



United States Department of the Interior
Fish and Wildlife Service
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FAX TRANSMITTAL

OPTIONAL FORM NO. 10-7500

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EST. DATE OF INFO: 8/28/96	GENERAL SERVICES ADMINISTRATION

MEMORANDUM

Date: 23 August 1996
To: Vernon Byrd, Supervisory Wildlife Biologist, AMNWR, Homer
From: Jeff Williams, Wildlife Biologist, AMNWR-AIU, Adak
Subject: Reconnaissance for evidence of rats at Sirius Pt., Kiska

On 23 August we surveyed most of the new lava flow at Sirius Pt., Kiska for evidence of rat (*Rattus norvegicus*) distribution, abundance, and predation on nesting least and crested auklets. We landed on the boulder beach between the new and old lava flows and searched from 0800-1300 h with a large, mostly experienced crew of 13 people, which allowed us to thoroughly cover a large area (Fig. 1).

Distribution and Abundance: We observed rat droppings throughout the lava flow and randomly collected several droppings to measure and confirm they were from Norway rats. Subjective impressions from the crew were that evidence of habitat use by rats was greater around the periphery of the lava flow than in the center of the lava flow, but rat sign was still found in abundance in the interior. We did not have a chance to investigate portions of the more vegetated old lava flow to contrast with observations on the new lava flow.

Evidence of predation: We found 11 eggs throughout the lava flow which had evidence of rat predation (10 least and 1 crested auklet, Fig. 2). Many other eggs might have been predated, but this was difficult to confirm because many of the eggshells were in pieces this late after the nesting season. All eggs were found at separate locations and not in caches.

We also found carcasses of 43 least auklets (24 single-kills, 1 cache of 2 inds., 3 caches of 4 inds., and 1 cache of 5 inds.) and 4 crested auklets (all single-kills), which were directly attributed to rats. Most of the birds had marks on the back of the neck and opened braincases with the brains removed. Several of the least auklets and 1 of the crested auklets were juvenile birds, but often carcasses were too decomposed to accurately determine age. It is doubtful that rats feed on these cached carcasses during the winter. The carcasses we found were recently killed birds already in an advanced state of decay and by winter would not be a food source for rats.

Prospects for control: There is no question that rats are preying on juvenile and adult auklets and their eggs. The question is to what extent this predation affects the large

auklet colony at Sirius Pt. We found a number of predated auklets, but unless rats are killing substantial numbers and storing them underground (where we will never find them) it is unlikely that predation is a driving force on the huge auklet population at Kiska.

Long-term control using second-generation anti-coagulants (e.g. Brodifacuoam) at Sirius Pt. could be attempted, but it would involve an annual and **substantial** investment of time and personnel to bait and maintain baiting (or long-term "hopper") stations, when it is questionable if rats are actually controlling auklet populations. Additional problems to overcome if we began long-term rat control using rodenticides include permitting and authorization to conduct the operation, annual disposal of large amounts of rodenticide, and possibly selecting for rats with a tolerance for the bait if the poisoning is done in perpetuity.

