

**Scientific Name:** *Micropterus salmoides*

**Common Name:** Largemouth bass

**BISON No.:** 010010

**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 NM: Provides full protection.

Hérons, bitterns, and kingfishers prey upon largemouth bass (Fishbase 2002). Largemouth bass have been implicated in the destruction of a number of populations of unique, endemic, western fish species, including the distinctive Gila chub and Cyprinidon species (Minckley 1973). A large portion of some of the last natural populations of Gila topminnow has been negatively impacted by largemouth bass (Minckley 1973). Several countries report adverse ecological impact after introduction of largemouth bass (Fishbase 2002).

**Distribution (narrative):**

The original range of largemouth bass is from northeastern Mexico to Florida, much of Mississippi River, north to southern Quebec and Ontario, Canada and on Atlantic slope only to southern or central South Carolina. (Moore 1968, Lee et. al. 1981, Fishbase 2002). The popularity of largemouth bass has resulted in its wide dissemination over the world as a game fish and is now cosmopolitan (Minckley 1973, Fishbase 2002). Largemouth bass are native to the Pecos River and has been introduced into every major drainage in New Mexico except in the Tularosa Basin where they appear to be extirpated (Sublette et. al. 1990). The largemouth bass is native to north central, southeastern, and south central United States along with Rio Grande tributaries of northeastern Mexico.

**Key Distribution/Abundance/Management Areas:**

Panel key distribution/abundance/management areas:

**Breeding (narrative):**

Spawning of largemouth bass occurs from April through May or June, at water temperatures of 18° C up to 24°C (Miller and Kramer 1971, Minckley 1973, Sublette et. al. 1990). Largemouth bass are generally sexually mature at age I or II at sizes ranging from 18 to 21 cm total length (Moyle 1976). Sexual maturity is determined by size rather than age and therefore, is related to water temperature because fish grow faster in warmer waters than in cooler waters (Simco et. al. 1986). Largemouth bass are nest builders and are extremely territorial during breeding season the male will guard eggs and larvae (Sublette et. al. 1990). Largemouth bass prefer sand or gravel substrate but spawning will occur over muddy bottoms and other substrata (Stuber et. al. 1982b). Largemouth bass will use roots of riparian plants, submerged grasses, sandy or muddy bottoms, or even bedrock if the population is crowded or no other substrate is available (Minckley 1973). Largemouth bass nests are often located in the protection of boulders, ledges, slopes and submerged vegetation (Miller and Kramer 1971). Largemouth bass eggs hatch in 3 to 6 days under normal conditions (Minckley 1973). According to Curtis (1949) eggs hatch in two days at 22° C and in 5 days at 19° C.

**Habitat (narrative):**

The largemouth bass occupies a wide variety of habitats but prefers quiet and warm rivers, lakes, and ponds with low turbidity\*\*\* and in association with beds of aquatic vegetation and is seldom found in water deeper than 6 m (Sublette et. al. 1990). The largemouth bass inhabits clear, vegetated lakes, ponds, and swamps, and also is found in backwaters and pools of creeks and rivers (Lee et. al. 1981, Fishbase 2002). Largemouth bass prefer quiet, clear water and overgrown banks\*\*\* (Fishbase 2002). Largemouth bass characteristically become most abundant in lentic waters-lakes, ponds, reservoirs- and in the slow-moving, downstream portions of larger streams (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):

After hatching, largemouth bass larvae school and begin to feed, first on plankton, then as juveniles on macrobenthos, and at 3.8-5.0 cm they become piscivorous at this time schooling behavior disappears as the young are actively cannibalistic if crowded (Simco et. al. 1986).

Adults are principally carnivorous, feeding on insects, crayfish, frogs, snails, and other fishes (Sublette et. al. 1990). Algae and plant material have been found in stomach samples, but this was probably taken adventitiously along with prey (Sublette et. al. 1990). Adult largemouth are obligate carnivores, and eat almost any moving thing small enough to swallow small sunfishes, other bass and crawfish constituted major foods (Minckley 1973). Adult largemouth bass feed on fishes, crayfish and frogs; the young feed on crustaceans, insects, and small fishes.

Largemouth bass are sometimes cannibalistic. Largemouth bass do not feed during spawning; as well as when the water temperature is below 5° C and above 37° C (Fishbase 2002). Adult largemouth bass tend to be solitary and to lie motionless near debris or overhanging banks\*\*\*

along rocky shorelines, allowing their prey to move near before attaching with a rush (Minckley 1973).

**Diet category (list):**

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

**Grazing Effects (narrative):**

No specific information regarding grazing and largemouth bass. However, since largemouth bass inhabit quiet and warm rivers, lakes, and ponds with overgrown banks and low turbidity livestock grazing has the potential to negatively impact habitats. Largemouth bass are ambush predators and use overhanging banks to avoid detection. Livestock grazing the banks may possibly eliminate this cover thus reducing the area in which largemouth bass hunt.

<b>Panel limiting habitat component relative to grazing and comments:</b>
<p><b>Panel assessment:</b> Is this species a priority for selecting a grazing strategy?</p> <p>Throughout the species' distribution in New Mexico and Arizona</p> <p style="text-align: center;">YES   NO   UNKNOWN</p> <p>In key management area(s)</p> <p style="text-align: center;">YES   NO   UNKNOWN</p>

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

*\*\*May be Revised\*\**

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

<b>Panel causal mechanisms comments:</b>
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## **Authors**

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

## **Bibliography:**

Fishbase.org. 2002. Cite correctly.

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Minckley, W. L. 1973. Fishes of Arizona. Phoenix, AZ, Sims Printing Co.

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