

Status Report on
Lesquerella paysonii
in Northwest Wyoming

Prepared for Bridger-Teton National Forest

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I. INTRODUCTION

Lesquerella paysonii (Payson's bladderpod) was first recognized as a distinct species in 1950, based on a revision of herbarium material collected between 1920-1938 (Rollins 1950). During the next 40 years, this species was found in only about a dozen other locations within a restricted area in the mountains of western Wyoming and adjacent Idaho. Based on its limited distribution and apparent rarity, L. paysonii was listed as Sensitive by USFS Region 4 and designated a Category 2 (C2) candidate for listing under the Endangered Species Act (US Fish and Wildlife Service 1993; Joslin 1994).

Since 1990, intensive floristic and rare species surveys have been conducted on the Bridger-Teton National Forest (BTNF) by staff of the Rocky Mountain Herbarium (RM) and the Wyoming Natural Diversity Database (WYNDD). These projects have resulted in the discovery or relocation of over 30 populations of Lesquerella paysonii on the BTNF and surrounding public lands. In addition, these studies have led to a greater understanding of the biology, abundance, and management needs of this species. As a result, the survival prospects for L. paysonii have greatly improved and the species is no longer in need of Sensitive designation in the Intermountain Region.

In 1995, BTNF contracted with WYNDD on a cost-share basis to conduct field surveys and evaluate the status of Sensitive species on the Forest. The objective of this report is to summarize existing data on the biology, distribution, habitat, population size, and potential threats of Lesquerella paysonii to be used in determining its conservation status and potential management needs.

II. METHODS

Information on the habitat and distribution of Lesquerella paysonii was obtained from secondary sources, including WYNDD files and computer databases, specimens and reports from the RM, scientific literature, and knowledgeable individuals. Due to the large amount of existing information, additional field surveys were not scheduled, although potential habitat was explored in conjunction with a survey for the related L. carinata (Fertig 1997 in ed.). Information assembled for this report was entered into the computerized Element Occurrence database of WYNDD.

III. SPECIES INFORMATION

A. CLASSIFICATION

1. SCIENTIFIC NAME: Lesquerella paysonii Rollins (Rollins 1950). Type specimen: USA, Wyoming, Lincoln County, mountains near Cottonwood Lake,

east of Smoot, Payson & Armstrong 3816 (GH, COLO, MO, RM).

2. SYNONYMS: None.
3. COMMON NAMES: Payson's bladderpod.
4. FAMILY: Brassicaceae or Cruciferae (Mustard Family).
5. SIZE OF GENUS: The genus Lesquerella contains about 95 species, mostly restricted to North America (Rollins 1993). Ten species and 3 varieties are recognized in Wyoming (Dorn 1992).
6. PHYLOGENETIC RELATIONSHIPS: Lesquerella paysonii appears to be most closely related to L. carinata, another localized endemic of western Wyoming and eastern Idaho. Both species are atypical in the genus in having siliques that are strongly compressed at right angles to the partition. Payson (1922) used this feature to define the section Enantiocarpa, in which he placed three taxa from Texas, Mexico, and Venezuela (L. paysonii and L. carinata had not yet been discovered when Payson wrote his monograph). Rollins (1950) questioned the merit of including L. paysonii and L. carinata in section Enantiocarpa, noting the strong similarities in growth habit, pubescence, leaf shape, and flower morphology between these new species and the Lesquerella wardii-L. occidentalis group. Additional study has shown that the species in this latter group show a progression from unflattened to clearly compressed fruits, with L. paysonii and L. carinata merely representing extremes at one end of the series (Rollins and Shaw 1973).

B. PRESENT LEGAL OR OTHER FORMAL STATUS

1. NATIONAL:

- a. LEGAL STATUS: Lesquerella paysonii was formerly listed as a C2 candidate for listing under the Endangered Species Act (US Fish and Wildlife Service 1993). The C2 list included species for which there was evidence of vulnerability, but for which the US Fish and Wildlife Service (USFWS) lacked sufficient biological data to support a listing proposal. In February, 1996, the USFWS

revised its candidate policy and eliminated the C2 designation (US Fish and Wildlife Service 1996).

L. paysonii has been listed as Sensitive in US Forest Service Region 4 (covering populations in Idaho and Wyoming) since 1994 (Joslin 1994). The species is also listed as Sensitive in Montana by US Forest Service Region 1 (Heidel 1996). The BLM Rock Springs District lists L. paysonii as a "Special Status" plant (Amidon 1994).

- b. HERITAGE RANK: Ranked G3 in The Nature Conservancy's Natural Heritage Network system. G3 species are rare or local throughout their range, or are found in a restricted geographic area (usually with 21-100 extant populations).

2. STATE:

a. WYOMING

i. LEGAL STATUS: None.

ii. HERITAGE RANK: L. paysonii is ranked S3, indicating that it is rare or local throughout its range or found locally in a restricted range in the state (Fertig 1996 a).

b. IDAHO

i. LEGAL STATUS: None.

ii. HERITAGE RANK: Formerly listed as S1 (Idaho Conservation Data Center 1994), but changed to S2 following the most recent status survey in Idaho (Moseley 1996). S2 species are those that are imperiled because of rarity (6-20 occurrences), or because of factors demonstrably making a species vulnerable to extinction in the state.

c. MONTANA

i. LEGAL STATUS: None.

ii. HERITAGE RANK: Ranked S1 in Montana, where it is considered critically

imperiled because of extreme rarity (5 or fewer occurrences) or because of some factor of its life history that makes it vulnerable to extinction in the state (Heidel 1996).

