (WPA's), easements, coordination areas, and other areas for the protection and conservation of fish and wildlife including those that are threatened with extinction.

WPA's are any wetland or pothole area acquired pursuant to section 4 © of the Migratory Bird Hunting Stamp Act (76 Stat. 487; 16 U.S.C. 718d(c)). Easements are less than fee interests in land or water acquired by the U.S. Fish and Wildlife Service (Service) for the purpose of maintaining fish and wildlife

habitat. Coordination areas are wildlife management areas that have been withdrawn from the public domain or acquired by the Federal Government and subsequently made available to a State through cooperative agreement or long-term leases or agreements. Coordination areas are managed by the States and are not considered in this report.

The various types of lands within the system are organized by individual refuges and by Wetland Management Districts (WMD's). WMD's are organizational units which oversee WPA's and easements within a geographic area. In some cases, refuge units also oversee groups of easements and WPA's. Throughout this report, the term "refuge" refers to any lands within the System except coordination areas.

The Mission of the System is:

*"To preserve a national network of lands and waters for the conservation and management of fish, wildlife and plant resources of the United States for the benefit of present and future generations."* [E.O. 12996, March 1996]

### **3. AUTHORITIES, REGULATIONS, AND POLICY**

The System operates under a variety of legal authorities, regulations, and policies. The following Federal legislative and administrative authorities and Service policies apply to trapping on refuge lands:

- The National Wildlife Refuge System Administration Act (16 U.S.C. 668dd-668ee; 80 Stat. 927), as amended.
- The Refuge Recreation Act (P.L. 87-714; 16 U.S.C. 460k-460k<sup>2</sup>-4; 76 Stat. 653), as amended.
- The Refuge Revenue Sharing Act (16 U.S.C. 715s; 49 Stat. 383) as amended.
- The Fish and Wildlife Act (16 U.S.C. 742a-742j; 70 Stat. 1119), as amended.
- Alaska National Interest Lands Conservation Act (ANILCA) (P.L. 96-487; 94 Stat. 2371).

- Title 43 CFR 24.4(e) discusses the relationship with states as regards management of public activities on Federal lands (refuges). It affirms the Secretary of Interior's authority in determining whether units of the System shall be open to public uses and on what terms such access shall be granted. It also affirms that such public uses shall, to the maximum extent practicable, be consistent with State laws and regulations.
- Title 50 CFR 29.1 provides for public or private economic use of the natural resources of any wildlife refuge area where the use may contribute to or is related to the administration of the area. It provides for use by refuge special use permit only when the authorized activity will not be incompatible with the purposes for which the refuge was established.
- Title 50 CFR 31.2 authorizes trapping as a method of surplus wildlife population control and disposal.
- Title 50 CFR 31.16 requires persons trapping on refuges (other than in Alaska and WPA's) where trapping has been authorized to obtain Federal and State permits. This section specifically opens lands acquired as WPA's to trapping without a Federal permit.
- Title 50 CFR 36.14 and 36.32(c)(1) authorizes trapping on Alaska refuges for subsistence and other reasons without a Federal permit.
- Chapter 7 RM 15 of the Service's Refuge Manual contains current policy on trapping within units of the System. This chapter is attached as Exhibit 1.

Where trapping is permitted on refuges it generally follows the regulations of the State where it occurs and trappers are required to have State licenses. Trapping programs conducted for resource management reasons are conducted by refuge staff, by professional trappers under contract, and by the public through issuance of refuge special use permits. Trapping programs conducted primarily to provide recreational, commercial, or subsistence opportunities to the public require that the trapper obtain a refuge special use permit, except on most Alaska refuges and most WPA's. Refuge special use permits and contracts often

impose specific stipulations that may restrict trapping activities more than State regulations. These stipulations are required to ensure that trapping programs are compatible with refuge purposes and otherwise in the public interest.

