

Portland State University

PDXScholar

Institute for Natural Resources Publications

Institute for Natural Resources - Portland

1988

Species Management Guide for *Arabis crucisetosa*

Jimmy Kagan

Oregon State University, jimmy.kagan@oregonstate.edu

Follow this and additional works at: https://pdxscholar.library.pdx.edu/naturalresources_pub



Part of the [Botany Commons](#)

Let us know how access to this document benefits you.

Citation Details

Kagan, Jimmy, "Species Management Guide for *Arabis crucisetosa*" (1988). *Institute for Natural Resources Publications*. 49.

https://pdxscholar.library.pdx.edu/naturalresources_pub/49

This Report is brought to you for free and open access. It has been accepted for inclusion in Institute for Natural Resources Publications by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: pdxscholar@pdx.edu.

SPECIES MANAGEMENT GUIDE FOR

Arabis crucisetosa

1988

Jimmy Kagan
Oregon Natural Heritage Data Base
1205 NW 25th Ave.
Portland, OR 97210

TABLE OF CONTENTS

Introduction.....	1
Biological Information.....	2
Plant Description.....	3
Range and Distribution.....	3
Habitat Description.....	5
Status.....	5
Threats.....	7
Management Plan.....	8
Management of <u>Arabis crucisetosa</u>	8
Monitoring.....	8
Implementation and Review.....	8
References.....	10

TABLE OF FIGURES

Figure 1. Line drawing of <u>Arabis crucisetosa</u> Hitchcock et al. (1964).....	4
Figure 2. Map of the range and distribution of <u>Arabis</u> <u>crucisetosa</u>	6

INTRODUCTION

The National Forest Management Act and Forest Service policy require that Forest Service land be managed to maintain populations of all existing native animal and plant species at or above the viable level. A viable population consists of the number of individuals, adequately distributed throughout their range, necessary to perpetuate their existence in natural, genetically stable, self-sustaining populations.

The Forest Service, along with other Federal and State agencies, has recognized the need for special planning considerations in order to protect some of the rare flora and fauna on the lands in public ownership. Species recognized by the Forest Service as needing such considerations are those that (1) are designated under the Endangered Species Act as endangered or threatened, (2) are under consideration for such designation, or (3) appear on a Regional Forest Service sensitive species list.

Arabis crucisetosa is currently on the Region 6 Sensitive Plant Species List. At the outset of this project, the species was considered to be Endangered in Oregon but More Common or Stable Elsewhere by the Oregon Natural Heritage Data Base (1987). The plant had been reported only twice in the Hells Canyon National Recreation Area (NRA) in Oregon, although it has been considered secure in the Idaho portion of the NRA. At the outset of the 1987 field season, only 1 Oregon location was known for this Hells Canyon endemic, with only about 15 reported sites from Idaho. However, the majority of the habitat for this species was largely unexplored in both Oregon and Idaho, and the habitat characteristics of known sites were both more variable and unclear than is expected for most local taxa.

The result of the 1987 fieldwork was somewhat surprising. Arabis crucisetosa appears to be quite common in many areas of the Hells Canyon National Recreation Area. The majority of the populations are on fairly steep, north facing grassy slopes; many are quite inaccessible. It was also found on a very large elevational range in both Oregon and Idaho. Healthy populations were found on steep north facing slopes by Cook Creek, Granite Creek, and along the Snake River at only 1200' in elevation. Other populations were found at 6000' in the Seven Devils Mountains, and at 4500' under open ponderosa pine (Pinus ponderosa) forests throughout the NRA. The plant also was found on a number of soil types, including sedimentary soils, as well as on granitic and basaltic soils. Because there are well over 50 populations of this taxon remaining, most without identifiable threats, and because there are likely more populations which could be discovered with only casual inventory, this species should not be considered either threatened, endangered or sensitive in either Oregon or Idaho.

Because of this, the nature of this species management guide has been altered.

The primary objective of most Management Guides is to outline a plan for managing a species on a National Forest, which will allow for the species survival through time, and will reduce the need for its placement on the U.S. Fish and Wildlife Service's list of endangered and threatened species. Special management has been recommended in the past because the plant is narrowly distributed, with most of the known populations occurring on National Forest lands. However, there appears to be no current threats to any of the populations of Arabis crucisetosa in the Hells Canyon NRA, either from natural or man-caused factors, and the species is much more widespread than formerly thought.

Due to the apparent lack of threats, the large populations, and the extensive areas of habitat, the objectives of this plan are to: 1) identify those factors requiring a change of status; 2) determine the correct status of Arabis crucisetosa; and 3) outline any long term monitoring needs to assure the taxon does not become threatened in the future.

This species management guide is divided into two major sections. The first part is the biology section, providing the most recent information on the range, distribution, and habitat requirements of Arabis crucisetosa. The second deals with management, and identifies current evidence that the taxon is currently secure, and needs no special management practices. It also identifies any essential monitoring needs, in order to assure that the status of this species does not change in the future.

BIOLOGICAL INFORMATION

Plant Description

A technical descriptions of Arabis crucisetosa is currently available from the one regional flora: Hitchcock et al. (1964).