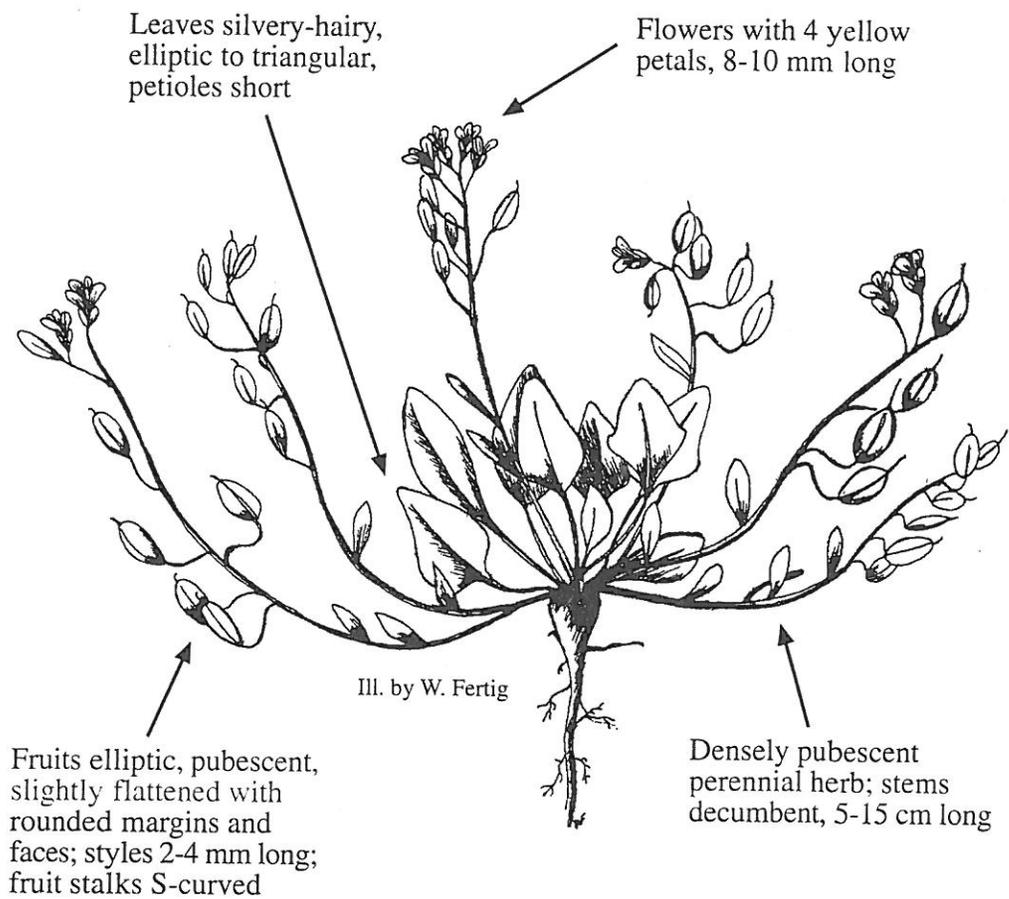
C. DESCRIPTION

1. GENERAL NON-TECHNICAL DESCRIPTION: Payson's bladderpod is a densely pubescent perennial herb with decumbent stems 2-6 inches (5-15 cm) long from an unbranched caudex (Figure 1-2). Basal leaves are silvery-hairy with elliptic to triangular blades and short petioles. Stem leaves are shorter, with nearly sessile elliptic blades. Flowers have 4 yellow petals $\frac{3}{8}$ inches (8-10 mm) long. The pubescent, elliptic fruits (siliques) are borne on S-curved stalks and are slightly flattened at a right angle to the partition separating the two halves of the fruit (the margins and face of the fruit are rounded, rather than sharp-pointed from a raised keel). The styles in fruit are $\frac{1}{8}$ - $\frac{3}{16}$ inches (2-4 mm) long (Rollins 1950, 1993; Rollins and Shaw 1973; Dorn 1992; Fertig et al. 1994).
2. TECHNICAL DESCRIPTION: Plants short-lived perennials; densely pubescent; trichomes sessile or on a short stalk, roughly granular, the rays numerous but distinct at their bases, forked and often bifurcate; stems 0.3-1.5 dm long, decumbent, slender and unbranched, arising laterally from the simple caudex; basal leaves 1-4 (6) cm long, 4-10 (15 mm) wide, the blades broadly triangular to rhombic or elliptic, often sinuate or shallowly lobed, narrowing gradually or abruptly to the slender petiole, this sometimes lobed and the leaf pinnatifid; cauline leaves 0.5-1.5 cm long, 2-6 mm wide, elliptic and narrowing to a short petiole; inflorescences compact, the buds ellipsoid; sepals 5-7.5 mm long, oblong to elliptic, boat-shaped, the lateral ones markedly saccate; petals yellow, 8-10 mm long, 1.5-2.5 mm wide, narrowly spatulate; filaments slender, not dilated, paired stamens 5.5-7 mm long, single stamens 4-6 mm long; glandular tissue roughly pentagonal around the single stamens and subtending the paired, but absent between these; infructescences elongated or dense, often secund; pedicels 4-10 mm long, more or less sigmoid; siliques 5-9 mm long, substipitate, elliptic and strongly obcompressed but not keeled, the valves pubescent on the

Figure 1. Line drawing of *Lesquerella paysonii*. Illustration by W. Fertig (Fertig et al. 1994).

Lesquerella paysonii

PAYSON'S BLADDERPOD



exterior and usually glabrous on the interior; septum entire and smooth, the funicles attached about 1/3 their length; styles 2-4 mm long, sometimes pubescent at the base, stigmas slightly expanded; ovules 5-8 per locule; seeds about 2 mm long, suborbicular to oblong and only slightly flattened, reddish-brown, neither margined nor winged; cotyledons exactly or obliquely acumbent, as long or slightly shorter than the radicle (Rollins and Shaw 1973).

3. LOCAL FIELD CHARACTERISTICS: Lesquerella paysonii can be recognized by its prostrate growth form, basal rosette of densely silvery-hairy, elliptic leaf blades, and flattened, elliptic fruit lacking a raised keel on the face or margins.
4. SIMILAR SPECIES: Lesquerella carinata has strongly flattened fruit with keeled margins and faces. L. fremontii has recurved fruit stalks and smaller flowers and styles. Other Lesquerella species in Wyoming have inflated fruits. Physaria species can be distinguished by their two-parted, balloon-like fruits, more rounded leaf blades, and typically more robust size (Dorn 1992; Fertig et al. 1994; Moseley 1996).

D. GEOGRAPHICAL DISTRIBUTION

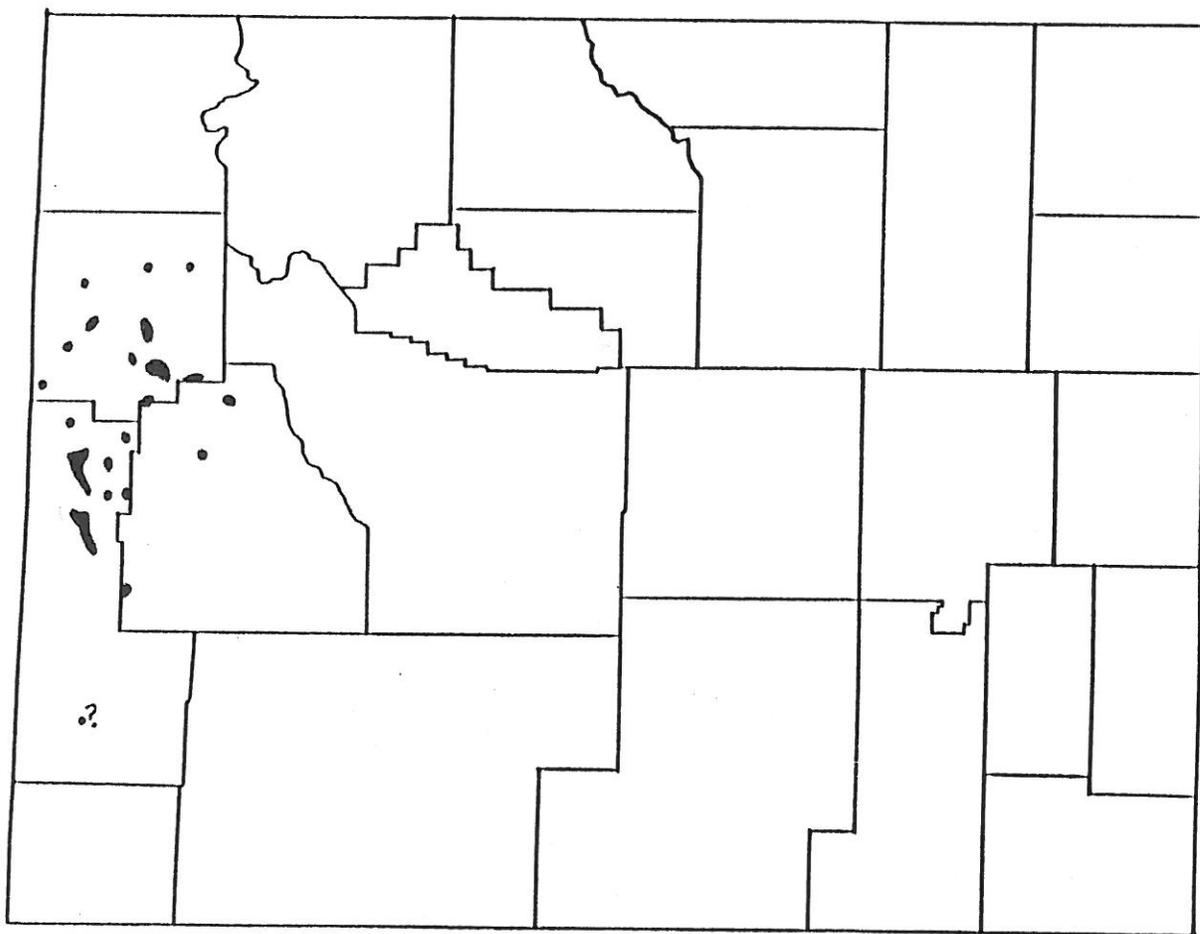
1. RANGE: Lesquerella paysonii is a regional endemic of west-central Wyoming, eastern Idaho, and southwestern Montana (Rollins 1993; Moseley 1996). In Wyoming, it is found in the Gros Ventre, Salt River, Snake River, Teton, Wind River, and Wyoming ranges, the northern Green River Basin, and Jackson Hole in Lincoln, Sublette, and Teton counties (Figure 3). Idaho populations are restricted to the Caribou and Snake River ranges in Bonneville County (Markow 1994; Moseley 1996). Two disjunct populations are known from Beaverhead and Granite counties in Montana (Schassberger 1991; Heidel 1996).

