

SECTION X – SPECIAL CONCERNS

10.01 COMMERCIAL RESORT DEVELOPMENT AND LODGING

Currently, the Mark Twain Lake Project has no lakeside lodging or resort development. Most of the commercial development that supports the project has occurred on private land, primarily along the eastern portion of the lake on State Route J, and in Monroe City and Perry, MO. Developments include campgrounds, a water park, convenience stores, bait shops and motels.

A January 2001 market feasibility study entitled “Market Potential and Feasibility Analysis of Commercial Concession Development at Mark Twain Lake, Missouri”, prepared by Parsons HBA for the Corps reinforced the need for lakeside lodging with ancillary marina facilities. The Corps of Engineers supports the opportunity to improve commercial development at the lake through private investment. Twelve potential commercial development locations on the shoreline were identified and evaluated in the study. A summary of the feasibility study is found in Appendix B.

The Corps supports commercial development at Mark Twain Lake and believes a key ingredient to improving future benefits and economic development in the area includes lodging and/or resort development on shoreline public lands.

10.02 FLUCTUATION OF LAKE LEVEL

Mark Twain Lake fluctuates throughout each year, depending on rainfall, watershed runoff, and water control operations. Because of the nature of the topography of the area, the lake has been documented to rise and fall more than 40 feet during a flood event. Rises of 20 feet or more are not uncommon. Several of the lake's recreation areas were developed based on anticipated use of the area and a frequency of high and low lake levels which were expected to be of a lesser magnitude than is now experienced.

As the level of the lake rises during a flood event, portions of public-use areas are inundated, thereby restricting their use. The degree and length of restriction depends upon the severity of the high water. High water has detrimental effects on project visitation, recreation and income to area businesses. Portions of recreational developments must be closed, with swimming, boat-launching facilities, marina accesses, hunter/fisherman lots, multi-use trails and access roads often inundated. Numerous county roads are

closed due to inundation, creating travel and access hazards for local residents. Fish populations could be adversely affected if spawning coincides with receding high water. Post-flooded areas are unsightly due to piles of debris and driftwood left behind. High water results in increased maintenance cost for repair and debris cleanup.

Low lake levels pose a different set of challenges associated with the operation of certain facilities and boating safety hazards, but generally do not affect visitation or closure of portions of areas. Underwater hazards that are inundated during normal pool elevations and above become hazardous to boaters. Blackjack and Indian Creek Marinas experience problems when their docks underwater structural members become damaged due to contact with the lake bottom. Both marinas have berthing slips that become unusable or inaccessible due to shrinking cove size during low lake elevations. The John F. Spalding, Indian Creek and Mark Twain State Park beaches have operational constraints at low lake elevations and are closely monitored to insure visitor safety. Several hunter/fisherman boat ramps become exposed and are unusable at low lake levels. Low lake levels may also reveal unrecorded cultural resources/archaeological sites that may require mitigation.

10.03 IMPACTS OF HIGH WATER ON RECREATION FACILITIES

In addition to the detrimental effects caused by high water described in the above paragraph, substantial damage is sustained to facilities that become inundated on a repetitive basis. Generally, most facilities need minor repairs and extensive clean up to prepare them for public use. However, repeated and prolonged inundations cause far more serious structural problems that lead to premature deterioration and failure. The bathhouse in the John F. Spalding Recreation Area and the comfort station at the Indian Creek west ramp are stacked block buildings that have been inundated frequently and are under careful evaluation. Both buildings become affected at the approximate lake elevation of 626 feet NGVD and their relocation out of the flood control pool was approved in a prior supplement to the Master Plan when major reconstruction is necessary. Vault toilets at the Robert Allen, South Fork and Stoutsville Recreation Areas are of wooden construction and begin to be affected at a lake elevation of approximately 632 feet NGVD. These buildings are proposed for relocation out of the flood control pool when major reconstruction is necessary. Additionally, a high-water boat ramp is proposed for the Ray Behrens Recreation Area due to the low elevation of the top of the existing ramp and the heavy public use of the facility.

Since 1993, numerous facility modifications have occurred to allow continued use of facilities during high-water events. Numerous transformers, electric connections and lift stations were relocated. High-water boat ramps were installed at the John F. Spalding, Robert Allen, Stoutsville and Indian Creek Recreation Areas to allow safe access to the lake. Additional

management practices that were and continue to be implemented to reduce the effects of high water on recreation facilities and natural resource areas include planting water-tolerant trees and grasses in flood prone areas and fields, raising low portions of access roads and designing facilities to withstand high water with minimal restoration and clean-up.

10.04 BARRIER-FREE ACCESSIBLE SHORELINE ACCESS

The provision of a universally accessible fishing pier on the project shoreline is difficult with a pool fluctuation of over forty feet and the steep topography of the project. Due to these difficult conditions, development of lake-based disabled access has not been feasible. Lack of a disabled accessible fishing access is one of the most significant customer complaints that are received at the project office. In response to customer complaints, approval was obtained for installation of accessible fishing piers in the Spillway Recreation Area. Additional disabled accessible fishing facilities are provided at the recreational fishing pond within the Frank Russell Recreation Area.

10.05 CAMPSITE AMENITIES

With the change in societal demographics and modern, technologically advanced, recreation vehicles, it has become necessary to upgrade campground amenities. Camping clientele and equipment have evolved from the more traditional camping experience to one that has all the conveniences of home. The most notable change has been the advancement of the recreational vehicle (RV). Modern RVs are equipped with dishwashers, microwaves, washers, dryers, satellite TV, multiple A/C units, water heaters and more. Safety issues have arisen and complaints have been received regarding electrical brownouts, thrown breakers and lack of full hookup (water, sewer and electric) sites. The initial phases of electrical upgrades to 50-ampere service have been completed in the Deer Run camp loop and a portion of Cedar Ridge in the Ray Behrens campground. Upgrading the camping units from 30-amp service to 50-amp service reduces operational maintenance; improves efficiency, and increases utilization and revenue. When the Ray Behrens campground is complete, work will begin at the Indian Creek Campground. Limited full-service hookups have been installed at existing campsites in the Ray Behrens and Indian Creek campgrounds. It is anticipated that additional full-service hookups will be installed.