A line drawings of this taxon is included in this publication, and is provided as Figure 1, on page 4. The following description is from Hitchcock et al. (1964).

A short lived perennial with 1-several simple or sparingly branched, glabrous (or basally somewhat pubescent), stems 1-4 dm. tall and a simple (branched) caudex; leaves mostly in a basal rosette, oblanceolate to narrowly obovate, remotely dentate-serrate, 2-5 cm. long, 5-20 mm. broad, rather uniformly tapered to a short petiole, the upper surface usually glabrous, or pubescent like the lower surface (only more sparsely) with stalked, cruciform (or a few 3-forked or even bifurcate) hairs; cauline leaves few, short-petiolate or sessile but not auriculate, lanceolate to oblanceolate, 1-3 cm. long, entire to few-toothed, sparsely pubescent more or less as the basal leaves but the hairs mostly 2- to 3- rayed; racemes 2- to 20-flowered; pedicels slender, 10-15 mm. long; sepals 3-4 mm. long, glabrous, the outer 2 gibbous-based; petals white, 6-8 mm. long; siliques glabrous, ascending-erect, linear, 2-2.5 cm. long, about 1 mm. broad, slightly compressed, the valves 1-nerved; style about 1 mm. long; stigma discoid; seeds uniseriate, about 1 mm. long, not winged.

This species is very easy to identify. There are very few white flowered taxa of Arabis, and no other similar white flowered species are found in Hells Canyon.

Range and Distribution

Arabis crucisetosa is most common at mid to low elevational, grassy north slopes of the Hells Canyon National Recreation Area, of the Wallowa-Whitman National Forest. However, it also occurs at higher elevations in open ponderosa pine (Pinus ponderosa), Douglas fir (Pseudotsuga menziesii), and grand fir (Abies grandis) forests. It has also been occasionally collected at high elevations in the Seven Devils Mountains (the highest being a collection from a rock slide at 9000 feet on He Devil Mountain). This makes a total elevational range of 1200-9000 feet. It was found in all areas of the Hells Canyon National Recreational Area searched, and occurs on the slopes of the Snake River north of the NRA, in both Idaho and Washington.

It is also quite common in the Snake River Canyon of Idaho, in similar habitats.

Figure 1. illustration.

Arabis crucisetosa was found on a number of soil types in the Canyon. These include sedimentary soils (including limestone), and occasionally on granitic and basaltic soils as well. The distribution of Arabis crucisetosa is somewhat patchy. At the lower elevations it was found almost exclusively on fairly steep, north facing slopes. In these areas it often could be found covering large areas (since the side canyons feeding into the Snake River generally run east-west, and so provide fairly continuous patches of north slope habitat). None of the sites were extremely large populations of Arabis crucisetosa, but the overall populations within a drainage were large due to the very large areas of habitat. The densities of the species were never higher than 5 to 10 plants per square meter, with an average of only 1 plant per square meter.

A map of the range and distribution of Arabis crucisetosa is included as Figure 2, on page 6.

Habitat Description

Arabis crucisetosa occurs within a number of habitat types, depending on the elevation. At low elevation sites, it occurs on north facing slopes dominated by Idaho fescue (Festuca idahoensis). The community in this area is described by Johnson and Simone (1987) as a junegrass-Idaho fescue, low elevation habitat type (Koeleria cristata-Festuca idahoensis low). It was also occasionally found on marginal examples of snowberry-Idaho fescue (Symphoricarpos albus-Festuca idahoensis) grassland and bluebunch wheatgrass-Idaho fescue-Snake River phlox (Agropyron spicatum-Festuca idahoensis-Phlox colubrina) grassland communities.

The other habitats in which Arabis crucisetosa is found are the open, mid elevation forests in the Hells Canyon area. Depending on elevation, these are dominated by (from low to high) ponderosa pine, Douglas fir, and grand fir. The understory in these habitats are primarily dominated by elk sedge (Carex geyeri), pinegrass (Calamagrostis rubescens), and snowberry (Symphoricarpos albus). These communities, as described by Johnson and Simon (1985), are: grand fir/pinegrass (Abies grandis/Calamagrostis rubescens), Douglas fir/pinegrass (Pseudotsuga menziesii/Calamagrostis rubescens), Douglas fir/common snowberry (Pseudotsuga menziesii/Symphoricarpos albus), and ponderosa pine/Idaho fescue (Pinus ponderosa/Festuca idahoensis).

Figure 2. map of range

Status

Arabis crucisetosa is currently considered to be Endangered in Oregon but More Common or Stable Elsewhere (Oregon Natural Heritage Data Base 1987). It was considered for inclusion on the Idaho Natural Heritage List, but was excluded because of limited threats and abundance, in spite of its limited range (Idaho Natural Heritage Program 1988). The Washington Natural Heritage Program lists the plant as Sensitive (Washington Natural Heritage Program 1987). Arabis crucisetosa is not a Candidate for listing under the US Endangered Species Act, primarily due to the Idaho status.