SIRIUS POINT

BERING SEA

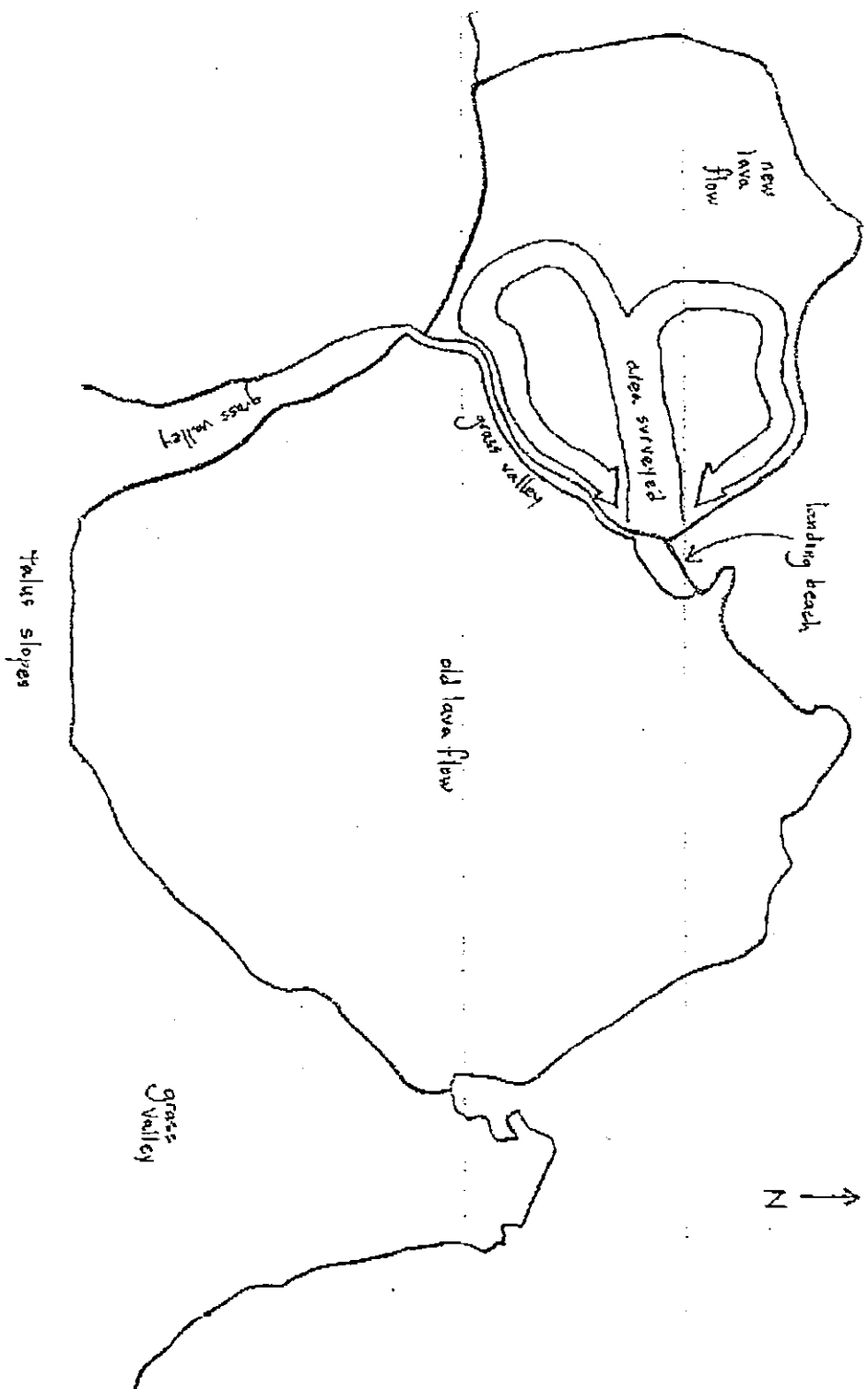
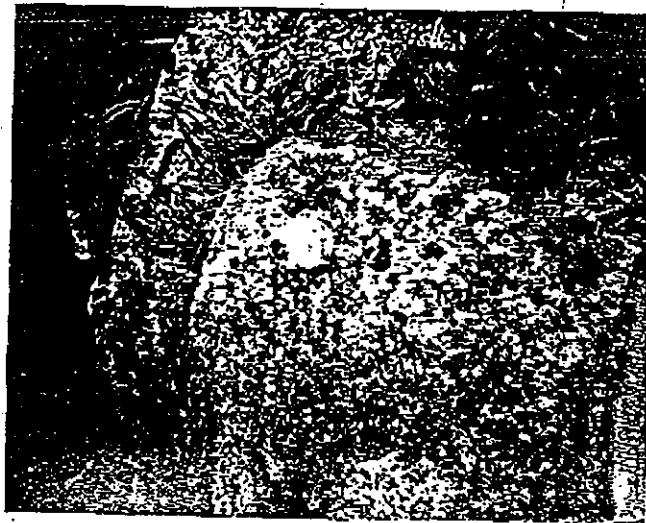
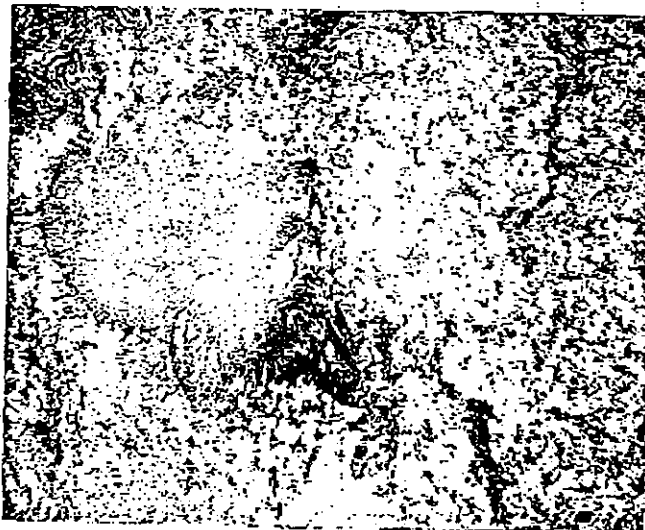


Figure 1.



Crested auklet egg eaten by rat
@ Sirius Pt. Kiska I. 23 Aug 96



Crested auklet fledgling killed by rat
braincase opened and brain eaten
Sirius Pt., Kiska I. 23 Aug 96

Figure 2. Evidence of rat predation at Sirius Pt., Kiska I., AK in 1996