Reports from Davis County, Utah have been questioned due to the lack of mature fruits (Shultz and Shultz 1978; Moseley 1996).

Figure 2 (page 7). Photograph of Lesquerella paysonii on travertine deposits at Kendall Falls on the Green River (EO # 002). WYNDD photograph by W. Fertig, June 1995.



Figure 3. Distribution of Lesquerella paysonii in Wyoming.



2. EXTANT SITES: Prior to 1990, Lesquerella paysonii was known from 12 extant occurrences and 6 historical records in western Wyoming. Surveys in Bridger-Teton and Targhee National Forests and Grand Teton National Park from 1990-96 have resulted in the discovery or relocation of 25 populations, bringing the total number of extant occurrences in Wyoming to 34 (Marriott 1990, 1993; Fertig et al. 1991; Fertig 1992, 1995; Fertig and Jones 1994 a; Hartman and Nelson 1993, 1994; Hartman 1995). Surveys in Idaho and Montana during this decade have resulted in the discovery of 10 additional populations (Moseley 1996).

Exact locations of extant populations in Wyoming are listed in Table 1. More detailed information is provided in the Element Occurrence Records in Appendix A.

3. HISTORICAL SITES: Prior to 1990, Lesquerella paysonii was known from 6 historical records in Wyoming (dating from 1922 to the 1940s). Historical reports from Kendall Warm Springs (EO # 002) and Tepee Creek Ridge (EO # 003) have since been relocated (Fertig 1995; Hartman 1995). Records from Hoback Canyon (EO # 001), Squaw Flat (EO # 013), Cottonwood Lake (EO # 016), and Turpin Meadows (EO # 038) have not been relocated.
4. SITES WHERE PRESENT STATUS NOT KNOWN: Marriott (1993) was unable to relocate the population reported by Robert Dorn from "near the mouth of Pacific Creek" (EO # 007) during surveys in Grand Teton National Park in 1990-92. This population is based on an immature fruiting specimen, which may represent L. carinata. A 1957 record from Sheep Mountain, northeast of Jackson, (EO # 037) was not relocated during floristic surveys in 1994-95 (Rollins and Shaw 1973; Hartman 1995). The population from Lower Slide Lake (EO # 006) is based on immature material and needs to be resurveyed to confirm whether L. paysonii or L. carinata is present. Payson's vague 1925 report from "red soil slopes ... vicinity of the Green River Lakes" (Payson and Payson 4551, RM) may be from the Little Sheep Mountain area of the northwest Wind River Range, but has not been relocated. Six other records (EOs 005, 011, 012, 014, 015 and 039) documented from the Salt River and Wyoming ranges during the late 1970s and mid 1980s have not been relocated, but are presumed to be extant (Shultz and Shultz 1978; WYNDD records).

Table 1.

Location Information for Known Populations of
Lesquerella paysonii in Wyoming

1. Green River Basin

Occurrence # 010.
County: Sublette.
Legal Description: T35N R111W S4, 8 (NE4 of SE4), 9.
Latitude: 43° 01' 05" North (centrum).
Longitude: 110° 07' 07" West (centrum).
Elevation: 7600 ft (2315 m).
USGS 7.5' Quad: Warren Bridge.
Location: 2 locations: (1) E bank of "The Narrows" of the Green River, 1-1.5 miles NE of Warren Bridge; (2) Warren Bridge campground on the E bank of the Green River, just S of US Highway 191-189.

2. Gros Ventre Range

Occurrence # 003.
County: Sublette.
Legal Description: T39N R111W S7 (E4), 9 (S2), 10 (S4).
Latitude: 43° 21' 18" North.
Longitude: 110° 11' 53" West.
Elevation: 9600-10400 ft (2925-3170 m).
USGS 7.5' Quad: Tosi Peak.
Location: Tepee Creek Ridge west to Red Hills, 6-9 air miles SW of Mosquito Lake.

Occurrence # 006.
County: Teton.
Legal Description: T42N R114W S5.
Latitude: 43° 38' 03" North.
Longitude: 110° 33' 30" West.
Elevation: 7100 ft (2165 m).
USGS 7.5' Quad: Shadow Mountain.
Location: Lower Slide Lake.

Occurrence # 029.
County: Teton.
Legal Description: T40N R114W S33 (SE4).
Latitude: 43° 22' 40" North.
Longitude: 110° 31' 05" West.
Elevation: 10200-10600 ft (3110-3230 m).
USGS 7.5' Quad: Turquoise Lake.
Location: ridge from Pinnacle Peak SE 0.25 miles [ca 6.5 miles N of US Highway 191-189].

Occurrence # 030.
County: Teton.
Legal Description: T40N R115W S10 (NE4), 11 (W4).
Latitude: 43° 26' 50" North.
Longitude: 110° 37' 25" West.
Elevation: 9600-10100 ft (2925-3080 m).
USGS 7.5' Quad: Turquoise Lake.
Location: ridges 1.3 air miles N of Cache Peak NW to base of Jackson Peak.

Table 1 (continued).

Occurrence # 031.
County: Teton.
Legal Description: T40N R113W S18 (NE4).
Latitude: 43° 26' 00" North.
Longitude: 110° 26' 53" West.
Elevation: 8600-10200 ft (2620-3110 m).
USGS 7.5' Quad: Crystal Peak.
Location: summit of ridge extending S from Packsaddle Pass and Pyramid Peak.

Occurrence # 032.
County: Sublette.
Legal Description: T39N R112W S22 (SE4), 23 (SW4), 26 (NW4), 27 (NE4).
Latitude: 43° 19' 10" North.
Longitude: 110° 15' 40" West.
Elevation: 10400-11800 ft (3170-3600 m).
USGS 7.5' Quad: Doubletop Peak.
Location: Hodges Peak.

Occurrence # 036.
County: Teton.
Legal Description: T39N R113W S4 (E2).
Latitude: 43° 21' 57" North.
Longitude: 110° 24' 23" West.
Elevation: 8000 ft (2440 m).
USGS 7.5' Quad: Granite Falls.
Location: Swift Creek trail from Wilderness boundary NNE ca 1.5 air miles [ca 1 mile E of "The Open Door", ca 2 air miles E of Granite Creek campground].

