

Scientific Name: *Catostomus discobolus*

Common Name: Bluehead sucker

BISON No.: 010495

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):

State AZ: Threatened, State NM: Provides limited protection, Forest Service: Sensitive. Much of the Colorado system today is composed of large reservoirs with cold, clear tail water. Cold tail water along with water diversions, have had a pronounced effect on the native fish fauna (Holden and Stalnaker 1975). Hybridization has been reported between bluehead suckers and white suckers, flannelmouth suckers, and mountain suckers. Tail waters temperatures below dams are much lower than required for spawning (Smith 1966, Sublette et. al. 1990). Hybrids of bluehead sucker and white sucker (*Catostomus commersoni*) have been collected in the San Juan drainage (Sublette et. al. 1990). From 1960 to 1975 there were numerous attempts to eliminate the green sunfish (*Lepomis cyanellus*) and the fathead minnow (*Pimephales promelas*) which prey and compete with the bluehead sucker from waters of the upper Zuni drainage in New Mexico.

Distribution (narrative):

The bluehead sucker distribution ranges from throughout the Colorado River drainage above the mouth of Grand Canyon, Wyoming, Colorado, New Mexico, Arizona, and Utah; the Snake River drainage above the great falls in Idaho and Wyoming; the Bear River drainage and Weber River drainage of the Bonneville basin in Idaho, Wyoming, and Utah (Smith 1966, Minckley 1973, Lee et. al. 1981, Sublette et. al. 1990). The bluehead sucker is native to the San Juan and Little Colorado River drainages where the populations are stable (Sublette et. al. 1990). The bluehead sucker occurs in the Colorado River mainstream in the Grand Canyon, the Little Colorado River on the Apache Sitgreaves National Forest, and the San Juan River of extreme northwest New Mexico (Minckley 1973).

Key Distribution/Abundance/Management Areas:

Panel key distribution/abundance/management areas:

Breeding (narrative):

The bluehead sucker spawns during the late spring and early summer in waters of at least 16° C (Smith 1966, Lee et. al. 1981, Sublette et. al. 1990). Spawning occurs on gravel beds with two males attending each female that enters the spawning area (Sublette et. al. 1990). Spawning proceeds during daylight hours with most activity taking place between 1600-1800 hours; preferred water temperatures are 18.2-24.6° C (**Maddux and Kepner 1988**). No reproduction of bluehead suckers has been found in the cold tail waters of the reservoirs for 100 km downstream (Holden and Stalnaker 1975). Size at maturity varies throughout the range of the bluehead sucker (McAda and Wydoski 1983). Fish from small tributaries do not reach the large sizes attained in the main rivers, and mature at a smaller size (Smith 1966, Smith 1981). Smaller tributaries often appear to be nursery grounds for populations of adjacent larger rivers (Smith 1966). There are two morphotypes of the bluehead sucker; deep forms are most common in the upper, cold parts of the basin and slender forms are common in the middle sections (Holden and Stalnaker 1975).

Habitat (narrative):

Populations of bluehead suckers are found in a wide variety of fluvial habitats ranging from cold, clear trout streams to warm, very turbid streams, but prefers riffles over rocky substrate (Smith 1966, Holden and Stalnaker 1975, Lee et. al. 1981). Bluehead suckers in the Weber River, Utah, and the headwaters of the Green River, Wyoming, live in cool, trout-stream environments, with temperatures typically less than 20° C in summer (Smith 1966). The bluehead sucker is limited to areas of relatively swift water with cobble or gravel bottom (McAda and Wydoski 1983). Maximum currents in bluehead sucker habitats are between 8-15 ft/sec but the actual microhabitat current is probably less (Smith 1966). The bluehead sucker occupies a variety of habitats from headwater streams to large rivers, it is almost always in moderate to fast flowing

water above a rubble-rock substrate (Sublette et. al. 1990). However, younger fish prefer quiet, shallow areas near shoreline (**Banks 1964**).

Key Habitat Components: moderate to swift waters, pebble to cobble substrate.

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 diet of the bluehead sucker consists primarily of algae and diatoms which, supplemented by the free-living bacteria flora and other microscopic organic matter, makes the food of the bluehead suckers. The shifting sand bottom of much of the Colorado River drainage is nonproductive of the fish food organisms and does not support fish life (Smith 1966). However, rocks, which provide a stable base for periphyton, may provide a food source for this species (Smith 1966).

Diet category (list):

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

Grazing Effects (narrative):

The primary threat to the species would occur only in the headwater streams of the Little Colorado River drainage. Even in these habitats, the direct impact in form of trampling of spawning gravels is the only threat. Introduced nonnative fish, especially brown trout and green sunfish, pose a much greater threat to the bluehead sucker.

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

Bibliography:

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