

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: <i>Penstemon caryi</i> / Cary Beardtongue			
Criteria	Rank	Rationale	Literature Citations
<p>1 Distribution within R2</p>	A	<p>Cary Beardtongue occurs in the Bighorn Range in Big Horn, Sheridan, and Washakie counties, Wyoming, on the Bighorn National Forest. It is not known from any other Region 2 state.</p> <p>This species is found on sparsely vegetated, calcareous rock outcrops and rocky soil within sagebrush, juniper, Douglas-fir, and limber pine communities. Populations on the Tensleep Preserve are found mostly on upland sites with thin soils. The elevational range is from 5,200 to 8,500 feet. Steve Shelly has noted that Montana populations may prefer habitats that receive light disturbance. Observations in Wyoming suggest that the species does not favor areas of dense grass or shrub cover. Its habitat is discontinuous and its range in the state is limited.</p> <p>Note: Robert Dorn has observed a “small form” of <i>Penstemon caryi</i> from the western foothills of the Bighorn Range near Hyattville that are probably not worthy of taxonomic recognition as a new variety or species but could represent a distinct and localized genotype (Dorn personal communication to Fertig). It is included among population records.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Beauvais et al. 2000 • Dorn 2001 • Fertig 1999, 2000a, b • Fertig 2002 • Fertig et al. 1994 • Lesica and Shelly 1991 • Payson 1924 • Pennell 1920 • University of Wyoming 1998 • Welp et al. 1998, 2000
<p>2 Distribution outside R2</p>	B	<p>Cary Beardtongue is a regional endemic of the Bighorn and Pryor mountains of north-central Wyoming and south-central Montana.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • -
<p>3 Dispersal Capability</p>	D	<p>Seeds are probably dispersed by gravity or strong winds and probably do not travel long distances from the parent plant under ordinary conditions.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Fertig 2002

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<p>4 Abundance in R2</p>	<p>AB</p>	<p>Cary Beardtongue is known from 22 extant and one historical occurrence in Wyoming, 18 of which have been discovered or relocated since 1989 (most recently in 2001). Eleven of the extant populations are on the Bighorn National Forest in addition to a presumably extirpated population from the Shell Canyon Research Natural Area or potential Elephant Head RNA (Well et al. 1998).</p> <p>Most surveyed populations consist of 2 or more subpopulations that are separated by breaks in continuous habitat of 0.1-1.5 miles. They consist of at least 63 discrete subpopulations that occupy a total area of app. 115 acres. Seventeen occurrences were censused from 1999-2001, providing the basis for estimating total population numbers in Wyoming at app. 19,600-22,300 individuals. Populations are typically small and localized in specialized microhabitats. Most subpopulations contain 50 to 100 individuals per colony. The largest population is on The Nature Conservancy's Tensleep Preserve with over 2500 plants. This species is ranked "S3" in Wyoming and is a globally rare plant species of potential concern ("watch").</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Beauvais et al. 2000 • Fertig 1999, 2000a, b • Fertig 2002 • Fertig et al. 1994 • Humphrey and Shephard 1994 • Jones and Fertig 1998 • University of Wyoming 1998 • USDA Forest Service 2001 • Welp et al. 1998, 2000 • WYNDD 2002
<p>5 Population Trend in R2</p>	<p>D</p>	<p>Trend data are lacking for most occurrences, but the species is thought to be relatively stable at present. Long-term monitoring has documented stable numbers at the Tensleep Preserve (Humphrey 2000).</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Fertig 2000b
<p>6 Habitat Trend in R2</p>	<p>D</p>	<p>Not known.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • -

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Criteria	Rank	Rationale	Literature Citations
7 Habitat Vulnerability or Modification	BD	<p>Cary Beardtongue may be threatened by road construction, quarrying, and loss of habitat to development. Livestock may have impacts on some populations, but long-term studies of grazed and ungrazed plots suggest that cattle grazing may be less significant than previously assumed, and that much herbivory is the results of small mammals and other wildlife (Humphrey 2001). Several populations may be impacted by competition from exotic plants, especially sweet-clover, mullein, and timothy. One population is on Tensleep Preserve and one is on the potential Mann Creek RNA . Portions of two more populations are within the Trapper Creek and Medicine Lodge Wilderness Study Areas. It occurs special management areas and on lands managed by for multiple use by the Bighorn National Forest and the BLM Cody and Worland Field Offices.</p> <p>Confidence in Rank Medium</p>	<ul style="list-style-type: none"> • Beauvais et al. 2000 • Fertig 1999, 2000a, b • Fertig 2002 • Humphrey and Shephard 1994 • University of Wyoming 1998 • Welp et al. 1998, 2000 • WYNDD 2002
8 Life History and Demographics	D	<p>Cary Beardtongue is a perennial forb. Flowering occurs from late May through July depending on elevation. Flowers are probably pollinated by small bees and wasps, but the specific pollinators have yet to be identified (Fertig 2002). It reproduces exclusively by seed, although individual plants may expand by branching of the root crown. Seed germination and establishment requirements are not known but there is likely to be a seedbank and episodic germination. No seedling plants were encountered in 3 demographic plots established by Laura Welp in June 2000.</p> <p>Additional information on the species, including life history stages, population structure, longevity, mortality, and seed biology, are not available.</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Fertig 2000b, 2002 • Payson 1924 • Pennell 1920
Initial Evaluator(s): Joy Handley, Bonnie Heidel and Scott Laursen			Date: April 22, 2002

National Forests in the Rocky Mountain Region where species is KNOWN (K) or LIKELY(L)¹ to occur:

¹ Likely is defined as more likely to occur than not occur on the National Forest or Grassland. This generally can be thought of as having a 50% chance or greater of appearing on NFS lands.

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<u>Colorado NF/NG</u>	Known	Likely	<u>Kansas NF/NG</u>	Known	Likely	<u>Nebraska NF/NG</u>	Known	Likely	<u>South Dakota NF/NG</u>	Known	Likely	<u>Wyoming NF/NG</u>	Known	Likely
Arapaho-Roosevelt NF			Cimmaron NG			Samuel R. McKelvie NF			Black Hills NF			Shoshone NF		
White River NF						Halsey NF			Buffalo Gap NG			Bighorn NF	X	
Routt NF						Nebraska NF			Ft. Pierre NG			Black Hills NF		
Grand Mesa, Uncompahgre, Gunnison NF						Ogalala NG						Medicine Bow NF		
San Juan NF												Thunder Basin NG		
Rio Grande NF														
Pike-San Isabel NF														
Comanche NG														

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