

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: <i>Strophitus undulatus</i> (Say, 1817) Creeper (Scientific Name/Common Name/National Code for Plants – USDA PLANTS)			
Criteria	Rank	Rationale	Literature Citations
1 Distribution within R2	B	<p>This species is distributed throughout the Rocky Mountain Region with the exceptions of Colorado (historical only) and Wyoming. In Nebraska, Roedel (1990) found specimens rarely in the South Channel of the Platte River (near Wood River), Hall County. Peyton and Maher (1992; 1995) found throughout the Platte River Valley and irrigation canals west from Overton in Phelps to Gasper to Dawson to Lincoln Counties. In Kansas, Franzen and Leonard (1943) listed the species (as <i>Strophitus rugosus</i> (Swainson, 1822)) from the Wakarusa River as two dead shells while Murray and Leonard (1962) (also as <i>S. rugosus</i>), Couch (1997), and Bleam et al. (1999) described it from scattered locations in the Verdigris, Neosho, Spring, and Osage River drainages in the eastern five tiers of counties. It has also been recently documented in the extreme southeast portion of Kansas (Obermeyer et al., 1995) specifically in the Spring River in Cherokee County (as <i>S. rugosus</i>) (Branson, 1966a; 1966b). In South Dakota, it has been recorded from Lake Kampeska, Codington County; and Hidewood Creek, Deuel County (Over, 1942).</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Bleam et al., 1999 • Branson, 1966a; 1966b • Couch, 1997 • Franzen and Leonard, 1943 • Murray and Leonard, 1962 • Obermeyer et al., 1995 • Over, 1942 • Peyton and Maher, 1992; 1995 • Roedel, 1990
2 Distribution outside R2	C	<p>This species is distributed widely in the Interior Basin from central Texas to Lake Winnipeg, Canada; the Atlantic drainage in the upper Savannah River system of South Carolina north to the St. Lawrence River system and Nova Scotia; the Canadian Interior Basin in the Nelson River drainage from western Ontario to Saskatchewan (Burch, 1975).</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Burch, 1975
3 Dispersal Capability	B	<p>This species, as evidenced by its wide overall distribution, has a remarkable dispersal capability likely due to its life cycle and adaptability to varied habitats (see below). It also appears to be a fish host generalist with a variety of host fish for the parasite larval stage (Cliff et al., 2001). The Rocky Mountain Region represents its westernmost range (formerly Colorado, now Kansas and Nebraska).</p> <p>Confidence in Rank High</p>	<ul style="list-style-type: none"> • Cliff et al., 2001

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4 Abundance in R2	B	In Nebraska, the species is extremely rare (Roedel, 1990). Freeman and Perkins (1992) found only one worn valve in their Platte River survey. Peyton and Maher (1995) found it accounted for 0.20% relative abundance of their survey of almost 9000 specimens on the Platte River. Although its range is widespread compared to other sensitive unionid species in the Rocky Mountain Region, specimens are present only in small numbers consistently among sites (Bleam et al., 1999). Confidence in Rank High	<ul style="list-style-type: none"> • Bleam et al., 1999 • Freeman and Perkins, 1992 • Peyton and Maher, 1995 • Roedel, 1990
5 Population Trend in R2	A	Despite a wide range, individual populations appear to be declining. The species apparently once occurred in Colorado but has been subsequently extirpated from the state (Brandauer and Wu, 1989; Cordeiro, 1999; museum specimens LACM 140605; 140606). Kansas populations have disappeared from the Smoky Hill River in Salme County, Ninnescah River of Ren County, and the south fork of Big Nemaha River basin (Couch, 1997) since Murray and Leonard (1962). Populations present in 1979 in the Walnut River basin were absent in 1999 (Langley, 2000). Only two dead shells were found in the Wakarusa River in 1943 (Franzen and Leonard, 1943). Freeman and Perkins (1992) found only one worn, weathered shell valve (tentatively identified) in their Platte River Survey indicating historical populations in Nebraska may have disappeared. Confidence in Rank High	<ul style="list-style-type: none"> • Bleam et al., 1999 • Brandauer and Wu, 1989 • Cordeiro, 1999 • Couch, 1997 • Franzen and Leonard, 1943 • Freeman and Perkins, 1992 • Langley, 2000 • Murray and Leonard, 1962 • Museum specimens: LACM 14605; 140606
6 Habitat Trend in R2	A	Available habitat is decreasing with human encroachment and increased water use for agriculture. Although the range is widespread, though scattered, specimens are present in only small numbers (Bleam et al., 1999). Extirpation in Colorado is attributed to loss of habitat (Cordeiro, 1999). Confidence in Rank High	<ul style="list-style-type: none"> • Bleam et al., 1999 • Cordeiro, 1999

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7 Habitat Vulnerability or Modification	A	Habitat in these areas is subject to increased water use for irrigation. Rivers, once primary habitat for mussels in Colorado, have been channelized and impounded leading to excessive siltation and subsequent disappearance of mussel fauna (Cordeiro, 1999). Almost all existing mussel species remaining in Colorado are confined to human created reservoirs of recent origin; historical sites no longer exist (Cordeiro, 1999). Confidence in Rank Medium	<ul style="list-style-type: none"> • Cordeiro, 1999
8 Life History and Demographics	B	The species is adaptable to a variety of aquatic habitats from high gradient streams to channelized, slow rivers (Parmalee and Bogan, 1998, Tennessee) and to lakes and ponds (personal observation in New England states, 2001). A wide variety of host fish for the parasitic larval stage (Cliff et al., 2001) plus ability to complete the life cycle without a fish host (Lefevre and Curtis, 1910) also contribute to the wide range. Individuals are bradyctictic with reproductive period from July to April and May (Baker, 1928). Confidence in Rank Medium	<ul style="list-style-type: none"> • Baker, 1928 • Cliff et al., 2001 • Lefevre and Curtis, 1910 • Parmalee and Bogan, 1988
Evaluator(s): James R. Cordeiro			Date: 8/10/01

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>Kansas NF/NG</u>		<u>Nebraska NF/NG</u>		<u>South Dakota NF/NG</u>		<u>Wyoming NF/NG</u>	
Known	Likely	Known	Likely	Known	Likely	Known	Likely	Known	Likely
		Cimmaron NG		Samuel R. McKelvie NF		Black Hills NF		Shoshone NF	
				Halsey NF	X	Buffalo Gap NG		Bighorn NF	
				Nebraska NF		Ft. Pierre NG		Black Hills NF	
				Ogalala NG				Medicine Bow NF	
								Thunder Basin NG	