Occurrence # 037.
County: Teton.
Legal Description: T41N R114W S4 (approximate).
Latitude: 43° 32' 35" North (approximate).
Longitude: 110° 31' 30" West (approximate).
Elevation: 10000 ft (3050 m).
USGS 7.5' Quad: Blue Miner Lake.
Location: Sheep Mountain, ca 14 miles NE of Jackson.

3. Jackson Hole

Occurrence # 007.
County: Teton.
Legal Description: T45N R114W S22 (approximate).
Latitude: 43° 51' 55" North (approximate).
Longitude: 110° 31' 07" West (approximate).
Elevation: 6700-6750 ft (2040-2060 m).
USGS 7.5' Quad: Moran.
Location: "near mouth of Pacific Creek".

Occurrence # 038.
County: Teton.
Legal Description: T45N R112W S14 (approximate).
Latitude: 43° 51' 30" North (approximate).
Longitude: 110° 16' 10" West (approximate).
Elevation: 6900 ft (2100 m).
USGS 7.5' Quad: Rosies Ridge.
Location: Turpin Meadows, east of Moran [N of the Buffalo Fork River in vicinity of Turpin Meadows Lodge, ca 3-3.5 air miles N of US Highway 26-287].

Table 1 (continued).

4. Salt River Range

Occurrence # 005.
County: Lincoln.
Legal Description: T35N R117W S9.
Latitude: 43° 02' 15" North.
Longitude: 110° 48' 50" West.
Elevation: 6280 ft (1915 m).
USGS 7.5' Quad: Deer Creek.
Location: Greys River at Lost Creek, ca 22.5 miles NNE of Afton.

Occurrence # 008.
County: Lincoln.
Legal Description: T35N R118W S22, 23.
Latitude: 43° 00' 35" North.
Longitude: 110° 53' 35" West.
Elevation: 7800-9988 ft (2375-3045 m).
USGS 7.5' Quad: Stewart Peak.
Location: Murphy Creek near creek and ca 0.3 miles W of oil well site, ca 20 air miles N of Afton in vicinity of Star Peaks.

Occurrence # 012.
County: Lincoln.
Legal Description: T32N R117W S27 (SW4).
Latitude: 42° 43' 50" North.
Longitude: 110° 45' 20" West.
Elevation: 8900 ft (2710 m).
USGS 7.5' Quad: Red Top Mountain.
Location: Above Crow Creek Lakes, 9 air miles E of Afton.

Occurrence # 013.
County: Lincoln.
Legal Description: T36N 118W S4, 5; T37N R118W S36 (approximate)
Latitude: 43° 08' 38" North (approximate).
Longitude: 110° 55' 55" West (approximate).
Elevation: 5500 ft (1675 m).
USGS 7.5' Quad: Ferry Peak.
Location: "Squaw Flat" [along the Greys River, ca 5 air miles E of Alpine and ca 3.5 miles S of the Grand Canyon of the Snake River].

Occurrence # 014.
County: Lincoln.
Legal Description: T34N R118W S25.
Latitude: 42° 54' 25" North.
Longitude: 110° 51' 47" West.
Elevation: 6880 ft (2100 m).
USGS 7.5' Quad: Man Peak.
Location: Strawberry Creek, 3/8 miles below dam, ca 13 air miles NNE of Afton and ca 1.5 air miles E of Bedford.

Table 1 (continued).

Occurrence # 015.
County: Lincoln.
Legal Description: T33N R116W S21.
Latitude: 42° 49' 45" North.
Longitude: 110° 41' 30" West.
Elevation: 6975 ft (2125 m).
USGS 7.5' Quad: Park Creek.
Location: Greys River, ca 15 air miles NE of Afton in Forest Park area.

Occurrence # 016.
County: Lincoln.
Legal Description: T31N R117W (TRS approximate).
Latitude: 42° 40' 30" North (approximate).
Longitude: 110° 47' 10" West (approximate).
Elevation: 10000 ft (3050 m).
USGS 7.5' Quad: Red Top Mountain.
Location: "mountains near Cottonwood Lake, E of Smoot".

Occurrence # 023.
County: Lincoln.
Legal Description: T35N R118W S20, 21, 29, 30.
Latitude: 42° 59' 53" North.
Longitude: 110° 56' 20" West.
Elevation: 6560-8200 ft (2000-2500 m).
USGS 7.5' Quad: Thayne East.
Location: Prater Canyon [ca 6.5 air miles NE of Thayne].

Occurrence # 024.
County: Lincoln.
Legal Description: T31N R117W S8.
Latitude: 42° 41' 22" North.
Longitude: 110° 47' 20" West.
Elevation: 10200-10400 ft (3110-3170 m).
USGS 7.5' Quad: Red Top Mountain.
Location: ridge north and west of Corral Creek Lake.

Occurrence # 025.
County: Lincoln.
Legal Description: T34N R117W S5.
Latitude: 42° 57' 28" North.
Longitude: 110° 49' 40" West.
Elevation: 9200-10139 ft (2800-3090 m).
USGS 7.5' Quad: Man Peak.
Location: Man Peak, along ridge from summit for 0.5 miles S and ridge 1-2 air miles SW.

Occurrence # 026.
County: Lincoln.
Legal Description: T33N R117W S9, 16.
Latitude: 42° 50' 53" North.
Longitude: 110° 48' 33" West.
Elevation: 9600-9800 ft (2925-2990 m).
USGS 7.5' Quad: Rock Lake Peak.
Location: McDougal Pass and ridge for 0.5 miles south.

Table 1 (continued).

Occurrence # 027.
County: Lincoln.
Legal Description: T32N R118W S16 (W2 of SE4).
Latitude: 42° 45' 13" North.
Longitude: 110° 53' 10" West.
Elevation: 8600 ft (2620 m).
USGS 7.5' Quad: Grover.
Location: N-S trending ridge dividing the Star Valley and Swift Creek Canyon drainage, ca 2 air miles NE of Afton.

Occurrence # 039.
County: Lincoln.
Legal Description: T30N R117W S14.
Latitude: 42° 35' 35" North.
Longitude: 110° 43' 55" West.
Elevation: 9400 ft (2865 m).
USGS 7.5' Quad: Poison Meadows.
Location: Mink Creek drainage along LaBarge Creek divide.

5. Snake River Range

Occurrence # 033.
County: Teton.
Legal Description: T41N R118W S24 (SW4), 25 (NW4).
Latitude: 43° 29' 32" North (centrum).
Longitude: 110° 57' 15" West (centrum).
Elevation: 8500-9000 ft (2590-2745 m).
USGS 7.5' Quad: Teton Pass.
Location: ridge and upper slopes extending for ca 0.5 miles S of Teton Pass [S of WY state highway 22, ca 9.5 air miles W of Jackson].

Occurrence # 035.
County: Teton.
Legal Description: T39N R118W S20.
Latitude: 43° 20' 32" North.
Longitude: 111° 00' 50" West.
Elevation: 9200 ft (2800 m).
USGS 7.5' Quad: Mount Baird.
Location: ridge leading to and 0.5 miles SW of Powder Peak, ca 12 air miles N of Alpine [near head of tributary of Box Canyon 1.5 air miles E of the Idaho state line].

6. Teton Range

Occurrence # 017.
County: Teton.
Legal Description: T42N R117W S14 (NW4 of SW4), 15 (S4 of SE4), 22 (N2 of NW4).
Latitude: 43° 35' 43" North (centrum).
Longitude: 110° 52' 25" West (centrum).
Elevation: 9500-10300 ft (2895-3140 m).
USGS 7.5' Quad: Rendezvous Peak; Teton Village.
Location: 2 locations: (1) E slope of Rendezvous Mountain on ridge between Granite Canyon and Jackson Hole; (2) along crest of Rendezvous Peak (in the vicinity of the tram) and along trail into Cody Bowl.

