

PERFORMANCE REPORT

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FEDERAL AID IN SPORT FISH RESTORATION ACT

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FEDERAL AID PROJECT F-30-R-31

STATEWIDE FRESHWATER FISHERIES MONITORING AND MANAGEMENT PROGRAM

2005 Survey Report

McClellan Reservoir

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SURVEY AND MANAGEMENT SUMMARY

Low water levels at McClellan Reservoir prevented surveys with trap nets and electrofishing in 2005 and gill nets in 2006. This report summarizes the general history of the reservoir.

- **Reservoir description:** McClellan Reservoir is a 405-acre reservoir (<1 acre in August 2005) located 64 miles east of Amarillo, Texas, on McClellan Creek in the Red River Basin. It is owned and operated by the United States Forest Service as part of the Black Kettle National Grassland and is used for recreational purposes. It has a history of substantial water level fluctuations. When the reservoir is full, angler and boat access is adequate. There are no handicap-specific facilities. Primary habitat was mud bank and rock.
- **Management history:** Important sport fish include white crappie and catfish. It was almost dry in 1990, dry in 1995, then filled to overflowing in 1996. The reservoir was almost dry in 2000. Extensive excavation was done within the basin in 2001 and 2002 to allow for better water retention. The reservoir refilled to ½ capacity in 2004 then dried again in 2005. The reservoir is managed with statewide regulations and stocked with channel catfish and largemouth bass when water conditions permit. Saugeye were stocked in the reservoir to help manage an overabundant crappie population.
- **Management strategies:** Based on current information, and due to extreme water level fluctuations, the reservoir should continue to be managed with existing regulations. The focus will be on providing a catfish fishery in the next few years, if water levels allow for continued survival. Blue catfish will be requested and stocked as available and as water levels permit. Stocking of saugeye may be recommended as water levels permit as white crappie populations have been a problem in the past. Black bullhead have become overabundant in the reservoir in the past. Stocking of flathead catfish may be conducted to help manage this problem if it occurs.

INTRODUCTION

This document is a summary of conditions at McClellan Reservoir in 2005-2006. The purpose of the document is to provide fisheries information and make management recommendations to protect and improve the sport fishery.

Reservoir Description

McClellan Reservoir is a 405-acre impoundment constructed in 1938 on McClellan Creek. It is located in Gray County approximately 64 miles east of Amarillo and is operated and controlled by the US Forest Service, Black Kettle National Grassland. Primary water use is recreation. Habitat in 2005 consisted of mud shoreline and small areas of cobble. Native aquatic plants present were Potamogeton species. It was almost dry in 1990, dry in 1995, and then filled to overflowing in 1996. The reservoir was almost dry in 2000. Extensive excavation was done within the basin in 2001 and 2002 to allow for better water retention. The reservoir refilled to ½ capacity in 2004 then dried again in 2005 (Figures 1 and 2). No official water levels are kept for the reservoir. Boat access consisted of two public boat ramps. The shoreline is 100% accessible to bank anglers. Other descriptive characteristics for McClellan Reservoir are in Table 1.

Management History

Previous management strategies and actions: Management strategies and actions from the previous survey report (Munger and Van Zee 2002) included:

1. Following completion of basin modifications, restock reservoir with catfish, largemouth bass and bluegill.
Action: The reservoir was stocked with channel catfish and largemouth bass as water levels began to rise from fall 2003 to spring 2005. The rain stopped and the water evaporated.
2. Stock saugeye to help manage overabundant white crappie and gizzard shad populations.
Action: Loss of water worked to control the crappie and gizzard shad populations. Saugeye stocking was deemed unnecessary.

Harvest regulation history: Sport fishes in McClellan Reservoir are currently and have historically been managed with statewide regulations (Table 2).

Stocking history: The earliest recorded stocking for McClellan Reservoir is 1965. Experimental stockings of palmetto bass were attempted between 1979 and 1992. Smallmouth bass were stocked in 1984 and paradise bass were stocked in 1977. Saugeye were stocked in 1999 and 2000 to control the white crappie and gizzard shad populations. Recent stocking has been conducted to re-establish sport fish communities following drought periods. The complete stocking history is in Table 3.

Vegetation/habitat history: McClellan Reservoir had a limited diversity of vegetation and habitat (Table 4). At the time of the last habitat survey, there was only 0.5 acres of Potamogeton and available habitat was 87% nondescript (Munger 1999). No additional habitat surveys have been conducted since basin renovation due to drought conditions.

METHODS

No surveys were conducted in 2005 or 2006. Drought conditions have dried the lake basin to the extent that standard survey methods could not be conducted.

Fisheries management plan for McClellan Reservoir, Texas

Prepared – July 2006.

ISSUE 1: The current drought of record has caused the reservoir to dry three times in the past 10 years.

MANAGEMENT STRATEGY

1. Stock channel catfish, largemouth bass, and bluegill at standard rates when water levels permit.

ISSUE 2: The reservoir has a history of overpopulation of white crappie and black bullhead.

MANAGEMENT STRATEGIES

1. Monitor the fishery and stock saugeye if the white crappie population becomes overabundant. Stocking rate will be determined based on abundance of white crappie.
2. Monitor the fishery and conduct management stocking of flathead catfish if the black bullhead population becomes overabundant. Stocking rate will be determined based on abundance of black bullhead.

