

Rare and Sensitive Plant Surveys
Continental Divide Trail
Proposed Re-route
Rocky Mountain National Park

Prepared for

National Park Service
Rocky Mountain National Park
1000 U.S. Highway 36
Estes Park, CO 80517

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Project Summary

In May 2006 the National Park Service contracted with the Colorado Natural Heritage Program (CNHP) to conduct a survey for state endangered, threatened, or rare species along two proposed Continental Trail re-routes near the Kawuneeche Valley, west entrance of Rocky Mountain National Park (ROMO). The survey area was visited twice during the summer of 2006 to capture the differing phenology of plants.

No state endangered, threatened, or rare plants were documented on either of the proposed trail re-routes. The plant associations were determined to be globally common (G4,G5) according to the International Vegetation Classification (Grossman et al. 1998). Of special note, two populations of oxeye-daisy (*Leucanthemum vulgare*) and two populations of Canada thistle (*Cirsium arvense*) were documented.

Methods

A list of potential species was compiled from the State Endangered, Threatened, and Rare Species list for Rocky Mountain National Park (National Park Service 2005) (Table 1). CNHP ecologist visited the survey site on June 24, 2006 and August 21, 2006. The June survey was conducted concurrently with the National Park Service wetland delineation portion of the survey.

The proposed re-routes (Figure 1) were surveyed using the flagged re-route trail as the center line. A corridor of 30 feet (15 feet on each side of center line) was searched. On each side of the proposed trail route, the corridor was thoroughly searched in a zigzag pattern, with the greatest search intensity dedicated to suitable habitats for species most likely to occur in the area. The targeted species are identified in Table 1. A species list was compiled for each habitat type (Appendix A).