Table 1 (continued).

Occurrence # 019.
County: Teton.
Legal Description: T42N R117W S7 (N2).
Latitude: 43° 36' 50" North (centrum).
Longitude: 110° 55' 50" West (centrum).
Elevation: 8900-9700 ft (2710-2955 m).
USGS 7.5' Quad: Rendezvous Peak.
Location: 0.5-1 mile W and S of Marion Lake adjacent to Game Creek and Teton Crest trails.

Occurrence # 020.
County: Teton.
Legal Description: T42N R117W S2.
Latitude: 43° 37' 42" North.
Longitude: 110° 51' 02" West.
Elevation: 9700 ft (2955 m).
USGS 7.5' Quad: Grand Teton.
Location: Mount Hunt Divide, adjacent to Open Canyon Trail, ca 0.5 miles ESE of summit of Mount Hunt.

Occurrence # 034.
County: Teton.
Legal Description: T44N R117W S7 (SW4).
Latitude: 43° 47' 05" North.
Longitude: 110° 55' 48" West.
Elevation: 9900 ft (3015 m).
USGS 7.5' Quad: Granite Basin.
Location: summit of Fred's Mountain, ca 0.3 miles SE of ski lift tower [ca 1.4 miles E of Grand Targhee Resort].

7. Wind River Range

Occurrence # 002.
County: Sublette.
Legal Description: T38N R110W S2 (E2 of W2), 10, 11.
Latitude: 43° 17' 00" North (centrum).
Longitude: 110° 01' 10" West (centrum).
Elevation: 7800-7900 ft (2375-2410 m).
USGS 7.5' Quad: Klondike Hill.
Location: 3 main subpopulations: (1) Kendall Warm Springs and Warm Springs Falls; (2) warm springs north of Stinky Springs on E side of Green River; (3) Lime Creek on W side of the Green River directly across from Kendall Warm Springs.

Occurrence # 018.
County: Sublette.
Legal Description: T38N R109W S19.
Latitude: 43° 15' 15" North.
Longitude: 109° 58' 20" West.
Elevation: 8100 ft (2470 m).
USGS 7.5' Quad: Big Sheep Mountain.
Location: Gypsum Creek Road, ca 1-1.5 miles SE of Red Hill.

Table 1 (continued).

8. Wyoming Range

Occurrence # 001.
County: Sublette.
Legal Description: T38N R114W (approximate).
Latitude: $43^{\circ} 17' 23''$ North (approximate).
Longitude: $110^{\circ} 32' 41''$ West (approximate).
Elevation: 6400 ft (1950 m).
USGS 7.5' Quad: Bull Creek.
Location: Hoback Canyon, along road [probably in vicinity of US Highway 189-191].

Occurrence # 004.
County: Sublette.
Legal Description: T33N R115W S9 (SW4); T34N R115W S33.
Latitude: $42^{\circ} 50' 30''$ North (centrum).
Longitude: $110^{\circ} 34' 52''$ West (centrum).
Elevation: 8440-9300 ft (2570-2835 m).
USGS 7.5' Quad: Triple Peak.
Location: 0.1 mile E of McDougal Gap and east slope of Mount McDougal, 38 air miles W of Daniel.

Occurrence # 011.
County: Lincoln.
Legal Description: T36N R115W S10 (NE4).
Latitude: $43^{\circ} 06' 30''$ North.
Longitude: $110^{\circ} 40' 05''$ West.
Elevation: 9300 ft (2835 m).
USGS 7.5' Quad: Pickle Pass.
Location: Grayback Ridge, 2.5 air miles SE of McCain Guard Station.

Occurrence # 021.
County: Lincoln.
Legal Description: T35N R116W S25, 35, 36.
Latitude: $42^{\circ} 58' 40''$ North.
Longitude: $110^{\circ} 38' 35''$ West.
Elevation: 7880-9202 ft (2400-2800 m).
USGS 7.5' Quad: Blind Bull Creek.
Location: "Deadman Mine" (probably the Vail Mine).

Occurrence # 022.
County: Sublette.
Legal Description: T38N R114W S22 (E4), 26, 27.
Latitude: $43^{\circ} 14' 35''$ North (centrum).
Longitude: $110^{\circ} 30' 05''$ West (centrum).
Elevation: 6720-6750 ft (2050-2060 m).
USGS 7.5' Quad: Clause Peak.
Location: Cliff Creek, ca 0.7 miles S of the junction of the Cliff Creek Road and US Highway 189-191, ca 14.5 air miles SE of Hoback Junction.

Occurrence # 028.
County: Sublette.
Legal Description: T28N R115W S16 (N2).
Latitude: $42^{\circ} 25' 13''$ North.
Longitude: $110^{\circ} 29' 32''$ West.
Elevation: 10100-10200 ft (3080-3110 m).
USGS 7.5' Quad: Pine Grove Ridge.
Location: Deadline Ridge, ca 21 air miles SW of Big Piney.

5. UNVERIFIED/UNDOCUMENTED REPORTS: Lesquerella paysonii has recently been reported from two locations on the Hams Fork Plateau at the south end of the Salt River Range (Hartman et al. 1996). The voucher specimens have been deposited at the RM, but were unavailable for study and corroboration for this report.
6. AREAS SURVEYED BUT SPECIES NOT LOCATED: Potential habitats have been surveyed on the east slope of the Wind River Range in recent years, but no populations of L. paysonii have been found. Searches in calcareous habitats on the east flank of the Absaroka Range have also been negative.

E. HABITAT

1. ASSOCIATED VEGETATION: In Wyoming, Lesquerella paysonii is found primarily on windswept, gravelly, calcareous ridgecrests, semi-open slopes, and rocky floodplains (Figure 4). These populations are often associated with Artemisia tridentata var. vaseyana grassland communities with total vegetative cover between 25-50%. Populations have also been reported from talus slopes, disturbed roadsides, dried stream channels, and rocky clearings in lodgepole pine and subalpine fir forests. Moseley (1996) reports similar habitat preferences for Idaho populations.

2. FREQUENTLY ASSOCIATED SPECIES:

Achillea millefolium (Common yarrow)
Allium brandegei (Brandege onion)
Antennaria umbrinella (Umber pussytoes)
Arabis holboellii (Holboell's rockcress)
Arenaria congesta (Ballhead sandwort)
Astragalus kentrophyta (Thistle milkvetch)
Astragalus miser (Weedy milkvetch)
Astragalus shultziorum (Shultz's milkvetch)
Cymopterus terebinthinus (Turpentine cymopterus)
Erigeron compositus (Cut-leaved daisy)
Erigeron eatonii (Eaton's daisy)
Eriogonum umbellatum (Sulfur buckwheat)
Leucopoa kingii (Spike-fescue)
Linum lewisii (Wild blue flax)
Machaeranthera canescens (Hoary aster)
Penstemon montanus (Mountain beardtongue)
Phacelia sericea (Silky phacelia)
Phlox hoodii (Hood's phlox)
Potentilla fruticosa (Shrubby cinquefoil)
[Pentaphylloides floribunda]

Potentilla glandulosa (Glandular cinquefoil)
Sedum lanceolatum (Lance-leaved stonecrop)

3. TOPOGRAPHY: Populations of Lesquerella paysonii may be found on steep talus slopes, uneven ridgetops, and flat floodplain terraces (Figure 5). Colonies have been reported from all aspects, but are most commonly encountered on southerly exposures.

