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POPULATION STATUS OF THE BLUE SUCKER IN MONTANA

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ABSTRACT

The blue sucker is presently listed by the Fish and Wildlife Service as a Category 2 species . This paper reports on the status of blue sucker populations in Montana, reviewing the last 20 years of data. Abundance, average sizes, size structure and species distribution apparently has not substantially changed over the past 10-16 years. Evidence of successful reproduction have been reported in the Yellowstone and lower Missouri rivers. It is believed the two populations of blue suckers will continue to remain in stable numbers providing that significant changes in the river environment do not occur. Federal listing of the blue sucker is not recommended at this time. It is recommended that the blue sucker be reclassified from a class C to a class B, state Species of Special Concern.

DISCUSSION

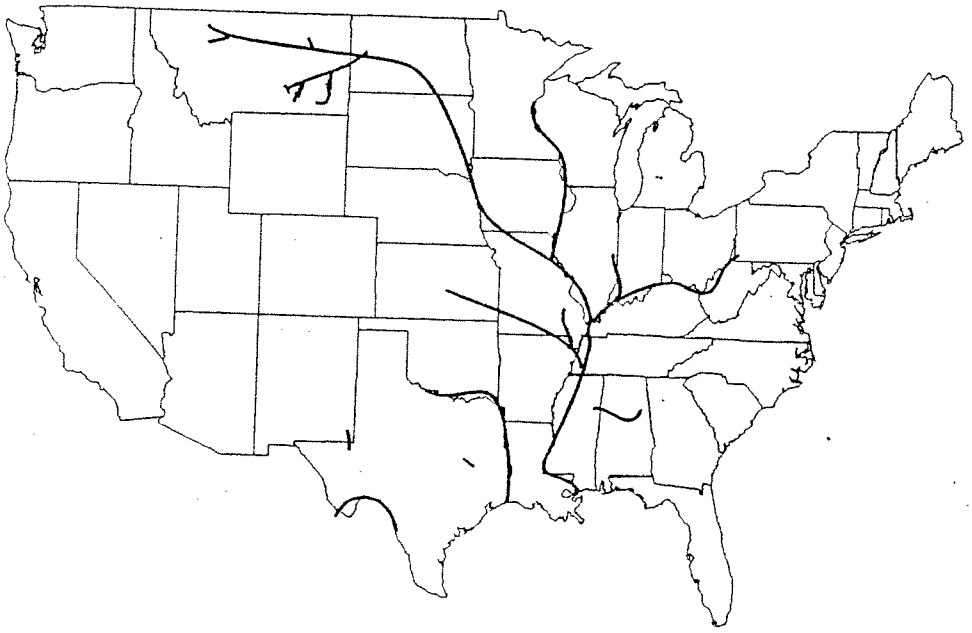
The blue sucker is presently listed by the Fish and Wildlife Service as a Category 2 species and also listed by the state of Montana as a Species of Special Concern - Class C (Federal Register, 1994 and Hunter, 1994). The American Fisheries Society in 1989 also added the blue sucker to its decade old list of rare North American fishes rated as Special Concern (Williams, 1989). The reason for listing was because habitat alterations threaten its existence. Perhaps the reason for the blue sucker concern can be related to its taxonomic uniqueness and the long-overdue recognition that Missouri River habitats have been severly altered over the 50 past years.

The blue sucker has a fairly widespread distribution extending throughout the Mississippi, Missouri, Ohio, and portions of the Rio Grande river systems (Figure 1) (USFWS 1993). In Montana it is found in the Missouri as far upriver as Morony Dam near Great Falls, and in the Yellowstone upriver to near Rosebud Creek at the Catersville Diversion Dam (Figure 1). Blue suckers have been found in many of the major tributary streams during their spawning season. There are very few blue sucker records for Fort Peck Reservoir indicating their avoidance of lake environments.