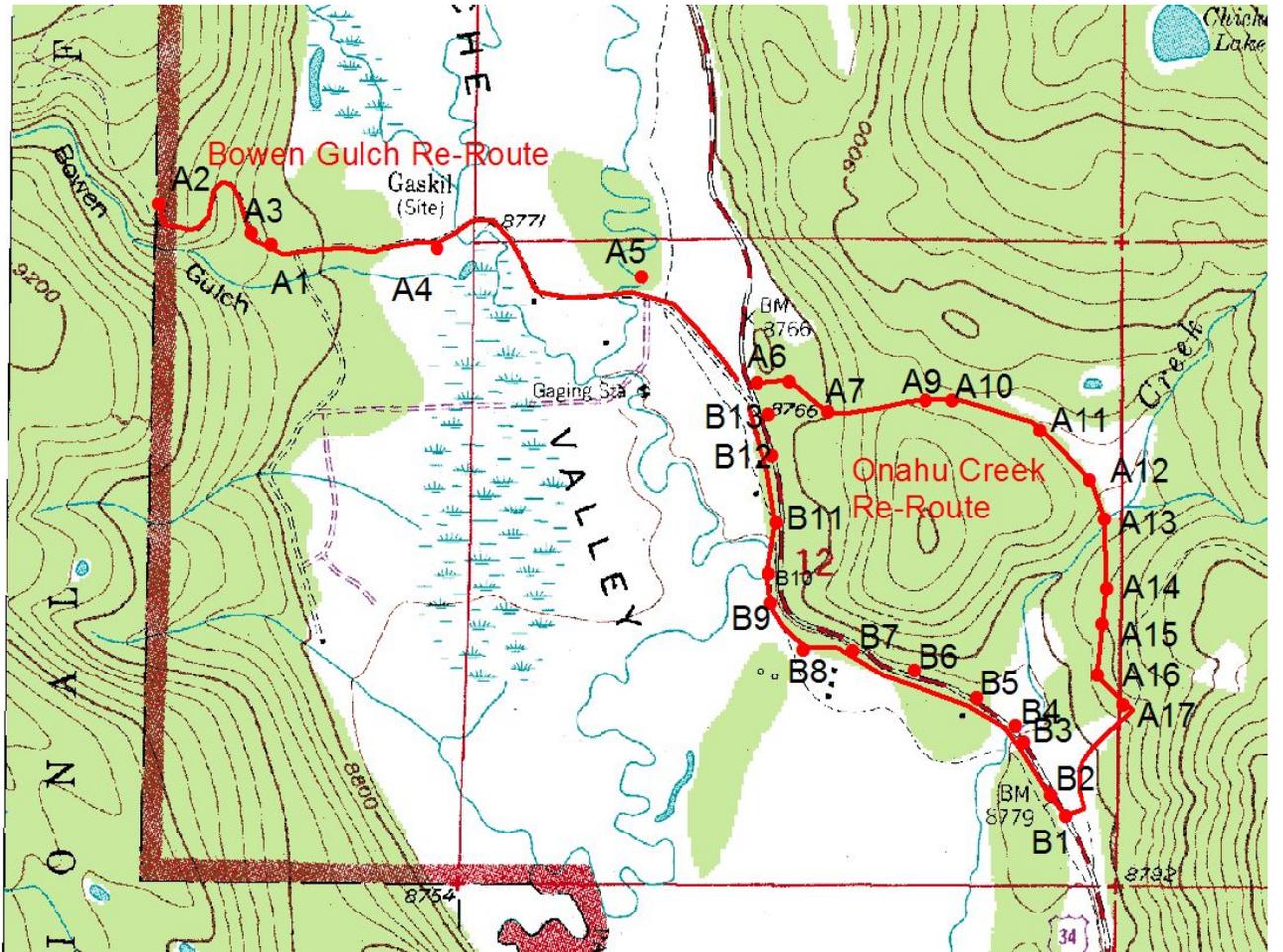


Figure 1. Proposed re-routes for the Continental Divide Trail.

Table 1. List of Targeted Plant Species.

Scientific Name	Common Name	CNHP Rank	
		Global	State
<i>Botrychium echo</i>	Reflected moonwort	G3	S3
<i>Botrychium hesperium</i>	Western moonwort	G3	S2
<i>Botrychium lanceolatum</i> var <i>lanceolatum</i>	Lance-leaved moonwort	G5T4	S3
<i>Botrychium lunaria</i>	Common Moonwort	G5	S3
<i>Botrychium minganense</i>	Mingan's moonwort	G4	S1
<i>Carex diandra</i>	Lesser panicled sedge	G5	S1
<i>Carex leptalea</i>	Bristle-stalk sedge	G5	S1
<i>Carex limosa</i>	Mud sedge	G5	S2
<i>Carex oreocharis</i>	A sedge	G3	S1
<i>Carex stenoptila</i>	River bank sedge	G2	S2?
<i>Cyripedium fasciculatum</i>	Purple's lady's-slipper	G4	S3
<i>Cystopteris montana</i>	Mountain bladder fern	G5	S1
<i>Hippochaete variegata</i>	Variegated scouringrush	G5	S1
<i>Juncus tweedyi</i>	Tweedy rush	G3Q	S1
<i>Juncus vaseyi</i>	Vasey bulrush	G5?	S1
<i>Lilium philadelphicum</i>	Wood lily	G5	S3S4
<i>Listera borealis</i>	Northern twayblade	G4	S2
<i>Listera convallarioides</i>	Broad-Leaved twayblade	G5	S2
<i>Salix serissima</i>	Autumn willow	G4	S1
<i>Sisyrinchium pallidum</i>	Pale blue-eyed grass	G2G3	S2
<i>Viola selkirkii</i>	Selkirk violet	G5?	S1

The plant communities were classified according to International Classification of Ecological Communities: Terrestrial Vegetation of the United States (Grossman et al. 1998).

Results

No state endangered, threatened, or rare species were documented during the surveys in 2006. Two occurrences of oxeye-daisy (*Leucanthemum vulgare*) were documented; one near the power line, west of Highway 34 and one 75 feet from the Onahu Trailhead. Canada thistle (*Cirsium arvense*) was documented along the banks of the Colorado River, west of Highway 34 and along the Dick Ranch Road where it crosses the Kawuneeche Valley (Figure 2).

