

Northern Redbelly X Finescale Dace (*Phoxinus eos x phoxinus neogaeus*)

Reviewers = Bob Bramblett and Dave Stagliano

Montana Chapter of the American Fisheries Society Species of Concern Committee

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- 1) **Population Size = U** **U = unknown** (estimates from sample data could be unreliable because this hybrid is difficult to distinguish from northern redbelly dace and are all over the place when extrapolated and could range from 5,800-11,000 individuals).

- 2) **Area of Occupancy = Linear Distance LC = >40-200km (about 25-125 miles)**
Linear Range was calculated to be a conservative 68 km (42 miles) of actual documented occupied streams to a more liberal river extent of 136 km (85 miles) based on MFISH river miles calculations associated with surveys, scores either way came out the same. **C**

- 3) **Long-term Trend---** Even though prairie streams and rivers have been impacted by grazing, dams, exotic species, and dewatering, they have probably been pretty stable in terms of water since the arrival of Europeans within +/-25%, but, lack of early survey information prevents knowledge of trends within reasonable certainty. **U Unknown**

- 4) **Short-term Trend** Unknown or difficult to assess. Distribution data is not as sensitive in detecting decline as regular monitoring of a network of sites. Due to difficulties of field differentiation it is likely that some waters thought to contain only northern redbelly dace may also have the hybrid potentially increasing known range. *Phoxinus* spp. are not extremely common across their range in Montana, but locally can be abundant. Few prairie streams in Montana have the clear pool-type habitat preferred by *Phoxinus* spp. Due to the limited distribution and knowledge of this species it is important to reduce impacts to their known occupied habitat, such as is described for Big Coulee Creek, Montana (Palmer 1994) (AFS website 2003). **U Unknown**

- 5) Threats--- Intensive agriculture, overgrazing, road crossings, dams, and exotic species (Northern Pike in particular) and climate change in vulnerable prairie habitat all represent threats.
Severity = Moderate. Species is capable of recovering quickly if suitable habitat is available. Perhaps the majority of prairie streams affected by intensive agriculture are capable of recovering to the point of supporting populations within 50 years.

Scope = High. >60% of hybrid dace range overlaps with the introduced range of Northern Pike. It is difficult to ascertain whether Hybrids are absent from streams as a result of the introduction of Northern Pike because historic data is poor and historic identifications may have been confused with N. Redbelly Dace--- intensive agriculture probably threatens the species in 25% of its Montana Range.

Immediacy = High. Ongoing and Present in a large part of their range. A

- 6) **Intrinsic Vulnerability** Not Intrinsicly Vulnerable. Matures quickly and able to reproduce quickly with a high fecundity when conditions are suitable. Longevity of 2-4 years, but may have trouble dispersing between prairie habitats. **C**

- 7) **Environmental Specificity** Narrow specialist in terms of available habitat in most prairie stream types and its relationship with the Northern Redbelly Dace males as surrogate host fish for spawning and reproduction. Seem to need a series of key environmental requirements to persist. **B**

Points (P)	SRANK
$P \leq 1.5$	S1
$1.5 < P \leq 2.5$	S2
$2.5 < P \leq 3.5$	S3
$3.5 < P \leq 4.5$	S4
$P > 4.5$	S5

Current S Rank **S3**

#1 scores-- 0.0

#2 scores-- (-0.5)

#4 score--U= 0.0 (Short term trend is preferred over long-term, if you have both)

#5 score- (-1.0)

#6 scores- 0.0

#7 scores-- (0.0)

Raw Score

Step 2. Combination of Geographic Distribution and Environmental Specificity are used for next step

Step 3. Start with 3.5, subtract -0.5 (-0.5+0.0) = 3.0

Step 4. Start with P= 3.0 + 0 (Short term trends) + -1.0 (Threats) = 2.5

Heritage State Rank is calculated= S2

Proposed Rank

S2