

U.S. ARMY CORPS OF ENGINEERS
NASHVILLE DISTRICT
LAKE BARKLEY
SHORELINE MANAGEMENT PLAN
APPENDIX TO PART II OF THE
OPERATIONAL MANAGEMENT PLAN
'JULY 2004'

1. **Authority.** The authority for the preparation of this document is contained within ER-1130-2-406.

2. **References.**

- a. Section 4, 1944 Flood Control Act, as amended, (16 USC 460d).
- b. The Rivers and Harbors Act of 1894, as amended and supplemented (33 USC 1).
- c. Section 10, Rivers and Harbors Act of 1899 (33 USC 403).
- d. National Historic Preservation Act of 1966 (P.L. 89-665; 80 Stat. 915) as amended (16 U.S.C. 470 et seq.)
- e. The National Environmental Policy Act of 1969 (42 U.S.C. 4321, et seq.)
- f. The Clean Water Act (33 U.S.C. 1344, et seq.).
- g. The Water Resources Development Act of 1986 (P.L. 99-662).
- h. Title 36, Chapter III, Part 327, Code of Federal Regulations, "Rules and Regulations Governing Public Use of Water Resource Development Projects Administered by the Chief of Engineers."
- i. Executive Order 12088 (13 Oct 78).
- j. 33 CFR 320-331, "Regulatory Programs of the Corps of Engineers."
- k. ER 1130-2-400, "Management of Natural Resources and Outdoor Recreation at Civil Works Water Resource Projects."
- l. EM 385-1-1, "Safety and Health Requirements Manual."
- m. CEORDR 405-2-13, "Issuance of Minor Licenses and Permits at Water Resource Projects".

3. **Purpose.** This Shoreline Management Plan provides policies and guidelines for the effective long-range management of the shoreline resources of Lake Barkley. Lake Barkley is an extremely popular site for a variety of outdoor recreational activities. Recreational demands and development pressures increase each year, yet the total amount of public land and water area remains fixed. Sound management is necessary to provide optimum use of finite project resources for present and future generations. This plan is an appendix to the project Operational Management Plan.

4. **Objectives of the Plan.** The objectives of this plan are to balance private shoreline uses with the protection and restoration of the natural environmental conditions of Lake Barkley. In accordance with the provisions of the National Environmental Policy Act of 1969, a primary goal of management of lake resources is to establish and maintain acceptable fish and wildlife habitat, preserve aesthetic qualities, and promote the safe and healthful use of the lake and surrounding public lands by the general public.

The extensive residential development of private property adjoining the project has resulted in heavy demand for private exclusive use of the shoreline. In the absence of sound management, substantial portions of the shoreline could be cleared of natural vegetation and become congested with private moorage facilities and other structures. Public lands, which are available to all the people, could be converted to the appearance of private property of adjoining landowners. This plan contains definitive guidance, which balances private exclusive uses of public resources with providing natural environmental conditions for the use and enjoyment of the general public. The development of this plan has included full consideration of existing permitted private use facilities or privileges and prior commitments made regarding them.

5. **Description Of The Lake.** Lake Barkley is a shallow water lake impounding 118.1 miles of the Cumberland River from River Mile 30.6 above its confluence with the Ohio River to Cheatham Dam (River Mile 148.7). At normal summer recreation pool (elevation 359 msl) Barkley has 1,004 shoreline miles; 782 of which are adjoined by Government land held in fee ownership. The project has a total of 108,963 acres of land and water, including 34,464 acres of fee and easement land area above the summer pool. The irregular shoreline is surrounded by gently sloping to rolling hills with few bluffs and steep banks. Composition of the shoreline is generally mud, clay and gravel with some areas of sand or limestone rock outcroppings. The fee land above summer pool is approximately 60% in forest; primarily second growth oak-hickory complex. The other 40% is in various stages of succession.

Most of the fee-owned land is accessible to the public due to the land acquisition policy on Barkley, which called for purchasing in fee simple title up to the 5-year flood frequency (elevation 367 msl)

and acquiring flowage easement (right to flood) for lands between elevations 367 and 378 msl. It is in part due to the narrow land ownership and also to permit policies prior to 1973, that this Shoreline Management Plan is needed to manage private exclusive use of public lands and to protect the natural resources of the shoreline areas.

6. **Present Land Use.** There are 30 Corps recreation areas on Lake Barkley, which comprise 2,700 acres. Lake Barkley State Park, located on the Little River embayment, encompasses 1,700 acres of land. The city of Dover, Tennessee operates a 51-acre recreation area and the city of Clarksville, Tennessee, operates two areas that total 37 acres. There are seven commercial marinas located around the lake that occupy 370 acres that are in addition to the marina located at Lake Barkley State Park. The U.S. Forest Service Land Between the Lakes recreational area occupies the western shore of Lake Barkley from the canal connecting Barkley and Kentucky Lakes to near the city of Dover, Tennessee. The Cross Creeks National Wildlife Refuge Area operated by the U.S. Fish and Wildlife Service includes 9,892 acres of land and water area on both sides of the lake from Dover to Cumberland City in Tennessee. The Kentucky Department of Fish and Wildlife has a 5,429-acre tract of land and water under lease for wildlife management purposes. The Tennessee Wildlife Resources Agency operates a 3,608-acre wildlife management area on the lake in the Tennessee portion (Barkley Waterfowl Management Area).