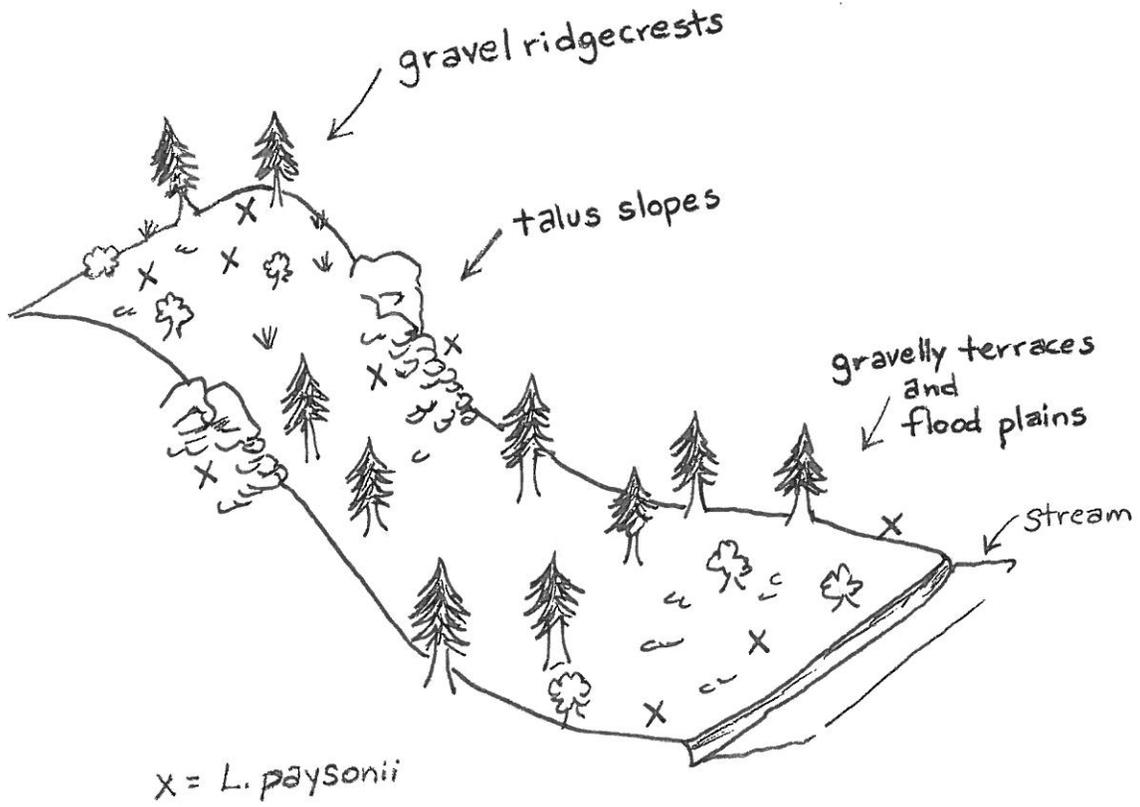
Elevation of Wyoming occurrences ranges from 5500-10,600 feet (1675-3230 m).

4. SOIL RELATIONSHIPS: Lesquerella paysonii populations are found primarily on substrates derived from limestone or dolomite. Soils are usually poorly developed, thin, and coarse-textured, with a surface layer of limestone gravel. Occasional populations have been reported from red sandstones, shales, and coarse alluvium. Part of the population at Kendall Warm Springs (EO # 002) is found on travertine deposits associated with thermal activity (Fertig 1995). L. paysonii is almost always absent from sites with deep, fine-textured, or moist soils.
5. REGIONAL CLIMATE: In Wyoming, the average annual precipitation within the range of Lesquerella paysonii varies from 14 inches (355 mm) in the northern Green River Basin to 60 inches (1524 mm) in the Gros Ventre, Teton, and Wyoming ranges (Martner 1986). Over most of this area, peak precipitation occurs from May-June and December-January. Mean annual temperature ranges from less than 32° F (0° C) in the high mountains to 36° F (2.2° C) in Jackson Hole. Mean maximum and minimum temperatures in January are 24 to 26° F (-4.4 to -3.3° C) and -2 to 2° F (-18.8 to -16.6° C). In July, mean maximum and minimum temperatures are 74 to 78° F (23.3 to 25.5° C) and 36 to 40° F (2.2 to 4.4° C) (Martner 1986).
6. LOCAL MICROCLIMATE: The ridgetop and upper slope habitats commonly occupied by Lesquerella paysonii

Figure 4 (page 19). Habitat of Lesquerella paysonii on gravelly, calcareous ridgetop along the Mount Hunt Divide (EO # 020), Grand Teton National Park. WYNDD photograph by Hollis Marriott, August 1992.



Figure 5. Topographic position of Lesquerella paysonii on the landscape. Illustration by W. Fertig.



accumulate little snow in the winter, and are thus drier than adjacent sites. The light-colored soils and sparsely vegetated habitats preferred by this species may also be warmer and drier than surrounding areas.

F. POPULATION BIOLOGY AND DEMOGRAPHY

1. PHENOLOGY: In Wyoming, Lesquerella paysonii flowers primarily from mid April to late June, although flowering may continue into August in wet years at high elevation. Fruits may be present from late June to late August.
2. POPULATION SIZE AND CONDITION: There are currently 34 extant populations of Lesquerella paysonii known in Wyoming. Available census data suggest that colonies may range in size from 10 to 1500 individuals and occupy areas of 1 to 30 acres (Shultz and Shultz 1978; Marriott 1993; Hartman and Nelson 1994; Fertig 1995; Markow 1996). Individual plants may be widely scattered or locally dense, depending on the amount of suitable habitat and seasonal moisture conditions. All age and size classes are typically present. Demographic data from extant occurrences in Wyoming is summarized in Table 2.

Trend data are lacking for nearly all occurrences of L. paysonii in Wyoming. Three populations that were first discovered in the 1920s (EOs # 002, 003, and 033) are known to have persisted to the present time. Short-term observations at Kendall Warm Springs (EO # 002) have shown that population size may change notably from year to year based on climate conditions. During drought conditions in 1994, Fertig (1995) observed 300-500 plants at 3 isolated locations. When the site was revisited during the wet summer of 1995, the population was found to contain 1000-1500 plants in one nearly continuous colony (Fertig, unpublished data). Individual plants were also observed to be more robust and produce more fruiting branches in the wetter year.

Census figures from 8 recently surveyed occurrences of L. paysonii in Wyoming suggest that the average size of each population is 350 to 600 plants. Based on these figures, the total population for the state is estimated at 11900 to 20400 individuals. Given the difficulty in observing individual plants and the amount of

Table 2. Demographic Information for Extant Populations of Lesquerella paysonii in Wyoming.

Occurrence # 002.

Area: 6 acres.

Number and Age of Plants: 1000-1500 plants observed in most recent survey in 1995. Flowering, fruiting, and seedling plants observed.

Density: Often patchy and restricted to suitable microsites.

Population Trend: This occurrence has been known since 1922. During the drought year of 1994, the population was estimated at only 300-500 plants. Population size may fluctuate yearly based on climate conditions and moisture availability.

Occurrence # 003.

Area: Not known.

Number and Age of Plants: Not known. Mature fruiting plants observed in 1994.

Density: Not known.

Population Trend: This population has been known since 1922.

Occurrence # 004.

Area: Not known.

Number and Age of Plants: Not known, although reported as "common" in 1978. Individuals observed in flower in 1992.

Density: Not known.

Population Trend: Occurrence has been known since 1978.

Occurrence # 005.

Area: Not known.

Number and Age of Plants: Not known. Observed in flower and fruit in 1978.

Density: Not known.

