

Scientific Name: *Dionda episcopa*
Common Name: Roundnose minnow
BISON No.: 010300

Legal Status:

- | | | |
|---------------------------------------|------------------------------|------------------------------|
| ➤ Arizona, Species of Special Concern | ➤ ESA, Proposed Threatened | ➤ New Mexico-WCA, Threatened |
| ➤ ESA, Endangered | ➤ ESA, Threatened | ➤ USFS-Region 3, Sensitive |
| ➤ ESA, Proposed Endangered | ➤ New Mexico-WCA, Endangered | ➤ None |

Distribution:

- | | |
|---|---------------------------|
| ➤ Endemic to Arizona | ➤ Southern Limit of Range |
| ➤ Endemic to Arizona and New Mexico | ➤ Western Limit of Range |
| ➤ Endemic to New Mexico | ➤ Eastern Limit of Range |
| ➤ Not Restricted to Arizona or New Mexico | ➤ Very Local |
| ➤ Northern Limit of Range | |

Major River Drainages:

- | | |
|------------------------|-----------------------------|
| ➤ Dry Cimmaron River | ➤ Rio Yaqui Basin |
| ➤ Canadian River | ➤ Wilcox Playa |
| ➤ Southern High Plains | ➤ Rio Magdalena Basin |
| ➤ Pecos River | ➤ Rio Sonoita Basin |
| ➤ Estancia Basin | ➤ Little Colorado River |
| ➤ Tularosa Basin | ➤ Mainstream Colorado River |
| ➤ Salt Basin | ➤ Virgin River Basin |
| ➤ Rio Grande | ➤ Hualapai Lake |
| ➤ Rio Mimbres | ➤ Bill Williams Basin |
| ➤ Zuni River | |
| ➤ Gila River | |

Status/Trends/Threats (narrative):

None listed in US. Mexico: Endangered. Extirpated from all but five localities in NM because of habitat alterations (NM Dept. G&F 1978).

Distribution (narrative):

The roundnose minnow occurs in the Pecos River in Texas including the Big Bend region of the Rio Grande and northern Mexico (Sublette et. al. 1990). The roundnose minnow is currently found in the middle and lower elevations of the Pecos Valley (Sublette et. al. 1990). At one time this was the dominant species in the lower Pecos River valley (Koster 1957). Historically the species also occupied the Rio Grande (Sublette et. al. 1990). West-central Texas (Colorado, San Antonio, Nueces, and Rio Grande drainages, middle to lower elevations of Pecos Valley in NM

and northern Mexico (Lee et. al. 1981, Fishbase 2002). Now, restricted to headwater springs from Santa Rosa to the Carlsbad area such as those in the Black River drainage (Cowley and Sublette 1987).

Key Distribution/Abundance/Management Areas:

Panel key distribution/abundance/management areas:

Breeding (narrative):

Hubbs (1951) observed breeding in seep springs, Nueces River. Mass spawning occurs in spring at water temperatures of 17-18 C (Hubbs 1951, Lee et. al. 1981). Eggs are heavy, but nonadhesive, lodging in gravel of spring***(Hubbs 1951, Lee et. al. 1981, Sublette et. al. 1990).

Habitat (narrative):

In habits rocky pools, sometimes runs, creeks and small rivers. Often found among filamentous algae (Fishbase 2002). Often abundant in shallow, vegetated pools of clear, low gradient rivers and creeks (Lee et. al. 1981). The roundnose minnow lives in shallow pools of low gradient rivers and streams with an abundance of aquatic vegetation (Sublette et. al. 1990).

