U.S. Fish & Wildlife Service

Threatened and Endangered Species

Aleutian shield-fern

(Polystichum aleuticum)

Status
Endangered (Federal Register, February 17, 1988).

Description
The Aleutian shield-fern is a small, tufted 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: Polystichum lonchitis is much taller, up to 60 centimeters (24 inches), more robust, has thicker, leathery, evergreen leaves, and very spiny leaflets.

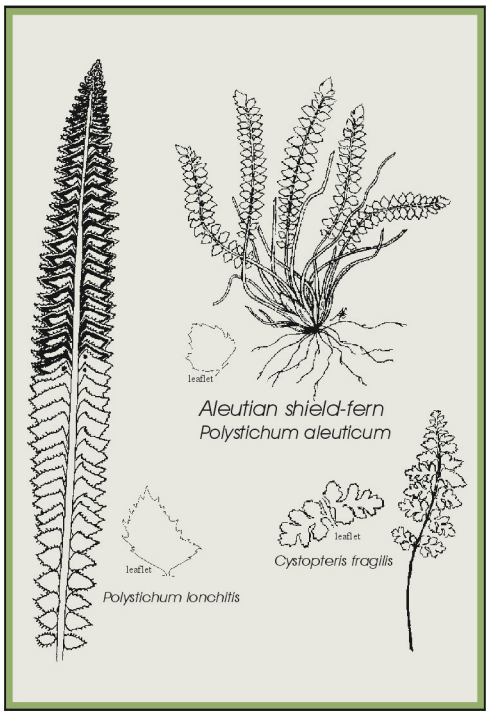
Rarely reaching more than 5 inches in height, the Aleutian shield-fern grows only on Adak Island. USFWS photo.

Cystopteris fragilis has more strongly dissected leaflets and lacks scales. The closest living relatives of the Aleutian shield-fern outside of Alaska occur in Asia.

Range, Habitat and Population Level
The Aleutian shield-fern is now known to exist only on Adak Island in the central Aleutian Islands. Four populations totaling approximately 143 "clumps" are located on a single mountain on east-facing slopes having steep cliffs, rock outcrops, and vegetated gullies and ledges. The fern grows in moderately protected, moist spots in crevices, beneath overhangs, and at the edges of vegetation mats along rock walls. Historically, the Aleutian shield-fern also occurred on Atka Island but has not been seen there since it was reported in 1932.

Reasons for Current Status
The Aleutian shield-fern may never have been very abundant. Some scientists consider it a "living fossil" leftover 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. 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 military reservation managed by the



Other more common ferns are often mistaken for Aleutian shield-ferns. Polystichum lonchitis (far left) is taller and more robust, with thicker, leathery, evergreen leaves, and very spiny leaflets. Cystopteris fragilis (lower right) has more strongly dissected leaflets. Drawings not to scale. From original artwork by Ann-Lillian Schell and Dominique Collet.

U.S. Fish & Wildlife Service as part of the Aleutian Islands Unit of the Alaska Maritime National Wildlife Refuge. They are protected from unauthorized plant collecting. The military base on Adak Island was recently closed, and future use of the installation is unknown. Surveys for additional shield-fern populations have been conducted on Adak, Atka, and other islands in the Aleutian chain. Research continues on the reproductive biology and genetics of the shield-fern to learn about causes

Though it may have been more widespread in prehistoric times, the Aleutian shield-fern is now found only on Adak Island.

of its rarity and its potential for recovery. In addition, Aleutian shield-ferns are being cultivated at nationally recognized botanical institutions to ensure that reserve populations exist should the natural populations be destroyed.

For more information on this and other threatened and endangered species, contact the U.S. Fish & Wildlife Service Field Office near you. Contact information is on page 5 of this publication.

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