Population Trend: Last observed in 1978.

Occurrence # 006.

Area: Not known.

Number and Age of Plants: Reported as "frequent" in 1977 and observed in flower and immature fruit.

Density: Not known.

Population Trend: Last observed in 1977. This occurrence is based on immature fruiting material which might also represent L. carinata. Confirmation is needed.

Occurrence # 007.

Area: Not known.

Number and Age of Plants: Reported as "moderately abundant" in 1971 and observed in flower and fruit.

Density: Not known.

Population Trend: Last observed in 1971. Marriott (1990, 1993) was unable to relocate this population in 1990-92.

Occurrence # 008.

Area: Not known.

Number and Age of Plants: Observed in flower in 1986.

Density: Not known.

Population Trend: Last observed in 1986.

Occurrence # 010.

Area: less than 5 acres.

Number and Age of Plants: Reported to be "moderately common" and in early flower in 1992.

Density: Not known.

Population Trend: Population has been known since 1990.

Table 2 (continued).

Occurrence # 011.

Area: Not known.

Number and Age of Plants: Not known. Observed in fruit in 1979.

Density: Not known.

Population Trend: Last observed in 1979.

Occurrence # 012.

Area: Not known.

Number and Age of Plants: Not known. Observed in flower and fruit in 1979.

Density: Not known.

Population Trend: Last observed in 1979.

Occurrence # 014.

Area: Not known.

Number and Age of Plants: Not known. Observed in flower in 1985.

Density: Not known.

Population Trend: Last observed in 1985.

Occurrence # 015

Area: Not known.

Number and Age of Plants: Not known. Observed in flower and fruit in 1980.

Density: Not known.

Population Trend: Last observed in 1980.

Occurrence # 017.

Area: 30 acres.

Number and Age of Plants: 1 of 2 subpopulations estimated to contain 200-500 flowering and fruiting plants in 1996.

Density: Widely scattered to locally abundant.

Population Trend: Reported as "moderately common" in 1994. Population has been known since 1990.

Occurrence # 018.

Area: Not known.

Number and Age of Plants: Not known. Observed in flower and fruit in 1990.

Density: Not known.

Population Trend: Last observed in 1990.

Occurrence # 019.

Area: 5 acres.

Number and Age of Plants: 3 subpopulations with a total of 500-1000 fruiting plants were observed in 1992.

Density: Reported as "occasional to locally common".

Population Trend: Population known since 1992.

Occurrence # 020.

Area: 1 acre.

Number and Age of Plants: 50-200 plants observed in 1992.

Density: Observed to be locally common but restricted in distribution.

Population Trend: Population known since 1992.

Occurrence # 021.

Area: Not known.

Number and Age of Plants: Not known. Observed in flower in 1992.

Density: Not known.

Population Trend: Population known since 1992.

Table 2 (continued).

Occurrence # 022.
Area: 2-3 acres.
Number and Age of Plants: Over 500 flowering and fruiting plants and rosettes observed in limited area in 1995.
Density: Clumped.
Population Trend: Population known since 1992.

Occurrence # 023.
Area: Not known.
Number and Age of Plants: Not known.
Density: Not known.
Population Trend: Population known since 1992.

Occurrence # 024.
Area: Not known.
Number and Age of Plants: Not known.
Density: Not known.
Population Trend: Population known since 1992.

Occurrence # 025.
Area: Not known.
Number and Age of Plants: Not known.
Density: Not known.
Population Trend: Population known since 1992.

Occurrence # 026.
Area: Not known.
Number and Age of Plants: Not known.
Density: Not known.
Population Trend: Population known since 1992.

Occurrence # 027.
Area: Less than 1 acre.
Number and Age of Plants: Reported as "very uncommon" within the Afton Front proposed RNA in 1993, but possibly more widespread and abundant on adjacent ridges.
Density: Widely scattered.
Population Trend: Population has been known since 1993.

Occurrence # 028.
Area: Not known.
Number and Age of Plants: Not known.
Density: Not known.
Population Trend: Population has been known since 1993.

Occurrence # 029.
Area: Not known.
Number and Age of Plants: Not known. Observed in flower and immature fruit in 1994.
Density: Not known.
Population Trend: Population has been known since 1994.

Occurrence # 030.
Area: Not known.
Number and Age of Plants: Not known. Observed in fruit in 1994.
Density: Not known.
Population Trend: Population has been known since 1994.

Table 2 (continued).

Occurrence # 031.
Area: Not known.
Number and Age of Plants: Not known. Observed in fruit in 1994.
Density: Not known.
Population Trend: Population has been known since 1994.

Occurrence # 032.
Area: Not known.
Number and Age of Plants: Not known. Observed in fruit in 1994.
Density: Not known.
Population Trend: Population has been known since 1994.

Occurrence # 033.
Area: 10 acres.
Number and Age of Plants: 500-1000 fruiting plants observed in 1995.
Density: Not known.
Population Trend: Occurrence has been known since 1920.

Occurrence # 034.
Area: 0.1 acres.
Number and Age of Plants: Fewer than 10 fruiting plants observed in 1995.
Density: Not known.
Population Trend: Population has been known since 1995.

Occurrence # 035.
Area: 0.5 acres.
Number and Age of Plants: Estimated at over 100 fruiting individuals in 1995.
Density: Not known.
Population Trend: Population has been known since 1995.

Occurrence # 036.
Area: Not known.
Number and Age of Plants: Not known.
Density: Not known.
Population Trend: Population has been known since 1994.

Occurrence # 037.
Area: Not known.
Number and Age of Plants: Not known.
Density: Not known.
Population Trend: Population has not been observed since 1957.

Occurrence # 039.
Area: Not known.
Number and Age of Plants: Not known.
Density: Not known.
Population Trend: Last observed in 1978.

unsurveyed potential habitat, this estimate is probably very conservative. Elsewhere in its range, L. paysonii is known from "many thousands" of individuals in Idaho (Moseley 1996) and approximately 20,000 plants in Montana (Schassberger 1991).

3. REPRODUCTIVE BIOLOGY:

- a. TYPE OF REPRODUCTION: Lesquerella paysonii is known to reproduce only by seed.
- b. POLLINATION BIOLOGY: Bees and flies are the most commonly observed pollinators of species of Lesquerella (Rollins and Shaw 1973). The specific pollinators of L. paysonii are not known.
- c. SEED DISPERSAL AND BIOLOGY: Dispersal distances are probably short due to the prostrate growth form of this species (Moseley 1996). No specific long-distance dispersal mechanisms have been identified.

G. POPULATION ECOLOGY

1. GENERAL SUMMARY: Populations of Lesquerella paysonii are typically found on sparsely vegetated rocky ridgecrests, talus slopes, or floodplain terraces. Densities vary from sparse to locally abundant, depending on the distribution and amount of available habitat. Population size and plant vigor may vary from year to year depending on climate conditions and moisture availability. This species appears to be a poor competitor in habitats with dense cover or rich soils and is instead adapted to barren sites with poorly developed soils and little competition. Periodic disturbances may be necessary for the maintenance of existing habitat and the creation of potential habitat.
2. COMPETITION: Lesquerella paysonii is typically found on sites with low vegetative cover (typically 25-50%) and little to no canopy structure. It does not appear to compete well in adjacent areas with dense or tall vegetation and is completely absent from shaded sites. High rates of soil erosion and disturbance probably act to maintain the existing habitats of L. paysonii.

3. HERBIVORY: There is little evidence of herbivory on this species by large ungulates or domestic livestock. Fruits and inflorescences may be grazed by insects or small rodents.
4. HYBRIDIZATION: There is no evidence of hybridization between this and other species of Lesquerella.