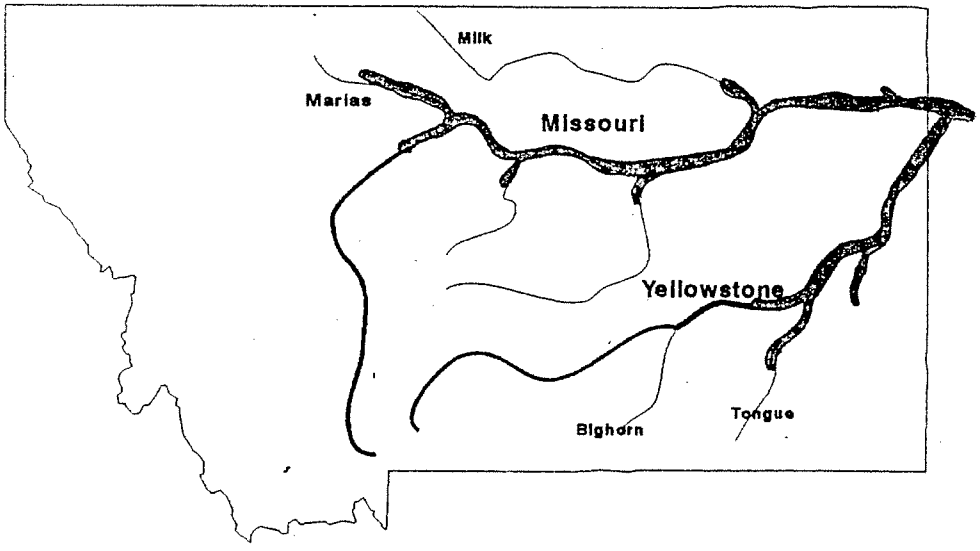
The blue sucker is built for life in swift current areas. Streamline and muscular this fish prefers swift current habitats of

FIGURE 1.

Blue Sucker Distribution



Distribution of Blue Sucker in Montana



large rivers, feeding on insects in cobble areas (Moss et al. 1983). In the spring blue suckers migrate upriver and congragate in fast rocky areas to spawn. We also observe substantial numbers migrating up tributary streams to spawn; the Tongue, Marias, Milk are the tributary streams more heavily used. This is a longlived species wit a longevity extending past 17 years. Berg (1981) reported that 93% of the sampled fish in the upper Missouri were 9-14 years old.

Most of the information collected on blue suckers is bycatch data collected in the course of targeting for sauger, sturgeon or catfish, therefore the data records are sparce. Moreover, because of the blue suckers preference for swift water habitats in main channel areas, they are difficult to sample and consequently we don't sample them in large numbers.

The blue sucker we generally sample are older fish with lengths of 25-30 inches and 8-10lbs. The largest one recorded in Montana was 18lbs which is close to the largest blue sucker recorded in the USA of 20 lbs.

The best information that's available on blue suckers is on length distribution for the three river reaches where this species is found. Figure 2 shows the length distributions for the three populations in Montana. The upper Missouri and lower Yellowstone populations have similar size structures with dominant length classes of 27 and 28 inches. The lower Missouri population length sizes appears to be smaller with the 24 inch size class dominating the sample.

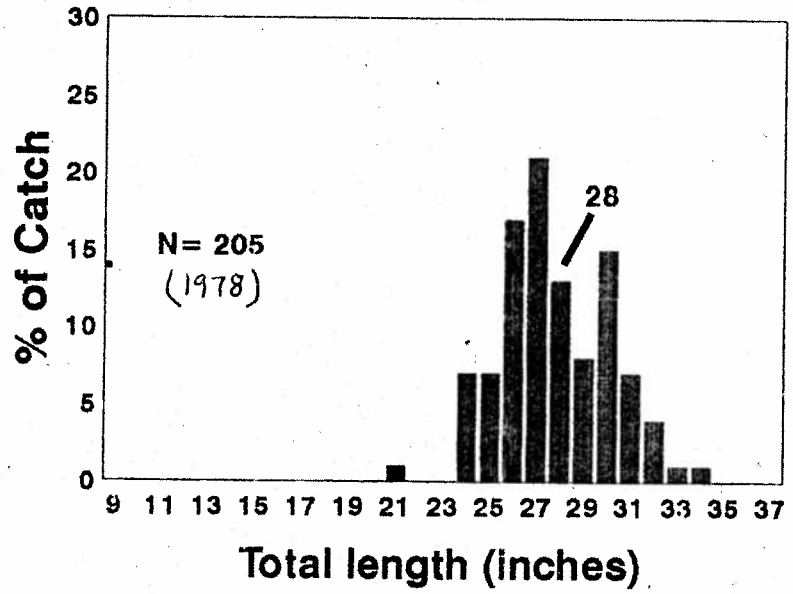
An attempt was made to evaluate if there had been any changes in the populations over the past 10-20 years. This was determined by comparing the recent capture information with past records. Figure 4 is a comparison of length distributions for the upper and lower Missouri River populations. The Yellowstone River population was not compared in this manner. From Figure 3 it is apparent that the size structure of the upper Missouri population was similar for both sampling periods, a span of 16 years. For the lower Missouri population the 1993 sample had a wider length distribution with larger peak sizes and better representation of smaller size classes. The 1983 sample appeared to have a more compressed size distribution without the smaller size classes represented. It is fairly apparent the 1993 sample shows a more balanced and desireable size structure.

Based on the data records reviewed, I would rate blue sucker abundance as somewhat common. If sampling efforts are directed at capturing blue suckers, I believe they could be sampled at 500/yr in each of the three rivers. During 1994 MTFWP sampled over 300 while attempting to capture pallid sturgeon in the Yellowstone (Backes et al., 1994).