SAMPLING SCHEDULE JUSTIFICATION:

The proposed sampling schedule includes additional trap net sampling in fall 2007, additional gill netting in spring 2008 if water levels permit, and a full survey in 2009/2010 (Table 4). Additional trap net sampling in 2007 is necessary to monitor the white crappie population should they become re-established. The gill net survey in 2008 is necessary to monitor the catfish fishery.

LITERATURE CITED

- Munger, C. 1999. Statewide freshwater fisheries monitoring and management program survey report for McClellan Reservoir, 1998. Texas Parks and Wildlife Department, Federal Aid In Sport Fish Restoration, Grant F-30-R, Performance Report, Austin.
- Munger, C. and B. Van Zee. 2002. Statewide freshwater fisheries monitoring and management program survey report for McClellan Reservoir, 2001. Texas Parks and Wildlife Department, Federal Aid In Sport Fish Restoration, Grant F-30-R, Performance Report, Austin.

Figures

Figure 1. Photograph of McClellan Reservoir main basin from the south shore on August 27, 2004.

Figure 2. Photograph of McClellan Reservoir main basin from the south shore on March 27, 2006.



Figure 1.



Figure 2.

Table 1. Characteristics of McClellan Reservoir, Texas.

| Characteristic | Description |
|-----------------------------|-------------------|
| Year constructed | 1938 |
| Controlling authority | US Forest Service |
| County | Gray |
| Reservoir type | Tributary |
| Shoreline Development Index | 1.06 |
| Conductivity | 230 umhos/cm |

Table 2. Harvest regulations for McClellan Reservoir, Texas.

| Species | Bag Limit | Minimum-Maximum Length (inches) |
|---|----------------------------|---------------------------------|
| Catfish: channel and blue catfish, their hybrids and subspecies | 25 (in any combination) | 12 - No Limit |
| Bass, largemouth | 5 | 14 – No Limit |
| Crappie: white and black crappie, their hybrids and subspecies | 25 (in any combination) | 10 - No Limit |
| Saugeye | 3 | 18 - No Limit |

Table 3. Stocking history of McClellan Reservoir, Texas. Size categories are: FRY =<1 inch; FGL = 1-3 inches; and ADL = adults.

| Species | Year | Number | Size |
|------------------|---------|---------|---------|
| Blue catfish | 1979 | 2,375 | |
| | 1980 | 17,000 | |
| | 1981 | 8,790 | |
| | 1982 | 20,250 | |
| | 1986 | 26,354 | FGL |
| | 1991 | 20,022 | FGL |
| | 1999 | 41,180 | FGL |
| | 2000 | 80 | ADL |
| | Total | 136,051 | |
| Channel catfish | 1965 | 14,000 | |
| | 1967 | 5,000 | |
| | 1968 | 4,500 | |
| | 1969 | 4,000 | |
| | 1970 | 5,000 | |
| | 1971 | 6,000 | |
| | 1972 | 10,000 | |
| | 1973 | 10,000 | |
| | 1976 | 4,000 | |
| | 1977 | 4,000 | |
| | 1978 | 4,050 | |
| | 1991 | 20,000 | FGL |
| | 1995 | 20,840 | FGL&ADL |
| | 1996 | 20,380 | FGL |
| | 2003 | 309 | ADL |
| | 2005 | 8,000 | FGL |
| Total | 140,079 | | |
| Flathead Catfish | 1978 | 20 | ADL |
| Palmetto bass | 1979 | 4,000 | FGL |
| | 1983 | 3,900 | FGL |
| | 1985 | 12,383 | FRY |
| | 1986 | 6,700 | FGL |
| | 1987 | 13,350 | FGL |
| | 1992 | 5,168 | FGL |
| | Total | 45,501 | |
| Bluegill | 1995 | 45 | ADL |
| Smallmouth bass | 1984 | 19,350 | FGL |

Table 3. Stocking history continued.

| Species | Year | Number | Size |
|-------------------------|-------|--------|------|
| Largemouth bass | 1965 | 10,000 | FGL |
| | 1967 | 5,000 | FGL |
| | 1968 | 3,000 | FGL |
| | 1969 | 2,500 | |
| | 1970 | 5,000 | |
| | 1995 | 20,106 | FGL |
| | 2004 | 33,900 | FGL |
| | Total | 79,506 | |
| Florida largemouth bass | 1986 | 20,046 | FGL |
| | 1992 | 17,941 | FGL |
| | 2003 | 19,929 | FGL |
| | Total | 57,916 | |
| Paradise bass | 1977 | 17,000 | FGL |
| Saugeye | 1999 | 22,600 | FGL |
| | 2000 | 21,444 | FGL |
| | Total | 44,044 | |

Table 4. Proposed sampling schedule for McClellan Reservoir, Texas. Gill netting surveys are conducted in the spring, while electrofishing and trap netting surveys are conducted in the fall. S denotes standard survey and A denotes additional survey.

| Survey Year | Electrofishing | Trap Netting | Gill Netting | Creel Survey | Report |
|-------------------------|----------------|--------------|--------------|--------------|--------|
| Fall 2006 – Spring 2007 | | | | | |
| Fall 2007 – Spring 2008 | | A | A | | |
| Fall 2008 – Spring 2009 | | | | | |
| Fall 2009 – Spring 2010 | S | S | S | | S |