The plant communities within the re-route sites were determined to be globally and state common and widespread (Table 2). Both proposed re-routes did run adjacent to a globally rare (G3S3) wetland plant community, Geyer willow-Rocky Mountain willow/bluejoint reedgrass (*Salix geyeriana* - *Salix monticola* / *Calamagrostis canadensis*). Neither re-route will negatively impact this large willow carr that dominates the whole of Kawuneeche Valley.

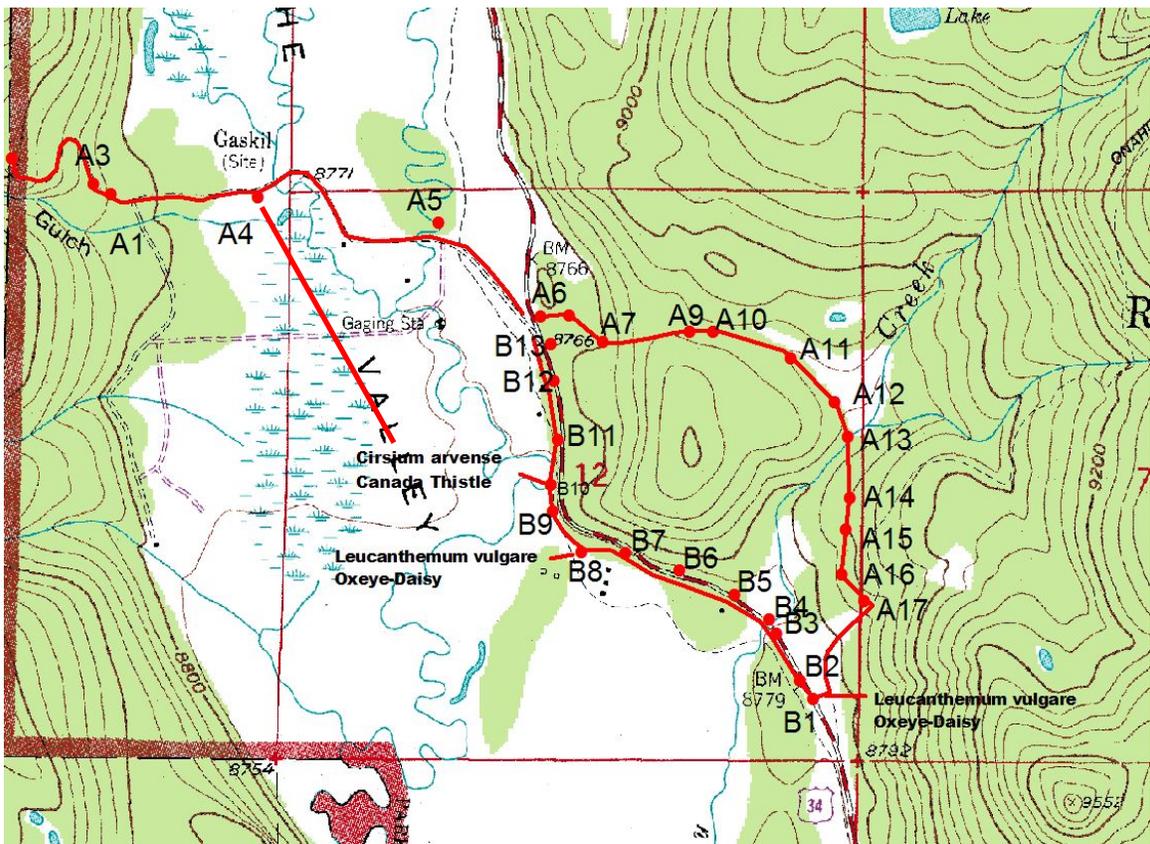


Figure 2. Proposed re-route trails with noxious weeds identified.

Table 2. Natural Plant Communities documented within survey sites

Scientific Name	Common Name	Global Rank	State Rank
<i>Pinus contorta</i> / <i>Juniperus communis</i> Forest	Lodgepole pine / common juniper forest	G5	S3
<i>Pinus contorta</i> / <i>Vaccinium scoparium</i> Forest	Lodgepole pine/ grousewhortle berry forest	G5	S4

Detailed description of both proposed re-route trails surveyed.

