

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: *Potamogeton diversifolius* Raf. water-thread pondweed

Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	A	Known from comparatively few, widely scattered collections in ne-most (Crook Co) WY, SD (Charles Mix, Harding, Hughes, McPherson, Meade, and Sanborn Cos), NE (Clay, Keya Paha, and Sioux Cos), throughout KS, e CO (Baca, Boulder, El Paso, and Weld Cos). [Vouchers at KANU from Baca Co, CO; 19 cos in KS; Clay and Sioux Cos, NE; Charles Mix, Meade, and Sanborn Cos, SD; and Crook Co, WY.] Status: G5; CO S1; NE S1; WY S1 Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> • Dorn 1992 • Freeman in prep. • Great Plains Flora Association 1977 • Hartman 1997 • Hazlett 1998 • Larson & Barker 1991 • Weber 1995 • Weber & Wittman 2001
2 Distribution outside R2	C	Widely but discontinuously distributed throughout the US. Mapped by Reznicek & Bobbette and Haynes & Hellequist from throughout the e US, from nw and e SD, e to NY; thence s to central FL; thence w through e TX; thence n and w to sw CO; thence n and e through se NE. Disjunct population from nw MT, sw and w to sw ID, central CA, and n-central AZ; also in sw TX, MA, and VT. Also in Mexico. Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> • Haynes & Hellequist 2000 • Reznicek & Bobbette 1976
3 Dispersal Capability	B	Catling & Dobson, and Philbrick & Anderson report that emergent spikes of most members of genus are wind pollinated and submerged spikes water pollinated and autogamous ("hydroautogamous," Philbrick & Anderson). In the species that Catling & Dobson studied, the weedy <i>P. crispus</i> , seed is assumed to be dispersed by a combination of water and vertebrate animals, particularly migratory water fowl. In addition, those authors postulate that <i>P. crispus</i> seed may have been spread in North America as ponds were stocked with hatchery-raised fish. They report that another way in which <i>P. crispus</i> has increased its range via vegetative propagules ("dormant apices"), which are largely dispersed by water movement. Evaluator was unable to find any direct information about <i>P. diversifolius</i> ' dispersal capability; however, it is likely that species takes advantage of one or more of the same methods of dispersal and limited largely by habitat requirements. Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> • Catling & Dobson 1985 • Philbrick & Anderson 1987
4 Abundance in R2	A/D	Herbarium records suggest species is rather scarce outside of KS, where it is most common in the se 2/3 of the state. Haynes & Hellequist remark species is "likely the most common species of the genus in the se US" and appears that species is also more or less se in its R2 distribution. It may be that records from more n parts of the Region are the results of casual introductions [rank A]. It should also be noted, however, that members of genus are comparatively difficult to collect and identify, and are frequently passed over by casual botanizers. It may be that species is more common in R2 than herbarium records suggest [rank D]. Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> • Haynes & Hellequist 2000
5 Population Trend in R2	D	Evaluator was unable to find any information about population trends in R2. Further research on species' distributed and abundance in the Region is warranted. Confidence in Rank High or Medium or Low	

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6 Habitat Trend in R2	C	Species is reported to occur in wide array of aquatic habitats, including (sometimes very) shallow water of ditches, ponds, lakes, streams, and rivers; or occasionally on mud flats. Observation of herbarium specimen labels at KANU suggest that in KS species has been collected mostly in non-natural habitats such as ditches or stock ponds. Confidence in Rank High or Medium or Low	<ul style="list-style-type: none"> • Haynes & Hellequist 2000 • Larson & Barker 1991 • Reznicek & Bobbette 1976
7 Habitat Vulnerability or Modification	C	Evaluator was unable to find any information on habitat vulnerability. Given the comments in sect 6, however, I assume species' habitat is quite resilient to modification. Confidence in Rank High or Medium or Low	
8 Life History and Demographics	B	Weak perennial, floating to submerged aquatic forb. Flowering late May to early July; fruiting late June through mid September. Evaluator was able to find little other information on species' life history [but see sects 3 and 6]. Confidence in Rank High or Medium or Low	
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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>	<u>Known</u>	<u>Likely</u>	<u>Kansas NF/NG</u>	<u>Known</u>	<u>Likely</u>	<u>Nebraska NF/NG</u>	<u>Known</u>	<u>Likely</u>	<u>South Dakota NF/NG</u>	<u>Known</u>	<u>Likely</u>	<u>Wyoming NF/NG</u>	<u>Known</u>	<u>Likely</u>
Arapaho-Roosevelt NF		X	Cimmaron NG		X	Samuel R. McKelvie NF		X	Black Hills NF		X	Shoshone NF		
White River NF						Halsey NF		X	Buffalo Gap NG		X	Bighorn NF		
Routt NF						Nebraska NF		X	Ft. Pierre NG		X	Black Hills NF	X5	
Grand Mesa, Uncompahgre, Gunnison NF						Ogalala NG	X4					Medicine Bow NF		
San Juan NF												Thunder Basin NG		X?
Rio Grande NF														
Pawnee NG	X2													
Pike-San Isabel NF		X												
Comanche NG	X3													