A listing of backlog maintenance and repair items (BMAR) is identified and updated biannually in order to provide justification for supplemental funding. Although success has been limited, there has been increased interest at USACE Headquarters to program funds for these items nationwide. Prompt completion of all backlog items increases efficiency and customer satisfaction.

10.06 FISHERIES

A quality and sustainable fishery is one of the most desirable attributes that visitors look for at Mark Twain Lake. All interested parties and agencies must work together to attain this achievable goal. The regional economic success of Mark Twain Lake and surrounding communities is linked to a successful fishery. The Corps partners with federal, state and local governments, and with private sector organizations to advance aquatic resource conservation. These partners also work to enhance recreational fishing through habitat manipulations, stocking, monitoring, and recreational facility development. The MDC, in cooperation with the Corps of Engineers, conducts fish rearing for their stocking programs, stocking, creel census, development and monitoring of littoral zone habitat enhancement projects, and population surveys necessary to insure sufficient and desirable populations of fish species.

10.07 REGIONAL TRANSPORTATION

Lack of interstate access and improved four lane restricted access highways from major metropolitan cities and surrounding areas within the tri-state region hamper tourism growth in northeast Missouri and the Mark Twain Lake region. Recent improvements to the Mississippi River Bridge at Hannibal and the extension of Interstate 72 nine miles west to the Route 24 interchange will provide some minimal benefits. Route 36 is a two-lane highway that extends west past Macon, Missouri and continues to limit convenient access to the region from that portion of the state. Potential tourism growth is represented in southern Iowa, but funding difficulties with the improvements to Route 61, also known as "Avenue of the Saints", limit the opportunities to realize this growth. Additional tourism growth south and west of the region towards Columbia and Jefferson City can be realized with additional four-lane expansion on Route 54 from Mexico, Missouri. Continued improvements on Route 61 south from New London to St. Louis have increased visitation to the project. Completion of Interstate 72 in western Illinois has also augmented tourism from that region.

10.08 REGIONAL WASTEWATER TREATMENT

Expansion in the distribution of water through the Clarence Cannon Wholesale Water Commission has had positive impacts on the quality of life and growth in northeast region by addressing the need for a reliable potable water supply. Future needs must address other water quality issues such as the wastewater requirements necessary for additional growth. Watershed initiatives in the Salt River basin continue to demonstrate that the economies of many communities and continued growth in the area will be severely hampered until a regional wastewater system is provided to address these needs.

10.09 PROTECTION OF ARCHAEOLOGICAL RESOURCES AND INADVERTENT DISCOVERIES

Mark Twain Lake is particularly rich in cultural resources. Prior to impoundment, the project lands at Mark Twain Lake were extensively surveyed for archaeological and historic properties. Many prehistoric and historical period archaeological sites were inundated by impoundment of the lake. However, a significant number of cultural properties are located on public lands above normal pool. These properties are susceptible to damage occurring during normal operation and maintenance activities, from unauthorized artifact collecting, and from shoreline erosion. The *St. Louis District Historic Properties Management Plan for Mark Twain Lake*, September 1994, provides the guidance for the protection of cultural resources. The *Mark Twain Lake Historic Properties Data Synthesis* dated September 1995 may also be consulted.

A large number of recorded and unrecorded shoreline archaeological sites at Mark Twain Lake are in danger from many environmental influences. Erosion is the prevalent factor presenting the greatest risk to cultural resources; other factors include exposure to wave action, exposure to sun, and repetitive inundation. Exposed archaeological sites are subject to detrimental factors, such as unauthorized artifact collecting. It is essential to monitor the shoreline for recorded and unidentified archaeological sites in a methodical and efficient manner to document site condition and composition, and to facilitate protection of cultural materials. Pedestrian surveys are implemented to insure coverage of the entire shoreline during a five-year period, concurrent with Operational Management Plan updates.

The Corps of Engineers is mandated by the National Historic Preservation Act of 1966, as amended, to identify and evaluate all cultural resources on public lands where an undertaking may possibly impact cultural properties. Prior to operation and maintenance activities that may potentially impact cultural properties, the *St. Louis District Historic Properties Management Plan for Mark Twain Lake* will be consulted. This plan requires up to seven historic-preservation-compliance steps (see Chapter 3 in *Mark Twain Lake HPMP*) to be implemented to protect the integrity of cultural sites, depending upon the presence and nature of cultural properties, and upon their relationship to the proposed activity. The appropriate federally recognized Native American tribes might be consulted regarding the evaluation of cultural resources impacted by a proposed undertaking.

In the event of an "inadvertent discovery" at Mark Twain Lake, specifically when human remains are involved, the provisions contained within the Native American Graves Protection and Repatriation Act (NAGPRA) will be implemented. Lake personnel will document and protect the identified site, and notify the appropriate district personnel to initiate procedures identified in NAGPRA.

The Corps of Engineers is mandated “to preserve collections of prehistoric and historic material remains, and associated records, that are recovered in conjunction with Federal projects and programs under certain Federal statutes” (36 CFR Part 79, Curation of Federally-Owned and Administered Archeological Collections). Currently, materials (and associated records) collected on Mark Twain Lake lands are curated at the University of Missouri in Columbia, Missouri.