Bowen Gulch Re-Route (see Figure 3)

Proposed trail along existing access road to private residence and FS Trail #119. The existing road switchbacks through lodgepole pine forest with an understory of creeping juniper (*Juniperus communis*) and buffaloberry (*Sheperdia canadensis*). A small streamlet flows through the southeastern portion of loop that is dominated by Drummond’s willow (*Salix drummondiana*) and thinleaf alder (*Alnus incana*) (see Figure 2; Point A3). The existing road/proposed trail stays above Bowen Gulch to the Forest Service boundary (Point A2). At stop A4, Canada thistle (*Cirsium arvense*) was noted where access road crosses Kawuneeche Valley.

Onahu Creek Re-Route (see Figure 3)

Proposed trail starts at Highway 34 and Dick Ranch Road. It follows a game trail around small hill. It crosses a ravine (Stop A7) that supports a mesic meadow that is dominated by *Calamagrostis canadensis* and *Deschampsia cespitosa*. At Stop A13 the trail crosses the Onahu River. At Stop A17, the proposed re-route intersects with the Onahu Trail. *Leucanthemum vulgare* was documented 75 meters up the Onahu River Trail.

Proposed trail starts at Highway 34 and heads north, following an existing game trail that is parallel to Highway 34. At Point B3 the trail crosses a low point, likely resulting from road construction. The small mesic area is dominated by *Salix geyeriana*, *Salix monticola*, *Calamagrostis canadensis*, *Ligularia bigelovii*, *Dasiphora floribunda*, *Poa pratensis*, *Deschampsia cespitosa*, and *Phleum pratense*. At Point B4, trail crosses Onahu Creek and enters the floodplain of Onahu Creek, that is dominated by *Salix geyeriana* (many with dead tops), *Pinus contorta*, *Calamagrostis canadensis*, and *Deschampsia cespitosa*. Trail continues north staying close to the Highway. Soils are compacted by gravel. At Point B8, at the power line, an occurrence of *Leucanthemum vulgare* was documented. At Point B10, where the trail comes to the Colorado River, an occurrence of *Cirsium arvense* was documented.

