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United States  
Department of  
Agriculture

Animal and Plant  
Health Inspection  
Service

Wildlife Services

North Carolina State  
Office  
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Raleigh, NC 27617

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National Park Service  
P.O. Box 190  
Buxton, NC 27920

Dear Britta:

During the two 20 day periods between February 13- March 3 and May 23- June 12, 2008, USDA WS removed 120 target species from Ocracoke Island (Table 1).

**Table 1. Animals Removed From Ocracoke Island, February 13 – June 12, 2008.**

Species	Mink	Feral Cat	Nutria	River Otter	Raccoon	Total Animals
February 13- March 3	24	1	58	5	0	88
May 23- June 12	3	10	14	2	3	32
Total	27	11	72	7	3	120

Historically, the predator management project has used two wildlife specialists for a period of 10 days. Using two people has been a benefit since it enables USDA WS to set more traps, carry more equipment, cover expanded areas when scouting, and offers another set of eyes. This approach has been used extensively on both Hatteras and Bodie Islands for catching foxes, feral cats, opossums, and raccoons.

In 2008, USDA WS implemented a new strategy for the Ocracoke Island mink project; USDA WS used one wildlife specialist for the majority of the project, while two specialists were used exclusively in the first few days of setting traps and/ or during the final days of pulling traps. A mink may travel large distances and this behavior was the principal reason for the change. This concern proved to be a useful consideration because USDA WS had circumstances on both visits where the extra days were beneficial. During both the first and second visits, we went roughly a week’s time without catching mink. However, during the first visit, our specialists captured 24 mink in the final 13 days. On the second trip, the amount of mink sign was greatly reduced. Even so, USDA WS was able to catch a pair of mink near the Hatteras ferry and remove a trap shy mink on the 20th day at Molasses Creek using a foothold trap.

**Table 2. 2008 Summary of Mink Capture Data.**

	Sex	Location	Area	GPS Location
1	Male	Hatteras Ferry	North	N35.18601 W075.78108
2	Male	Hatteras Ferry	North	N35.18601 W075.78108
3	Male	Hatteras Ferry	North	N35.18601 W075.78108
4	Female	Hatteras Ferry	North	N35.18601 W075.78108
5	Male	Hatteras Ferry	North	N35.18601 W075.78108
6	Male	1st Pond from Ferry	North	N35.17278 W075.80765
7	Female	1 <sup>st</sup> Bridge on Hwy 12	North	N35.14647 W075.87607
8	Male	3 <sup>rd</sup> Stop on Hwy 12	South	N35.12611 W075.92194
9	Male	3 <sup>rd</sup> Stop on Hwy 12	South	N35.12611 W075.92194
10	Male	3 <sup>rd</sup> Stop on Hwy 12	South	N35.12611 W075.92194
11	Male	3 <sup>rd</sup> Stop on Hwy 12	South	N35.12611 W075.92194
12	Male	3 <sup>rd</sup> Stop on Hwy 12	South	N35.11407 W075.94444
13	Female	4 <sup>th</sup> Stop on Hwy 12	South	N35.11407 W075.94444
14	Male	4 <sup>th</sup> Stop on Hwy 12	South	N35.11407 W075.94444
15	Male	4 <sup>th</sup> Stop on Hwy 12	South	N35.11407 W075.94444
16	Male	4 <sup>th</sup> Stop on Hwy 12	South	N35.11407 W075.94444
17	Male	Last Culvert on Ramp 72	South	N35.09539 W075.98048
18	Female	Access Rd on Ramp 72	South	N35.08952 W075.98671
19	Male	Access Rd on Ramp 72	South	N35.08952 W075.98671
20	Male	Access Rd on Ramp 72	South	N35.08952 W075.98671
21	Male	Access Rd on Ramp 72	South	N35.08952 W075.98671
22	Male	Jeep Sign on South End	South	N35.08129 W075.99235
23	Male	Jeep Sign on South End	South	N35.08129 W075.99235
24	Male	Ponds at South End	South	N35.07686 W075.99896
25	Female	Hatteras Ferry	North	N35.18642 W075.78114
26	Male	Hatteras Ferry	North	N35.18637 W075.78101
27	Male	Molasses Creek	North	N35.13660 W075.90248

