Scientific Name: *Pylodictis olivaris*
Common Name: Flathead catfish
BISON No.: 010105

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 full protection.
This species is not threatened or endangered, but is a threat to blue and Yaqui catfishes.

Distribution (narrative):

In North America the flathead catfish is found in the lower Great Lakes and Mississippi River basins from western Pennsylvania to White-Little Missouri River system in North Dakota, and south to Louisiana in the USA; Gulf Slope from Mobile Bay drainage in Georgia and Alabama, USA to Mexico (Fishbase.org 2002). The flathead catfish is found in the central US south into eastern Mexico and has been introduced widely throughout the United States (Sublette et. al. 1990). The flathead catfish is native to the Rio Grande and Pecos River drainages south of the 35th parallel (Sublette et. al. 1990).

Key Distribution/Abundance/Management Areas:

Panel key distribution/abundance/management areas:

Breeding (narrative)**:**

Spawning is principally in spring and early summer within its native range at water temperatures of 22-29 C and at depths of 2-5 m (**Turner and Summerfelt 1971**, Minckley 1973). In nature the species uses mammal dens in mud banks, depressions beneath stones, or other cave-like location, as nests (**Deacon 1961**). The nests are constructed under logs or other concealing cover by the male and female (Sublette et. al. 1990). The eggs are gelatinous, and cling together in an adhesive mass, on the bottom (Minckley 1973, Sublette et. al. 1990). The male remains to vigorously defend the nest and care for the eggs and young after the female has been chased from the nest (Minckley 1973, Sublette et. al. 1990). During incubation and hatching the male agitates the egg mass, by settling upon it and alternately fanning with his pelvic fins, plus creating a current of water over them by moving the caudal fin (Minckley 1973). Eggs hatch in 6-8 days after spawning (**Breder and Rosen 1966**).

Habitat (narrative)**:**

The flathead catfish is found in a variety of habitats including rivers, lakes, reservoirs and impoundments (Sublette et. al. 1990, Fishbase.org 2002). Adult flathead catfish typically occur in deep, quiet pools of the main rivers and tributary stream pools adjacent to the main stream (Minckley 1973, **Cowley and Sublette 1987a**). The flathead catfish inhabits pools with logs and other debris in low to moderate-gradient, small to large rivers (Fishbase.org 2002). The flathead catfish is relatively sedentary (Minckley 1973).

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 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)**:**

Young flathead catfish in Kansas streams are predominately insectivorous until about 100 mm in total length (Minckley 1973, Sublette et. al. 1990). Insect larvae, crayfish, and other fishes are taken by juvenile flathead catfish (Minckley and Deacon 1959, Minckley 1973). Feeding by adult flathead catfish is done primarily at night in clearer waters, but sometimes congregate below dams and feed voraciously throughout the day during spring floods and highly turbid water conditions (Minckley 1973, Sublette et. al. 1990). The flathead catfish appears typically to lie quietly rather than foraging actively, and allows food animals to approach, then engulfs them with a rapid opening of its cavernous mouth (Minckley 1973). Adults are capable of feeding on forage fishes too large for other predators (Sublette et. al. 1990). Flathead catfish are highly cannibalistic (Stickney 1986).

Diet category (list):

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

Grazing Effects (narrative):

No specific information on grazing affects is available, but inference may be drawn from existing literature. It is doubtful that livestock grazing affects adult flathead catfish since they inhabit quiet deep pools of streams and rivers. However, since flathead catfish make use of mammal dens in mud banks along stream margins livestock grazing may negatively impact flathead catfish reproduction. Meticulous parental care by the male flathead catfish during

incubation is crucial to reproductive success. Disturbances by livestock during the incubation period may drive away the male flathead catfish dooming the clutch of eggs to death.

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

Bibliography:

Fishbase.org. 2002. Cite properly.

Minckley, W. L. 1973. Fishes of Arizona. Arizona Game and Fish Department. Phoenix, Arizona. 293 pp.

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