2 Voucher cited in Hazlett (1998).

3 KANU catalog # 270435: CO, Baca Co: 18 mi S, 6 mi W Pritchett, 30 Sept 1972, S. Stephens 62871.

4 KANU catalog # 315874: NE, Sioux Co: Oglala NG, 0.5 mi N Sugar Loaf Rd, W side Pasture 31E, T34N R53W S22 mid E¼, 13 Jul 1996, S.B. Rolfsmeier 12578; KANU catalog # 315879: NE, Sioux Co: Oglala NG, 0.75 mi ENE Sugar Loaf Butte in Pasture 31E, T34N R53W S23 SW¼ SW¼, 13 Jul 1996, S.B. Rolfsmeier 12574.

5 KANU catalog # 270414: WY, Crook Co: ca 6 airri SE Alva, Black Hills, Bear Lodge Mtns, T54N R62W S20, Elev 4700 ft, 25 Jul 1982, H. Marriott 1642.

REFERENCES

Catling, P.M. and I. Dobson. 1985. The biology of Canadian weeds. 69. *Potamogeton crispus* L. *Can. J. Plant Sci.* 65: 655–668.

Dorn, R.D. 1992. *Vascular Plants of Wyoming*. Mountain West Publishing. Cheyenne, Wyoming. iv + 340 pp.

Freeman, C.C. (in prep.) Checklist of the Vascular Plants of the Grassland Biome of Central North America.

Great Plains Flora Association. 1977. *Atlas of the Flora of the Great Plains*. Iowa State University Press. Ames, Iowa. xii + 600 pp.

Hartman, R.L. 1997. *Atlas of the Vascular Plants of Wyoming*. Published by the author at Rocky Mountain Herbarium, University of Wyoming. Laramie, Wyoming. [unpaginated]

Haynes, R.R. and C.B. Hellequist. 2000. Potamogetonaceae, pp. 47–74 in Flora of North America Editorial Committee, *Flora of North America North of Mexico, Vol. 22: Magnoliophyta: Alismatidae, Arecidae, Commelidae (in part), and Zingiberidae*. Oxford University Press. New York, New York. xxiii + 352 pp.

Hazlett, D.L. 1998. Vascular plant species of the Pawnee National Grassland. General Technical Report RMRS-GTR-17. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Fort Collins, Colorado. 26 pp.

Larson, G.E. and W.T. Barker. 1991. Potamogetonaceae, pp. 1032–1039 in Great Plains Flora Association, *Flora of the Great Plains*. University Press of Kansas. Lawrence, Kansas. vii + 1402 pp.

Philbrick, C.T. and G.J. Anderson. 1987. Implications of pollen/ovule ratios and pollen size for the reproductive biology of *Potamogeton* and autogamy in aquatic angiosperms. *Syst. Bot.* 12: 98–105.

Reznicek, A.A. & R.S.W. Bobbette. 1976. The taxonomy of *Potamogeton* subsection *Hybridi* in North America. *Rhodora* 78: 650–673.

Weber, W.A. 1995. Checklist of the vascular plants of Boulder County, Colorado. *Nat. Hist. Invent. Colorado* 16: 1–66.

Weber, W.A. and R.C. Wittman. 2001. *Colorado Flora: Eastern Slope* (3rd Edition). University Press of Colorado. Boulder, Colorado. xl + 521 pp.