Threats

Currently, there are no known threats to Arabis crucisetosa. The plant is too abundant and widespread to be endangered from natural causes (aside from geologic events which are so unlikely that they do not merit consideration). Many of the populations are within the Hells Canyon Wilderness Area, and none of these populations occur at locations which could be threatened by recreational developments (such as campground or trail construction).

Grazing of domestic cattle and sheep is a potential threat to this species, although the large numbers and density of deer and elk in the habitat of this plant has had little effect on plant numbers. Fortunately, much of the habitat for this plant is too steep to be susceptible to casual grazing by domestic animals. In addition, grazing has been somewhat limited within the Hells Canyon National Recreation Area, and especially within the designated Wilderness Area. Due to the large numbers of plants, and the very diverse and wide ranging nature of this species habitat, grazing does not appear to be either immediate or serious. However, if there was a change in the current management of the entire Hells Canyon National Recreation Area which resulted in heavy grazing of the entire region, the status of this species would have to be reevaluated.

MANAGEMENT PLAN

Management of *Arabis crucisetosa*

There appears to be little required in the management of *Arabis crucisetosa*. The species is currently secure, and occurs widely on various habitats within the Hells Canyon National Recreation Area, the designated Wilderness, and in the Snake River Canyon overall. Due to the remoteness of most populations, the only management options which could affect this species would be grazing. The current grazing is not causing destruction of any plants or habitats. Because of this, it is recommended that this taxon be removed from the Region 6 Sensitive Species List and from the Oregon Natural Heritage Data Base List of Rare, Threatened and Endangered Species. *Arabis crucisetosa* is sufficiently abundant and insulated from disturbance that it apparently does not need to remain on any watch, inventory or monitor list in either Oregon or Idaho. The status of this taxon in Washington is less certain, since there are no public lands within its range. In addition, detailed information on the range and distribution of *Arabis crucisetosa* in Washington is lacking. Inventories of low elevation, north slope grasslands in the Hells Canyon areas of southeastern Washington are recommended to determine the real status of the species there.

Monitoring

This species requires no special monitoring. There are many of the Hells Canyon endemic plant species which are doing quite well. This plant is quite abundant, occurs on a wide range of habitats, and has few enough threats that there appears to be no real need for monitoring. *Arabis crucisetosa* is so common and widespread, that monitoring of plant numbers or populations has little utility. At a few sites, it occurs along with populations of *Lomatium rollinsii* so could be monitored in a *L. rollinsii* monitoring plot. In addition, it will be monitored as part of the Ecosystem plot system of the Area Ecologist since it does occur in a few of the Hells Canyon ecosystem plots.

Implementation and Review

The recommendations in this plan do not require approval by the U.S. Fish and Wildlife Service, since the species is not a Candidate for listing under the Endangered Species Act. It is currently on the list of species considered Endangered in Oregon but More Common or Stable Elsewhere by the Oregon Natural

Heritage Data Base. As a result of this inventory work, the recommendation was made at the 1988 Oregon Rare and Endangered Plant Conference that the Oregon Natural Heritage Data Base remove this species from their list. This should occur before the end of the 1988 calendar year. It will be recommended that this species be removed from the 1989 update of the R6 sensitive species list also. The Idaho Natural Heritage Program had already removed the plant from its lists. The Washington Natural Heritage Program has no protected occurrences of Arabis crucisetosa, and has little information on its distribution, since most occurrences are on private lands. The species will remain on their Sensitive Species list until additional surveys are completed.

REFERENCES

- Franklin, J.F. and C.T. Dyrness. 1973. Natural Vegetation of Oregon and Washington. USDA Forest Service General Technical Report, PNW-8, 417 pp. Pacific Northwest Forest Range and Experiment Station, Portland, OR.
- Gamon, J.G. 1983. Species Management Guide for Corydalis aqua-gelidae, on the Gifford Pinchot National Forest. USDA Forest Service, PNW region, Gifford Pinchot National Forest, Vancouver, WA. 15 pp.
- Hitchcock, C.L. and A. Cronquist. 1973. Flora of the Pacific Northwest, an Illustrated Manual. University of Washington Press, Seattle, WA.
- Hitchcock, C.L., A. Cronquist, M. Ownbey, and J.W. Thompson. 1964. Vascular Plants of the Pacific Northwest. Part 2: Salicaceae to Saxifragaceae, by C.L. Hitchcock and A. Cronquist. University of Washington Press, Seattle.
- Idaho Natural Heritage Program. 1988. Conservation status of rare vascular plants in Idaho. Department of Fish and Game, Boise, ID.
- Johnson, C.G. and S.A. Simone. 1987. Plant Associations of the Wallowa-Snake Province, Wallowa-Whitman National Forest. USDA Forest Service, PNW Region, R6-ECOL-TP-255B-86. 272 pp.
- Oregon Natural Heritage Data Base. 1987. Rare, Threatened and Endangered Plants and Animals of Oregon. The Nature Conservancy, 1234 NW 25th Ave., Portland, OR 97210. 39 pp.
- Washington Natural Heritage Program. 1987. Endangered, Threatened and Sensitive Vascular Plants of Washington. Department of Natural Resources, Olympia, WA. 33 pp.