

Scientific Name: *Ictalurus lupus*
Common Name: Headwater catfish
BISON No.: 010110

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):

Federal (USDI): Species of concern, State NM: Species of concern.

The status of populations of the headwater catfish is diminishing in the Pecos River drainage Sublette et al. (1990).

The greatest threat to headwater catfish is competition and/or hybridization with channel catfish in the greatly perturbed streams of New Mexico, and has eliminated the headwater catfish from most of its original range (Sublette et al. 1990).

Distribution (narrative):

Range as from Rio Grande to Colorado River drainages (apparently extirpated from the latter; Lee et al. 1981), although Koster (1957) indicated occurrence in New Mexico headwater catfish are restricted to lower parts of Pecos River system of Rio Grande drainage. Headwater catfish

are native to the Pecos drainage downstream of Sumner Reservoir, and the headwater catfish also occurs in the Pecos River, middle Rio Grande River and Cuatro Cienegas basins (Sublette et al. 1990).

Key Distribution/Abundance/Management Areas:

Panel key distribution/abundance/management areas:

Breeding (narrative):

Detailed accounts of spawning behavior and ecological requirements for headwater catfish have not been conducted, however, the headwater catfish is believed to be similar to channel catfish (Sublette et al. 1990).

Habitat (narrative):

The headwater catfish is supposedly ecologically restricted to headwater situations (Lee et al. 1981). The headwater catfish occupies clear temperate waters generally with a moderate gradient (Sublette et al. 1990). It has persisted in headwater streams, or in fluctuating tail waters of dams in the Pecos River in New Mexico (Sublette et al. 1990).

Breeding Season:

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

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 $\mu\text{S/cm}$)
- High (750-2000 $\mu\text{S/cm}$)
- Intermediate (250-750 $\mu\text{S/cm}$)
- Low (< 250 $\mu\text{S/cm}$)
- 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):

Adequate studies of the feeding habits of the headwater catfish have not been made. However, its diet is believed to be similar to that of channel catfish (Sublette et al. 1990).

Diet category (list):

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

Grazing Effects (narrative):

No documentation with respect to the effects of cattle grazing on headwater catfish. Cattle grazing is unlikely to affect this species since it inhabits headwater streams.

Panel limiting habitat component relative to grazing and comments:
<p>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</p>

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

May be Revised

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> ➤ Alteration of bank structures ➤ Alteration of substrate ➤ Alteration of water regimes ➤ Altered stream channel characteristics ➤ Altered aquatic vegetation composition | <ul style="list-style-type: none"> ➤ Altered bank vegetation structure ➤ Change in food availability ➤ Change in water temperature ➤ Change in water quality ➤ Habitat fragmentation | <ul style="list-style-type: none"> ➤ Increased turbidity ➤ Other biotic factors ➤ Parasites or pathogens ➤ Population genetic structure loss ➤ Range improvements ➤ Trampling, scratching ➤ Unknown |
|---|---|--|

Panel causal mechanisms comments:
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Authors

- **Draft:** Magaña, H.A.
- **GP 2001:**
- **GP 2002:**
- **Revision:**

Bibliography:

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.

Koster, W.J. 1957. Guide to the fishes of New Mexico. The University of New Mexico Press. Albuquerque, New Mexico.

Sublette, J. E. Hatch M. D. and Sublette M., 1990. The fishes of New Mexico. Albuquerque, NM, University of New Mexico Press.