H. LAND OWNERSHIP

1. US Forest Service

- a. Bridger-Teton National Forest: All or part of 28 extant and 4 historical occurrences of Lesquerella paysonii are known from Bridger-Teton National Forest (Table 3). Seven of these occurrences are found within the Gros Ventre Wilderness Area and 5 others are known or suspected to occur within proposed special management areas and research natural areas at Kendall Warm Springs (Fertig 1995), Afton Front (Fertig and Jones 1994 a), Swift Creek (Fertig and Jones 1994 b), and Big Fall Creek (Fertig 1996 b).
- b. Targhee National Forest: Three extant populations of L. paysonii are currently known from the Wyoming portion of the Targhee National Forest, based on recent field surveys by Stuart Markow. Seven additional occurrences are found on the Forest in Idaho (Moseley 1996).

2. Bureau of Land Management: One population is found near the Warren Bridge Campground on BLM lands managed by the Pinedale Resource Area.
3. National Park Service: All or part of 4 occurrences of L. paysonii are protected in Grand Teton National Park (Marriott 1990, 1993).

IV. ASSESSMENT AND MANAGEMENT RECOMMENDATIONS

- A. POTENTIAL THREATS TO CURRENTLY KNOWN POPULATIONS: The restricted geographic range of Lesquerella paysonii makes this species vulnerable to large scale habitat degradation or loss. Although most Wyoming populations appear to be secure at present, the following potential threats have been identified at certain sites:

Table 3. Land Management Status of Known Occurrences of Lesquerella paysonii in Wyoming.

1. Bridger-Teton National Forest

A. Big Piney Ranger District

EO # 001, in part ?

EO # 004, in part

EO # 022

EO # 028 (vicinity of proposed Big Fall Creek Special Management Area)

B. Buffalo Ranger District

EO # 038

C. Greys River Ranger District

EO # 004, in part

EO # 005

EO # 008

EO # 011, in part

EO # 012 (vicinity of proposed Swift Creek Research Natural Area)

EO # 013

EO # 014

EO # 015

EO # 016

EO # 021

EO # 023

EO # 024 (vicinity of proposed Swift Creek Research Natural Area)

EO # 025

EO # 026

EO # 027 (Afton Front proposed Research Natural Area)

EO # 039

D. Jackson Ranger District

EO # 001, in part ?

EO # 003, in part (Gros Ventre Wilderness Area)

EO # 006

EO # 011, in part

EO # 017, in part

EO # 029 (Gros Ventre Wilderness Area)

EO # 030 (Gros Ventre Wilderness Area)

EO # 031 (Gros Ventre Wilderness Area)

EO # 032 (Gros Ventre Wilderness Area)

EO # 033, in part

EO # 036 (Gros Ventre Wilderness Area)

EO # 037 (Gros Ventre Wilderness Area)

Table 3 continued

- E. Pinedale Ranger District
 - EO # 002 (Kendall Warm Springs proposed Special Management Area)
 - EO # 003, in part (Gros Ventre Wilderness Area)
 - EO # 018

- 2. Targhee National Forest
 - A. Palisades Ranger District
 - EO # 035

 - B. Teton Basin Ranger District
 - EO # 033, in part
 - EO # 034

- 3. BLM Rock Springs District
 - A. Pinedale Resource Area
 - EO # 010

- 4. Grand Teton National Park
 - EO # 007
 - EO # 017, in part
 - EO # 019
 - EO # 020

1. RECREATION: Impacts from trampling by hikers has been cited as the main threat to the more readily accessible populations in Grand Teton National Park and Bridger-Teton National Forest (Marriott 1993; Markow 1996). One population on Rendezvous Mountain (EO # 017) is threatened by planned construction of bicycle paths and utility lines associated with expansion of the Bridger Ridge Ski Area on Bridger-Teton National Forest lands. Markow (1996) has recommended rerouting these disturbances to avoid the occupied habitat of L. paysonii. Off-road vehicle activity and unregulated camping is a potential threat to streamside occurrences along the Cliff Creek Road (EO # 022). Trampling by fishermen could be a potential threat to plants on travertine outcrops along Kendall Falls (EO # 002) (Fertig 1995). Expansion of the Warren Bridge Campground (EO # 010) could impact populations at that site. Populations in roadless and wilderness areas do not appear to be threatened from recreational activity.
 2. GRAZING: Moseley (1996) cited grazing by sheep as a potential threat to Idaho populations. Long-term impacts from this activity are not known, but could impact the pollinators of Lesquerella paysonii. Schassberger (1991) noted that impacts from grazing appeared to be minor in Montana. Little evidence of herbivory on this species has been observed in Wyoming, and most populations in the state occur in areas where grazing does not occur.
 3. OTHER: Several populations of Lesquerella paysonii in the Wyoming and Salt River ranges occur in the vicinity of abandoned mine shafts, but do not appear to be adversely impacted at present. Large scale surface disturbances from potential future mining could have a negative impact. Competition from invading weed species is a potential threat in some locations where surface disturbances have taken place (Markow 1996).
- B. MANAGEMENT PRACTICES AND RESPONSE: No experimental data exist on the response of this taxon to most management actions.
- C. CONSERVATION RECOMMENDATIONS:
1. RECOMMENDATIONS REGARDING PRESENT OR ANTICIPATED ACTIVITIES: Nearly one-half of the known populations

of Lesquerella paysonii in Wyoming occur in areas that are adequately protected or that are sufficiently remote to be largely unaffected by management actions. Unnecessary surface disturbances, especially from recreational activity, should be avoided in occupied habitats that are more vulnerable or accessible. Road construction, campground expansion, and other related development activities should be routed away from areas used by this species when possible.

2. AREAS RECOMMENDED FOR PROTECTION: At least 11 occurrences of Lesquerella paysonii are currently protected within national parks and wilderness areas. Five other populations are known or suspected to occur within proposed special management areas or research natural areas on Bridger-Teton National Forest. Designation of these areas would ensure adequate management of this species over a representative sample of its range and habitats in the state.

D. STATUS RECOMMENDATIONS: Lesquerella paysonii was originally listed as Sensitive due to rangewide concerns over its long-term survival. At the time of listing, it was known from less than 20 populations (many of which were historical), and little was known of its population size and management needs. Intensive surveys during the past decade have resulted in the discovery or relocation of nearly 40 occurrences in Wyoming, Idaho, and Montana. In Wyoming, 16 of the 34 known extant populations occur in currently designated or proposed special management areas. Rangewide, populations have been found to be larger, more extensive, and less threatened than originally thought. In the absence of significant downward trends and threats, it is recommended that this species be dropped as Sensitive in USFS Region 4 and not be considered as a Candidate for listing under the Endangered Species Act. Moseley (1996) has made the same recommendation based on his studies in Idaho.

E. SUMMARY: Lesquerella paysonii is a regional endemic of west-central Wyoming, eastern Idaho, and southwestern Montana. Rangewide, the species is known from 44 extant occurrences. Individual populations range in size from 10-1500 plants in areas of 1-30 acres. The total Wyoming population is conservatively estimated at approximately 20,000 plants. L. paysonii typically occurs on sparsely vegetated, gravelly ridgetops, upper talus slopes, and rocky benches associated with calcareous substrates. Although some occurrences may be impacted by recreational use, most Wyoming

populations occur in sufficiently protected or inaccessible sites and are largely unthreatened by human-induced activities. Due to the low degree of threat and large number of protected occurrences, it is recommended that Lesquerella paysonii be dropped as a Sensitive species by the US Forest Service.

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