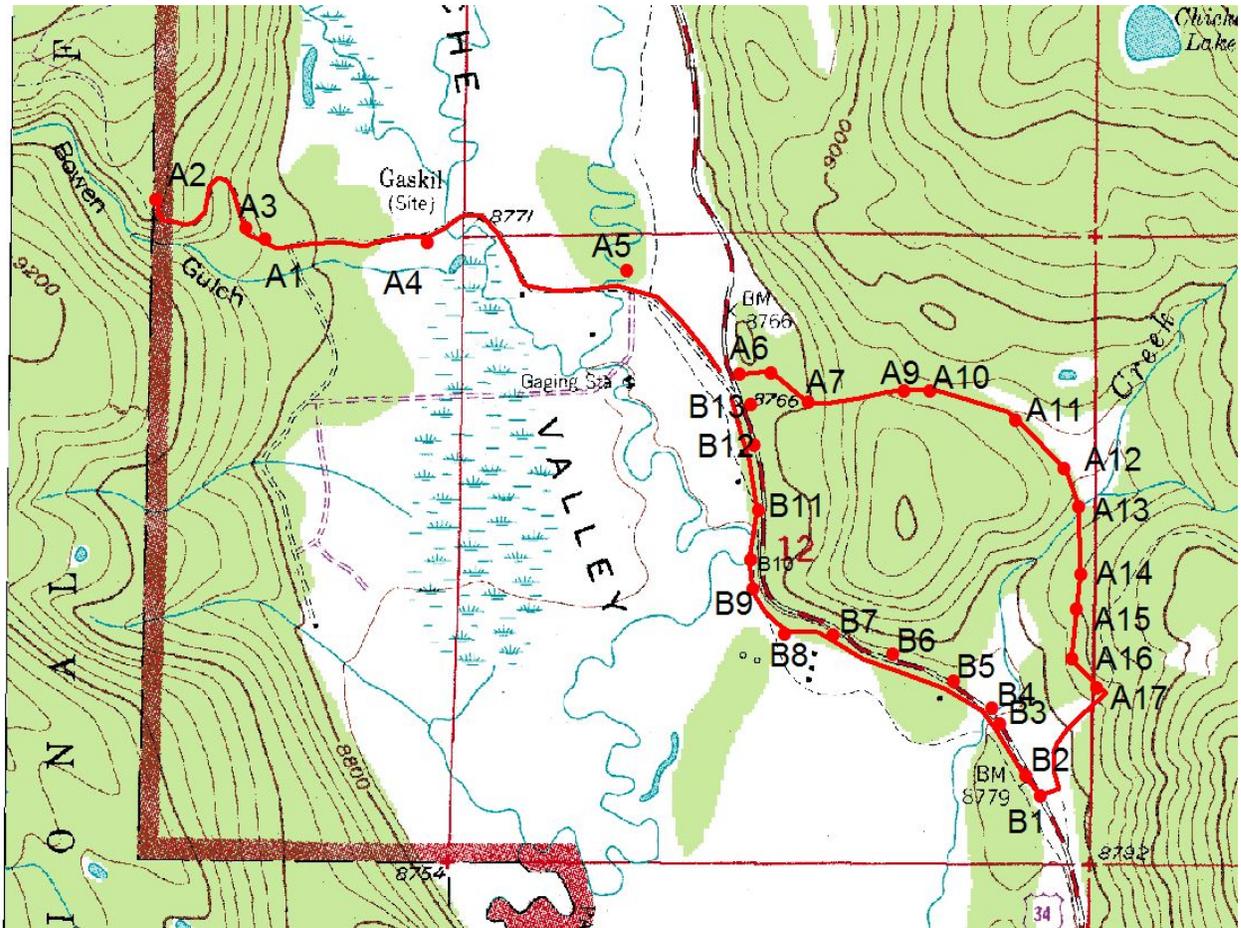


Figure 3. Proposed re-route trails with GPS points.

References Cited:

Grossman, D. H., D. Faber-Langendoen, A. S. Weakley, M. Anderson, P. Bourgeron, R. Crawford, K. Goodin, S. Landaal, K. Metzler, K. D. Patterson, M. Pyne, M. Reid, and L. Sneddon. 1998. International classification of ecological communities: terrestrial vegetation of the United States. Volume I. The Nature Conservancy, Arlington, VA.

National Park Service. 2005. List of State Endangered, Threatened, and Rare Species for Rocky Mountain National Park. Estes Park, CO

Appendix A

List of Dominant Vascular Plants:

Trees:

Pinus contorta
Picea pungens
Abies lasiocarpa
Populus tremuloides

Shrubs:

Alnus incana
Sheperdia argentea
Vaccinium myrtillus ssp. *oreophilum*
Rosa woodsii
Juniperus communis
Mahonia repens
Ribes cereum
Cornus sericea

Forbs:

Limnorchis hyperborea
Fragaria virginiana
Geranium richardsonii
Chamerion danielsii (*Epilobium angustifolium*)
Plantago major
Psilochenia runcinata (*Crepis runcinata*)
Trifolium spp.
Pyrola chlorantha
Arnica cordifolia
Taraxacum officinale
Maianthemum stellatum
Antennaria parviflora
Aster foliaceus var. *parryi*
Polemonium pulcherrimum ssp. *delicatum*
Solidago simplex
Ligusticum porteri
Ligularia bigelovii
Frasera speciosa
Osmorhiza depauperata
Potentilla pulcherrima
Caltha leptosepala
Thalictrum fendleri
Mertensia lanceolata
Castilleja sulphurea
Heracleum sphondylium ssp. *montanum*

Graminoids:

Carex aquatilis

Carex utriculata

Calamagrostis canadensis

Trisetum spicatum

Bromus anomalus

Phleum pratense

Poa pratensis

Carex geeyeri

Juncus drummondiana

Glyceria grandis

Agrostis stolonifera

Elymus elynoides

Carex microptera

Glyceria striata

Juncus ensifolius