#### 4. THE EXTENT OF MAMMAL TRAPPING IN THE REFUGE SYSTEM

A total of 281 refuges conducted one or more trapping programs between 1992 and 1996. A total of 487 trapping programs were conducted during this time period. However, not every program was conducted each year. For example: 321 programs were conducted in 1992, 326 in 1993, etc.

#### 5. REASONS FOR TRAPPING MAMMALS ON REFUGES

Trapping on refuges was conducted primarily for wildlife and facilities management reasons and to a lesser extent to provide recreational, commercial, or subsistence opportunities to the public.

Eleven reasons were identified for trapping mammals on refuges:

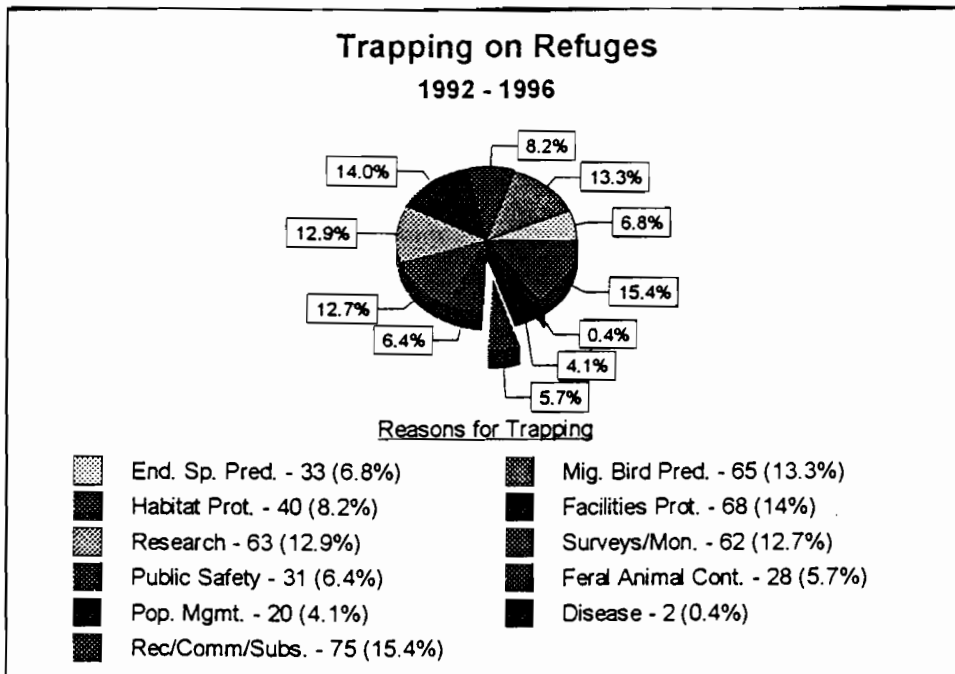
1. Predator control for threatened and endangered species protection
2. Predator control for migratory bird protection
3. Habitat management or protection
4. Facilities protection
5. Research
6. Surveys or monitoring
7. Public Safety and Health
8. Feral animal control
9. Population management
10. Disease control
11. Recreation/commerce/subsistence

Table 1 lists each refuge where a trapping program was conducted for any year or part of a year from 1992-1996. It also identifies the primary reason for each trapping program that occurred on a refuge between 1992 and 1996. For example: Sometime between the years of 1992 and 1996 Archie Carr refuge conducted one program primarily to control predators for threatened and endangered species and one program primarily for

population surveys. Some refuges may have more than one trapping program for a category. Table 1 does not capture these additional programs. Therefore, adding up the dots in Table 1 will not result in 487 programs. Most refuge trapping programs were conducted for more than one reason; i.e., the program provided additional resource or recreational benefits. For example: a trapping program that is conducted primarily to control predators of an endangered species may also provide important secondary benefits for migratory birds.

Eighty-five percent of the mammal trapping programs on refuges were conducted primarily for wildlife and facilities management reasons. The remaining 15% occurred primarily to provide recreational, commercial, or subsistence opportunities to the public.