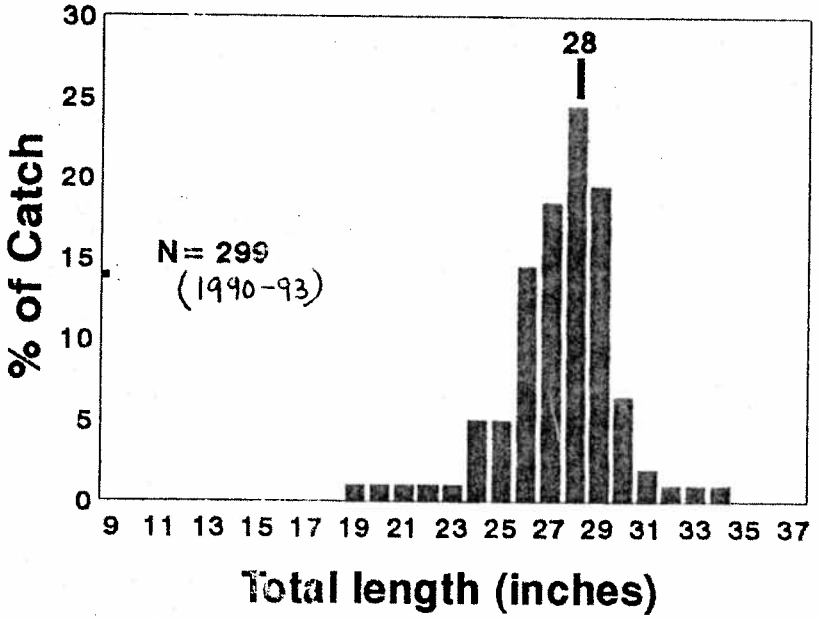
Reproductive success may be a problem for a habitat-specific species such as the blue sucker. Evidence of reproduction (blue sucker larvae) have been reported for the tributary streams Milk, Big Muddy, and in the lower Missouri and Yellowstone rivers (Gardner and Stewart, 1987 and Penkal, 1981). Additionally, young-

