Scientific Name: *Campostoma anomalum*
Common Name: Central stoneroller
BISON No.: 010480

Legal Status:

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

Distribution:

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

Major River Drainages:

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

Status/Trends/Threats (narrative):

State NM: Provides limited protection
The threat to the central stoneroller is that hybrids have been reported with Rio Grande chub, Southern redbelly dace, creek chub, and longnose dace (Goodfellow et al. 1982).

Distribution (narrative):

The central stoneroller is widespread and ubiquitous throughout, much of central eastern United States, extending as an isolated population into Rio San Juan, Mexico (Lee et. al. 1981). The central stoneroller is one of the most characteristic inhabitants of rifles in middle elevations of the Pecos, Canadian, and Arkansas drainages (Sublette et al. 1990). The largest populations of central stonerollers in New Mexico occur in the Dry Cimarron (Sublette et al. 1990).

Key Distribution/Abundance/Management Areas:

Panel key distribution/abundance/management areas:

Breeding (narrative)**:**

Breeding individuals often found in pools adjacent to riffles (Lee et al 1981). Spawning occurs in spring or early summer when water temperatures are between 13 and 27º C (Sublette et al 1990). Spawning sites are typically shallow portions of streams near deep pools where nonadhesive eggs are deposited in nests scooped out by several males in a gravel substrate, thus the name "stoneroller" (Sublette et al 1990). After fertilization, eggs are buried and left unguarded and incubate in 2-4 days, depending on water temperature (Sublette et al 1990).

Habitat (narrative)**:**

The central stoneroller is characteristic of small to medium-sized streams with clear, cool water, moderate to rapid current, gravel or rubble bottom, and pools or riffles (Lee et al.1981). The central stoneroller is tolerant of turbid, silty waters (Lee et. al.1981). The central stoneroller is commonly found in pools with current and rifles of small rocky streams, and it also occurs in medium to large rivers (**Becker 1983**). In the Cimarron drainage, it occurs in slow-flowing, turbid water, in gravel rifles, or in adjacent pools (Sublette et al 1990).

Riffle habitats of Pecos, Canadian and Arkansas rivers. Primarily in rocky bottomed riffles but also in pools with current. In the Cimmaron river commonly inhabits slow-flowing, turbid water over gravel substrates.

Key Habitat Components: rocky bottomed riffles, also pools

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:

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 µS/cm)
- High (750-2000 µS/cm)
- Intermediate (250-750 µS/cm)
- Low (< 250 µS/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)**:**

This species is primarily herbivorous, feeding diurnally on filamentous algae and diatoms (Fowler and Taber 1985), but also taking deritus and aquatic insects from the aufwuchs (periphyton) assemblage on rock surfaces (McNeely 1987).

The species is primarily herbivorous feeding on filamentous algae and diatoms, but also consumes detritus and aquatic insects. Obvious scars are left in substrates where feeding has occurred.

Diet category (list):

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

Grazing Effects (narrative):

No information on the potential or real impact to the species. Impacts on small stream riffle habitats is a possible impact to the species. Spawning in shallow waters present a possible threat to direct, hoof impact to the species.

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

Panel causal mechanisms comments:

Authors

- **Draft:**
- **GP 2001:**
- **GP 2002:**
- **Revision:**

Bibliography:

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