The 487 trapping programs conducted on refuges are distributed within the eleven categories as displayed below.



The following sections provide summary information for each of the primary reasons why mammals were trapped on refuges:

### 5.1 Predator Control for Threatened and Endangered Species Protection.

Refuges, as well as other federal lands, are required to take positive steps to recover populations of endangered species. Table 2 demonstrates the importance of predator control in meeting this responsibility on 33 refuges from 1992-1996. The programs were identified as primarily being conducted to control predators for the benefit of threatened and endangered species. The programs identified contribute to recovery goals for 23 threatened or endangered species.

Gray wolf	Least tern
Salt marsh harvest mouse	Light-footed clapper rail
Aleutian Canada goose	Mississippi sandhill crane
Attwater's prairie-chicken	Piping plover
Black-capped vireo	Red-cockaded woodpecker
California clapper rail	Western snowy plover
California least tern	Green sea turtle
Hawaiian coot	Hawksbill sea turtle
Hawaiian common moorhen	Kemp's Ridley sea turtle
Hawaiian duck	Leatherback sea turtle
Hawaiian goose	Loggerhead sea turtle
Hawaiian stilt	

Other mammal trapping programs conducted for other primary reasons, such as research, provide secondary benefits to threatened and endangered species. Table 3 displays several examples of other trapping programs that benefitted threatened and endangered species.

### 5.2 Predator Control for Migratory Bird Protection.

Sixty-five trapping programs were conducted from 1992-1996 primarily for controlling predators to protect migratory birds. Table 4 summarizes these programs.

### 5.3 Habitat Management or Protection

Forty refuges conducted mammal trapping programs from 1992-1996 primarily to protect wildlife or plant habitat. Table 5 summarizes these programs.

#### **5.4 Facilities Protection.**

Many refuges within the System (particularly those in the lower 48 States) manage wetland areas to provide habitat for migratory waterfowl and other wetland dependent species. Most of these wetlands are managed within diked or leveed areas by controlling water levels to mimic natural patterns. Water is controlled through the use of flood gates, ditches, canals, culverts, and other water control structures. Beaver are continual sources of problems for managers due to their habits of damming water flows. This activity prevents managers from being able to control water levels. Not being able to control water levels results in poor habitat conditions for wildlife. It also results in flooding of refuge facilities and adjacent properties. Muskrat, nutria, and ground squirrels cause similar problems because of their habits of burrowing into earthen dikes and dams. These animals weaken the structures by causing leaks and degrading erosion resistant vegetation. A total of 68 refuges conducted trapping programs from 1992-1996 primarily to protect station facilities and protect adjacent landowner's property from flooding. Table 6 summarizes these programs. The costs that would be required for increased maintenance of facilities or for use of alternative animal control techniques if trapping was not allowed on refuges are estimated to be several million dollars annually for the System.

#### **5.5 Research.**

Sixty-three mammal trapping programs were conducted on refuges between 1962 and 1996 primarily related to conducting wildlife management research.

#### **5.6 Surveys or Monitoring.**

Sixty-two mammal trapping programs were conducted between 1992 and 1996 primarily to conduct population surveys to monitor target species. Population monitoring is an essential wildlife management activity. Various trapping techniques are commonly used to assess population levels or other parameters.

#### **5.7 Public Safety and Health.**

This category of trapping is primarily related to rodents within refuge buildings or other animals near refuge facilities which



present public safety or health concerns. Refuges conducted 31 trapping programs from 1992-1996 primarily to control mammal populations which posed public safety and health concerns.

#### **5.8 Feral Animal Control.**

Twenty-eight refuges conducted trapping programs from 1992-1996 primarily for reducing, controlling, or eradicating populations of feral animals that occur on the refuge. Feral animals such as dogs, cats, pigs, goats, horses, etc., frequently cause resource problems described in other categories within this report. For example: feral cats and dogs may be preying upon migratory birds or endangered species and feral pigs and goats destroy native habitat and spread alien plant species. In many cases animals are trapped alive and removed from the refuge. Each of these programs provided benefits to fish and wildlife resources or public safety.