Key Habitat Components: shallow waters, aquatic vegetation

Breeding Season:

- January
- February
- March
- April
- May
- June
- July
- August
- September
- October
- November
- December

Panel breeding season comments:

Aquatic Habitats:

Large Scale:

- Rivers
- Streams
- Springs
- Spring runs
- Lakes
- Ponds
- Sinkholes
- Cienegas
- Unknown
- Variable

Small Scale:

- Runs
- Riffles
- Pools
- Open Water
- Shorelines

Panel comments on aquatic habitats:

Important Habitat Features (Water characteristics):

Current

- Fast (> 75 cm/sec)
- Intermediate (10-75 cm/sec)
- Slow (< 10 cm/sec)
- None
- Unknown
- Variable

Gradient

- High gradient (>1%)
- Intermediate Gradient (0.25-1%)
- Low Gradient (<0.25%)
- None
- Unknown
- Variable

Water Depth

- Very Deep (> 1 m)
- Deep (0.25-1 m)
- Intermediate (0.1-0.25 m)
- Shallow (< 0.1 m)
- Unknown
- Variable

Panel comments on water characteristics:

Important Habitat Features (Water Chemistry)

Temperature (general)

- Cold Water (4-15°C)
- Cool Water (10-21°C)
- Warm Water (15-27°C)
- Unknown
- Variable

Turbidity

- High
- Intermediate
- Low
- Unknown
- Variable

Conductivity

- Very High (> 2000 $\mu\text{S}/\text{cm}$)
- High (750-2000 $\mu\text{S}/\text{cm}$)
- Intermediate (250-750 $\mu\text{S}/\text{cm}$)
- Low (< 250 $\mu\text{S}/\text{cm}$)
- Unknown
- Variable

Panel comments on water chemistry:

Important Habitat Features (Structural elements):

Substrate

- Bedrock
- Silt/Clay
- Detritus
- Sand
- Gravel
- Cobble
- Boulders
- Unknown
- Variable

Cover

- Rocks, boulders
- Undercut banks
- Woody debris
- Aquatic vegetation
- Rootwads
- Not important
- Overhanging vegetation
- Unknown
- Variable

Panel comments on structural elements:

Diet (narrative):

The roundnose minnow is an herbivore (Sublette et. al. 1990). Little studied, feeds mostly on vegetation (Lee et. al. 1981). Feeds mainly on algae and other plants (Fishbase 2002).

Diet category (list):

- Planktivore
- Herbivore
- Insectivore
- Piscivore (Fish)
- Omnivore
- Detritivore

Grazing Effects (narrative):

Domestic livestock grazing could have an effect on the roundnose minnow because it occupies low gradient shallow habitats containing aquatic vegetation. Direct impact in form of disturbance of spawning products, removal of vegetation, and trampling of demersal eggs could occur with grazing.

Panel limiting habitat component relative to grazing and comments:

Panel assessment: Is this species a priority for selecting a grazing strategy?
Throughout the species' distribution in New Mexico and Arizona
YES NO UNKNOWN
In key management area(s)
YES NO UNKNOWN

Principle Mechanisms Through Which Grazing Impacts This Species (list):

May be Revised

- | | | |
|--|-------------------------------------|-------------------------------------|
| ➤ Alteration of bank structures | ➤ Altered bank vegetation structure | ➤ Increased turbidity |
| ➤ Alteration of substrate | ➤ Change in food availability | ➤ Other biotic factors |
| ➤ Alteration of water regimes | ➤ Change in water temperature | ➤ Parasites or pathogens |
| ➤ Altered stream channel characteristics | ➤ Change in water quality | ➤ Population genetic structure loss |
| ➤ Altered aquatic vegetation composition | ➤ Habitat fragmentation | ➤ Range improvements |
| | | ➤ Trampling, scratching |
| | | ➤ Unknown |

Panel causal mechanisms comments:
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Authors

- **Draft:** Rinne, J.N. and Magaña, H.A.
- **GP 2001:**
- **GP 2002:**
- **Revision:**

Bibliography:

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Lee, D. S. Gilbert C. R. Hocutt C. H. Jenkins R. E. Callister D. E. and Stauffer J. R., 1981. Atlas of North American Freshwater Fishes: North Carolina, North Carolina State Museum of Natural History, 1981, c1980

Sublette, J. E., M. D. Hatch, and M. Sublette. 1990. The Fishes of New Mexico. University of New Mexico Press. Albuquerque. 393 pp.