FIGURE 2

Upper Missouri



Lower Yellowstone



Lower Missouri

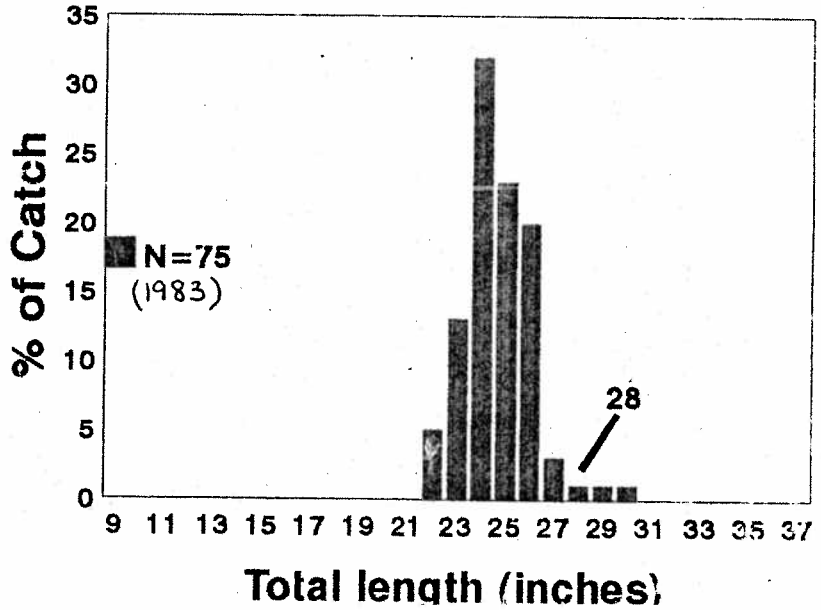
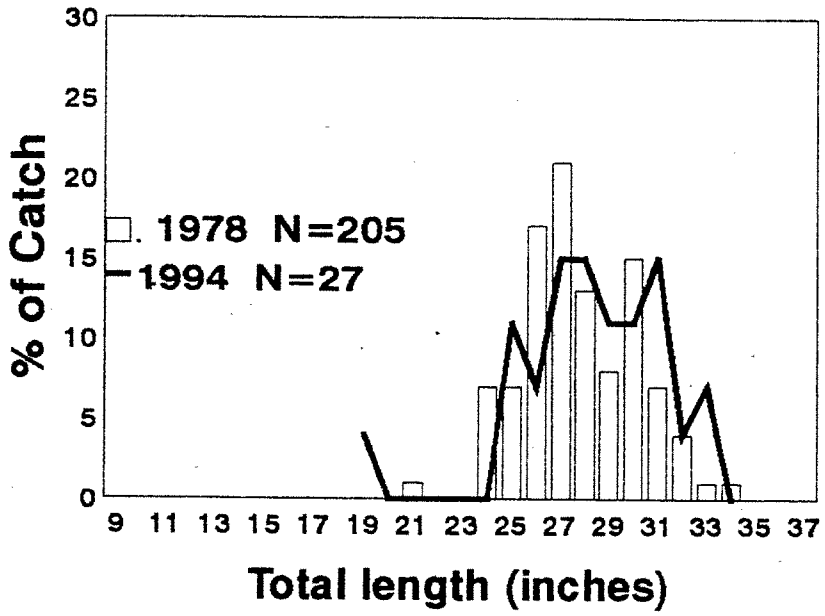
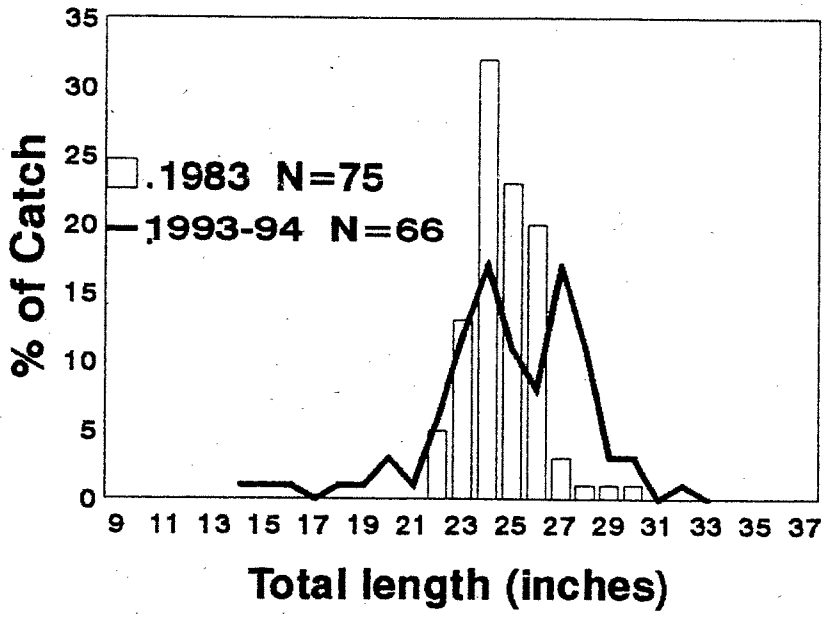


Figure 3.

Upper Missouri



Lower Missouri



of-the-year blue suckers have been sampled at the Milk River confluence and in Big Muddy Creek of the lower Missouri River (Liebelt, 1995 and Stewart 1980). No direct evidence of blue sucker reproduction has been reported for the upper Missouri population but our sampling efforts haven't been directed at evaluating this, and just the observation that the size structure hasn't changed in 16 years intuitivly supports the contention that reproduction is also occurring here.

Management of the blue sucker consists mainly of routine monitoring of the population status and habitat protection. The blue sucker is considered an indicator species for ecosystem health because of its habitat-specific requirements. Current monitoring information indicates the populations are in stable condition. Efforts towards locating spawning areas should be continued. Habitat protection includes protecting or promoting the natural spring-time hydrograph. Establishing more favorable seasonal flow conditions are presently being made at many of the storage reservoirs in Montana.

Does this species need special status designation ?

Important considerations are how abundant and widespread is it and what are the threats to its existance.

Present information describes the species as widespread throughout the USA and in Montana. There isn't any known blue sucker populations that have been reported as extirpated; only where extensive riverine losses have occurred due to impoundments, have there been major population losses. As far as Montana populations go the blue sucker is present in most places that have available habitat. It appears to be in reasonable abundance with a healthy size structure. All three populations are considered to be in stable condition. There is no interest for sport or commercial use.

However, because of its biological vulnerability (ie. longivity, low recruitment, migratory nature, reliance on high flows for and tributary streams for spawning) I believe this species is more suseptible to population declines then say the sauger. Based on this information I believe that the blue sucker should be on the state list as a species of special concern - upgraded to class B rather than C as it presently is. Montana probably has some of the finest habitat for blue suckers found throughout their distribution, therefore losses of the Montana populations would be significant to the overall gene pool. The blue suckers situation is more akin to the sturgeon chub (class B) than that of the shortnose gar (class C).

Considering the federal evaluation for listing, I agree with the US Fish and Wildlife Service conclusion not to propose it for threatened or endangered listing. It should remain on the 2-C status until more information on population health throughout their geographical range is known.