

Pearl Dace - *Margariscus margarita*

Abundance: Extremely rare

Status: NSS2 (Ab)

NatureServe: G5 S1

Population Status: Imperiled because of greatly restricted distribution. Found only in Niobrara River drainage at very few locations.

Limiting Factor: Habitat: severe due to limited habitat in Wyoming.

Comment: Changed from NSS1 in 2005 due solely to changes in the matrix.

Introduction

The species was referred to as northern pearl minnow by Simon (1951) and northern pearl dace by Baxter and Simon (1970). Pearl dace are found across the northern United States and Canada with populations in the U.S. sporadically distributed along the Canadian border from Montana to Maine. Their distribution extends south to Nebraska (Cunningham 2006). The population in Wyoming is considered a glacial relict population and is found in the Niobrara River and Van Tassell Creek in the Niobrara River drainage (Moan et al. 2010).

Pearl dace are sight-feeding foragers, actively feeding on aquatic macroinvertebrates and zooplankton. They spawn when water temperatures are around 61 °F to 64 °F, generally mid April to mid May. Females spawn multiple times per year over cobble or gravel substrates. Males defend egg deposit sites, but no parental care is given.

In Wyoming pearl dace are found with brassy minnow, creek chub, fathead minnow, finescale dace, plains topminnow, central stonerollers and white suckers. When present, pearl dace commonly dominate species composition making up more than 70% of species collected (Bear and Barrineau 2007; Moan et al. 2010).

Habitat

Pearl dace prefer slow moving, spring-fed streams with well-vegetated banks (Cunningham 2006). They are frequently found in cool clear headwater drainages, with deep pools and sand or gravel substrates. Pearl dace are most commonly found in the absence of large predatory fish (Cunningham 2006). In Wyoming pearl dace were collected at sites with clear, slow moving or stagnant water with heavy aquatic vegetation and predominantly silt substrate. Mean water depths were greater than 1.5 ft deep and no large predatory fish were collected in association with pearl dace (Moan et al. 2010)

Problems

- h Potential upstream distribution of northern pike from Nebraska. Pike were found in Nebraska roughly 44 river miles downstream of the border (Pegg and Pope 2008).
- h Restricted population, making them susceptible to extirpation from disease and habitat alterations.
- h Landowner cooperation is critical to future conservation efforts for pearl dace, since 95 % of the Niobrara River is on private land.

Conservation Actions

- h Investigate pearl dace behavior and habitat utilization within Wyoming.
- h Continue to exclude stocking of non-native fish in the mainstem Niobrara River.

Monitoring/Research

Evaluate the need and design for a monitoring plan. Existing data suggest annual or biannual, single event presence/absence sampling of pearl dace populations at the Nebraska border to facilitate the assessment of population trends. Finescale dace can be monitored concurrently.

Coordinate with Nebraska Game and Parks Commission and National Parks Service to monitor invasive species influence, especially northern pike, from Nebraska.

Recent Developments

WGFD surveys were conducted on the Niobrara River in 2004 (Bear and Barrineau 2007) and 2008 (Moan et al. 2010) to develop a baseline understanding of the fish assemblage. Pearl dace have been found at similar sampling locations during each survey.

References

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- Bear, B., and C. Barrineau. 2007. Status of habitat and native fish in southeast Wyoming prairie streams. Wyoming Game and Fish Department Administrative Report, Cheyenne.
- Moan, C. A., M. M. McGree, and G. P. Edwards, Jr. 2010. Prairie stream conservation in southeast Wyoming. Wyoming Game and Fish Department Administrative Report, Cheyenne, WY.
- Pegg, M.A. and K.L. Pope. 2008. Agate Fossil Beds National Monument fish inventory. National Park Service Midwest Region Final Report.
- Cunningham, G.R. 2006. Pearl Dace (*Margariscus margarita*): a technical conservation assessment. USDA Forest Service, Rocky Mountain Region. Available: <http://www.fs.fed.us/r2/projects/scp/assessments/pearldace.pdf>.

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SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: April 2010. Wyoming Game and Fish Department. Note that brown indicates the current known range of the species.