



Threatened and Endangered Species

Aleutian Shield-Fern

(Polystichum aleuticum)

Status

The Aleutian Shield-Fern is listed as endangered (Federal Register; February 17, 1988).

Description

The Aleutian shield-fern is a small fern which grows to about 15 centimeters (6 inches) tall. Its stems are chestnut brown at the base and arise from a stout underground rhizome. Its fronds (leaves) are dark green and have small pinnae (leaflets) with toothed edges. Small, straw-colored scales are found on the stem and underside of the leaflets, but may be less evident late in the season.

The Aleutian shield-fern may be confused with more common ferns occurring within its range including:

Polystichum lonchitis is much taller, up to 60 centimeters (24 inches), more robust, has thicker, leathery, evergreen leaves, and very spiny leaflets.

Cystopteris fragilis has more strongly dissected leaflets and lacks scales.

The Aleutian shield-fern is taxonomically distinct from all other ferns in Alaska; its closest living relatives occur in Asia.

Range and Population Level

The Aleutian shield-fern was first described on Atka Island, but has not been seen there since it was reported in 1932. This endangered fern is now known to exist only on Adak Island in the central Aleutian Islands. Four populations totaling approximately 142 “clumps” are located on Mt. Reed. The fern grows in moderately protected, moist spots in crevices, beneath overhangs, and at the edges of vegetation mats along rock walls.



Rarely reaching more than five inches in height, the Aleutian shield fern is known to grow only on Adak Island.

Reasons for Current Status

The Aleutian shield-fern may never have been very abundant. Some scientists consider it a “living fossil” left over from the Pleistocene Epoch. It may once have been more widespread in the Aleutian Islands, but periods of glaciation probably reduced its abundance to the remnant populations existing today.

Currently, the Adak populations appear to be stable, but because of their restricted range, they are

subject to the threat of earth slides and other unpredictable events that could obliterate the entire species. The effects of climate change are unknown, but may also pose a threat to the Aleutian shield-fern. Human disturbance at this remote location is rare, but hikers and climbers may cause accidental disturbance. Caribou were introduced to Adak Island in 1958, and may also pose a threat to the shield-fern populations.

Management and Protection

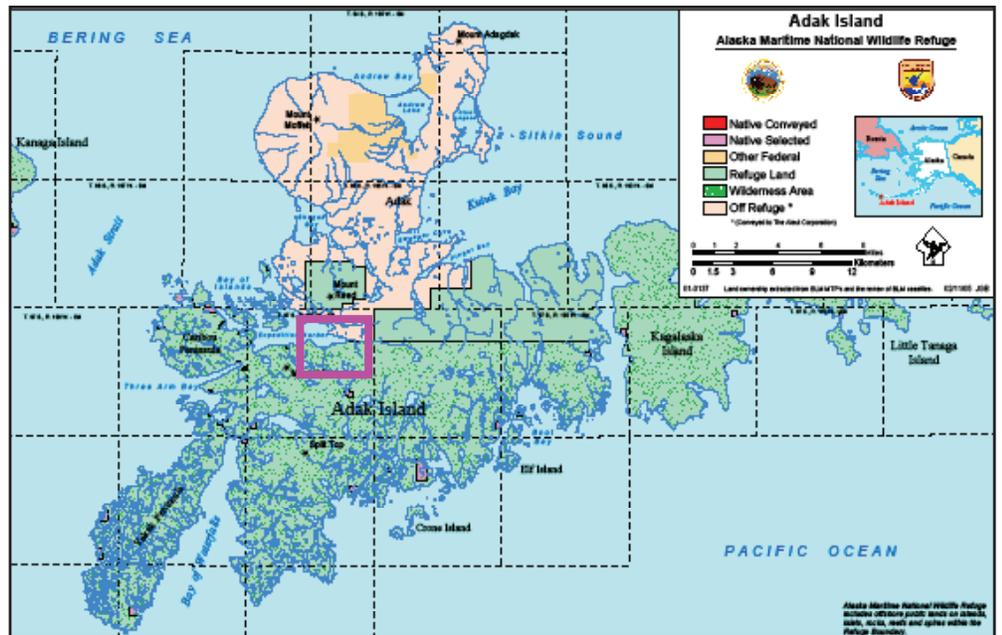
All known Aleutian shield-fern populations are located within a former Naval Air Station that was transferred to the U.S. Fish & Wildlife Service in 2004 and is now part of the Aleutian Islands Unit of the Alaska Maritime National Wildlife Refuge. The Refuge staff is undertaking the following management actions, as described in the Management Plan for the Aleutian Shield Fern (March 2007):

- (1) Visit known population sites annually to photograph and note any changes.
- (2) Fence a portion of the known Aleutian shield fern populations, if necessary, exclude to the increasing caribou population.
- (3) Close locations of the shield ferns to public access.
- (4) Inform the public of the status of the Aleutian shield fern and reasons for limiting entrance to sensitive areas.
- (5) Continue opportunistic surveys for new populations of ferns on Adak and on other refuge islands, and protect any new populations that are found.
- (6) Work with the Alaska Department of Fish and Game to develop a cooperative caribou management plan for Adak.
- (7) Provide material for future fern propagation efforts.

Previous efforts have been made to cultivate the Aleutian shield fern, with limited success, at the University of Alaska, Fairbanks, the New York Botanical Garden, and at Kew Gardens, England. Cultivation experiments are currently underway at the Alaska Plant Materials Center, Palmer, Alaska.

For more information on the Aleutian Shield-Fern, contact:

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Land ownership map of Adak Island. Though it may have been more widespread in prehistoric times, the Aleutian shield-fern is now only known to exist on Adak Island. The pink box highlights the location of Mount Reed, where the shield-fern is currently found.



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