#### **5.9 Population Management.**

Twenty refuges conducted trapping programs from 1992-1996 primarily for managing populations of the species targeted by the trapping program. Population management activities include trapping to attempt to maintain target species populations within carrying capacity, to enhance or otherwise manage their numbers, or to transport them to other locations for reintroduction or enhancement. For example: Alligator River refuge trapped wolves as part of the reintroduction of the species into eastern North Carolina. The wolves were trapped for health assessment and to attach radio collars to monitor movements and fate. Desert big horn sheep are captured using net guns at Kofa refuge so that animals could be moved to other areas within their former range.

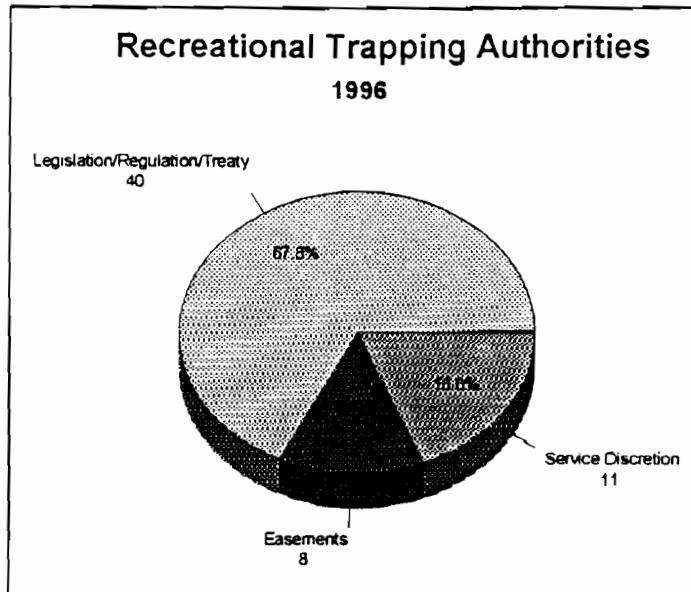
#### **5.10 Disease Control.**

Two refuges conducted mammal trapping programs from 1992-1996 primarily to control the spread of disease within the target species' populations.

#### **5.11 Recreation/Commerce/Subsistence.**

Fifty-nine trapping programs occurred within the System in 1996 primarily for recreation, commercial, or subsistence reasons. The majority (40) of these programs are required through

legislation (ANILCA or other), regulation (50 CFR 31.6), or treaty (Collier Agreement of 1936); 8 occur on easement refuges where the Service has less than fee interest in the land; and 11 are managed at the discretion of the Service (National Wildlife Refuge System Administration Act, Refuge Recreation Act, and others).



Thirty-eight of the 59 programs in this category resulted in secondary benefits to refuge resources or facilities. All 11 refuges where recreational trapping programs were conducted at the discretion of the Service resulted in secondary benefits to refuge resources, facilities or public safety.

The programs required through legislation or regulation do not require a refuge special use permit. Therefore, refuge managers rarely interact with the trappers and are unable to determine if they are trapping for recreational, commercial, or subsistence reasons.

Many trapping programs conducted primarily for resource management reasons are conducted through issuance of refuge special use permits to the public. This is an efficient and cost effective method to accomplish refuge management objectives. These programs also resulted in secondary recreational and economic benefits to the public.