The locations that were the main focus of attention during this winter's visit were: Ramp 72, the old dunal road off Ramp 72, areas along Highway 12 between the airport and Ramp 68, and near the Hatteras ferry. This spring, because of a lack of visible sign, USDA WS relied on setting bridges and areas from this winter that had been productive. Ocracoke Island was divided into two sections, a north end and south end; the dividing line was Ramp 68. In all, 17 of the mink were removed from the south end and 10 were removed from the north end. The ratio of male to female mink captured was 4.4:1. See Table 2 for data concerning individual mink and their capture locations.

Our spring scouting efforts did not yield much sign, even though we searched extensively, potentially indicating that USDA WS reduced the number of mink on the island to a point that will allow piping plovers and other ground nesting birds and sea turtles to successfully produce young, provided there is no compensatory predation or storm event. Mink remaining on the island should have ample food sources available with the amount of fish, crustaceans, and various rodents in the densely vegetated marsh areas, reducing the need to search for food in the dunes and along the beach.

USDA WS encountered trap shy, or educated, mink during our visits and these animals had to be removed using foothold traps. Trap shy animals are cautious to foreign odors, certain traps, and highly disturbed areas. The cautiousness of these animals increases trapping

difficulty and requires that more time be obligated toward the capture of these animals. USDA WS is aware that NPS has been trapping mink; I recommend that any NPS employees involved with setting traps at Cape Hatteras National Seashore be well versed and experienced with trapping methodologies, their surroundings, and their target species while conducting management activities to avoid educating target species.

If the NPS would like USDA WS to address fox, coyote, raccoon, and/ or feral cat predation issues on Hatteras and/or Bodie Islands during late summer or fall 2008, please contact me at the office regarding a cooperative service agreement. In addition, I recommend a new interagency agreement be initiated for a visit during February 2009 if mink, cat, and/ or raccoon predation continue to be an issue on Ocracoke Island. The estimated fee for said predator management project going to be \$10,500 (for a full-time wildlife specialist to spend approximately 200 hours and assuming housing will still be provided).

Reportedly, the NPS is experiencing problems from the activities of crows and seagulls. The NPS will need to apply for a depredation permit from the United States Fish and Wildlife Service to "take" gulls. The permit will not cost any fee because the NPS is a federal agency and the USDA WS is available to help with the permit application process. In addition, the USDA WS is willing to assist with a crow and/or seagull management program in combination with a predator management session or independently, based upon your needs. Currently, the state of North Carolina does not permit toxicants for controlling seagulls or crows, whereby, lethal control techniques are limited to trapping and shooting. The USDA WS could request that the state allow the use of the toxicants needed to control seagulls and crows in North Carolina, but that process could take several months to complete.

Furthermore, to meet the variety of wildlife damage management demands facing the NPS, the USDA WS could provide a Wildlife Biologist position for \$119,000 per year. This estimate includes salary, benefits, a truck, gas, supplies/ equipment, supervision, administration, etc. A full-time biologist level position would be able to manage problems related to mammalian predators (foxes, coyotes, feral cats and dogs, mink, otters, raccoons, opossums); avian predators (crows, seagulls); and vegetative nuisances (Canada geese, nutrias, muskrats). We could also incorporate research on ghost crab management, exclusion methods, and cage trap efficiency with the National Wildlife Research Center. If you would like information on potential research or to arrange a meeting to discuss details, please contact me at the office. The relationship would be the same except you would have access to an USDA WS employee year round to manage predators threatening critical coastal bird and turtle species. In addition, a biologist position would provide someone who could assist with hands-on trapper training and addressing local social/ political issues concerning a predator management program.

I hope that our services and results met your expectations and our agency looks forward to assisting the NPS in the future.

Best Wishes,

Josh Biesecker  
Senior Wildlife Specialist