## 6. SPECIES TRAPPED ON REFUGES.

The following target species were trapped at least once on a refuge during the period between 1992 and 1996:

### CARNIVORES

#### *Coyotes, Foxes and Wolves*

Coyote  
Arctic fox  
Gray fox  
Red fox  
Red wolf  
Gray wolf

#### *Cats*

Bobcat  
Lynx  
Cougar

#### *Weasels*

Badger  
Mink  
River otter  
Spotted skunk  
Striped skunk  
Various weasels  
Wolverine

#### *Bears*

Black bear

### UNGULATES

#### *Sheep*

California big-horned sheep  
Dall sheep  
Desert big-horned sheep

#### *Deer*

Elk  
Caribou  
Moose  
White-tailed deer

#### *Other Ungulates*

Bison

### RODENTS

#### *Small Mammals*

Beach mouse spp.

Deer mouse spp.

Lemming spp.

Marsh rice rat

White footed mouse

Meadow jumping mouse

Polynesian rat

Voles spp.

#### *Other Rodents*

Beaver

Black-tailed prairie dog

Chipmunk

Delmarva fox squirrel

Flying squirrel

Ground squirrels

Muskrat

Northern pocket gopher

Plains pocket gopher

### FERAL AND EXOTIC SPECIES

#### *Exotics*

Black rat

Mongoose

Norway rat

Nutria

Sika deer

#### *Ferals*

Feral burro

Feral cat

Feral dog

Feral horse

Feral pig

### OTHER

Armadillo

Lepus spp (hares)

Myotis spp. (bats)

Opossum

Oryctilagus spp. (rabbits)

Sorex spp. (shrews)

## 7. TRAPPING DEVICES USED ON REFUGES

Refuges used live enclosure traps, steel-jaw leghold traps, Conibear traps, snares, and other body-hold traps to accomplish objectives for wildlife management, facilities management, and public safety and health programs.

## 9. SERVICE POLICY ON REFUGE TRAPPING PROGRAMS

Refuge System trapping policy (7 RM 15.13) contains language related to implementing professional and humane trapping programs on refuges.

*"Refuge trapping programs will be conducted in the most professional manner possible. Refuge managers will encourage trapping techniques which are as selective, humane, and effective as reasonably practical, considering the target species and habitat condition of the refuge. The types, sizes, sets, baits, scents, and locations of traps will be selected to minimize the taking of non-target species, Exhibit 3 contains a table of recommended trap sizes for a given species. Certain trap types or uses may be restricted and others encouraged when more effective and humane trap types and techniques are developed. Permit provisions will encourage the use of quick-kill or drowning sets for authorized species when feasible; and as specified in the general trapping conditions will require trap inspection every 24 hours. Inspection may be waived only under extreme or unusual circumstances such as conditions hazardous to life or safety. The general trapping conditions include several trapping restrictions or requirements intended to reduce animal suffering and reduce the taking of non-target species. Additional more restrictive special conditions may be required by the refuge manager based on guidelines of the State wildlife agency or trapper association and on the habitat conditions and species to be taken on the refuge. In no case will general trapping conditions be liberalized."*

It should be noted that this policy is only applicable to trapping programs permitted, contracted or conducted by the refuge. On most refuges in Alaska and most WPAs the Service does not regulate trapping. Additionally, the Service does not have

the authority to regulate trapping on many easement refuges. In these cases trapping is conducted in compliance with applicable State regulations.

The System recognizes the use of modern leghold devices -- designed with pads, offset or broadened jaws, shock absorbers, and/or various swivel and chain modifications -- as a humane technique when properly employed. Padded traps, while not mandatory, are used in some cases. By requiring compliance with state regulations, the System has largely eliminated the use of traps with toothed jaws, which are no longer legal in most states. In general, refuge staff and contract trappers trapping on refuges use the most modern devices available under current funding and logistical constraints. A variety of more specific approaches are taken by different refuges. These include trapper education and prohibition of selected trap designs.

Refuges also employ numerous alternatives to trapping in general. Some examples are electric fences, scare devices, screens and shields, and exclosures to deter predators from the nests of waterfowl, marine turtles, and other sensitive ground-nesting species. Artificially created wetlands often include nesting islands and peninsulas to facilitate exclusion of predators. Sixty refuges identified using these or other techniques to manage wildlife in lieu of trapping.