7. **Residential Development On Adjoining Property.** Due to the nature and accessibility of the shoreline, residential development of adjoining private surrounding Lake Barkley has continued to increase each year. With nine cities adjoining the lake or tributaries, varying in size from a few hundred in population, like Grand Rivers, to over fifty thousand at Clarksville and approximately 180 subdivisions varying in size from less than 10 lots to others with over a thousand lots, pressure for use of the shoreline will continue to increase. New subdivisions spring up each year and consequently, more people are requesting the use of public lands for extending their lawns and constructing boat docks. The protection of the shoreline from overuse and the preservation of the natural beauty of the public lands and water for all our customers is a major goal of this Shoreline Management Plan, the Resource Manager and staff.

8. **Existing Access.** The shoreline and waters of Lake Barkley are easily accessible to visitors. There are a total of 81 launching ramps with 89 launching lanes plus several old roads providing access to the water. The generally gradual slope of the land and small government ownership provides for foot access almost everywhere for adjacent property owners.

Of the 81 launching ramps, 43 are in Corps of Engineers recreation areas or commercial concessions; 24 are under other federal agencies;

2 are in Lake Barkley State Park; one is in Mineral Mound State Park; 3 are outgranted to Trigg County; one is operated by Lyon County; and 3 are outgranted to the city of Clarksville. The remaining 4 include 3 ramps in private campgrounds and 1 outgranted to a private association.

9. **Initial Permit Policy 1966-1973.** Prior to formulation of the Shoreline Management Plan in 1973, adjoining private landowners were routinely given permission for use of public lands (mowing, rip rapping, and improved access) and for the placement of floating facilities on the lake (boat docks, floats, boat houses and pontoon boats). Applications for these permits were accepted for all areas of the lake except recreation areas and other developed areas. In addition, real estate outgrants, licenses, easements and consent to easements have been issued for other work (roadways, pipelines, etc.) on public owned fee lands and flowage easement lands. As time progressed, some of these usages were determined not to be in the best interest of the lake. These existing privileges were grandfathered. Some of these grandfathered privileges exist today and that is why some apparent violations are allowed to remain.

10. **Development Of The Lakeshore Management Plan, 1973-1991.**

a. **Early Planning.** Due to increasing private exclusive use permits issued to private landowners and developers, a portion of the shoreline was taking on the appearance of being privately owned land. A need for stricter controls over the use of public lands and waters became evident. It was apparent that the continued development of lawns on public lands and private docks along the shoreline would be detrimental to the aesthetic and recreational environment of the lake. This implied exclusive use of sections of the shoreline by a limited number of individuals. Resource management personnel at Lake Barkley and from the Nashville District Office conducted a lakeshore management study. Development of the initial Shoreline Management Plan began in early 1972.

b. **Public Involvement.** In March 1973, public meetings were held in Cadiz and Eddyville, Kentucky to present the draft plan to the public and solicit comments. Letters, news releases and public notices were sent to various individuals, organizations, local, state and federal agencies, elected representatives and the news media. Many oral and written comments were received. Other meetings were also held with elected representatives, city and county officials, special interest groups and concerned individuals. These were held to further explain the plan in detail and to exchange views and suggestions pertaining to specific sections of the proposed plan. After evaluating all public input, the draft plan was revised and the final plan was released in July 1973.

In March 1985, a process was initiated to review the 1973 plan to determine if changes were needed. Public meetings were held in

Dover, Tennessee, and Cadiz and Eddyville, Kentucky, to receive comments concerning the plan. The Corps did not propose any changes to the plan at the meetings. Comments from these meetings and review by the Corps produced the approved 1986 plan. Changes were made to make conditions for mowing permits more uniform and some minor changes were made in areas where private docks are allowed. Other minor changes are also included in the text of the plan. No areas previously open to private docks and land use permits were closed due to this update.

During December of 1992 public meetings were once again held in Dover, Tennessee, Cadiz and Eddyville, Kentucky to collect public input concerning the plan. The comments from these meetings resulted in the 1992 plan. There were significant changes in the way community boat docks are managed as well as some areas of shoreline being opened for private individual docks.

The 1992 plan was reviewed and public meetings held, in the winter of 1997/1998. Public input was solicited for changes to the plan at three meetings. These public meetings were held in Eddyville and Cadiz, Kentucky, and Dover, Tennessee. The comments from these meetings resulted in the 1998 plan. Changes were made to require erosion control around docks and additional trees to be planted if necessary. Requiring tree plantings would also serve the purpose of providing subsurface water filtration and promote biodiversity.

11. **Shoreline Management Plan, 2004.** This plan is a result of an accumulation of information gathered regarding Shoreline Management from the period of 1998 until 2003, which refines and describes activities permitted on Lake Barkley. Periodic public involvement through public meetings and regular contact with the adjoining private property owners has gone into developing this plan.

12. **Section 6, Public Law 97-140 Amended By Section 1134(d), Public Law 99-662.** Public Law 97-140 stated that no dock, cabin or appurtenant structures, lawfully installed on or before December 29, 1981, shall be required to be removed before December 31, 1989 from a water resources reservoir or lake project administered by the Secretary of the Army. This law was amended by Section 1134(d), Public Law 99-662 which states that any such facilities existing as of December 31, 1989 shall not be required to be removed except when the dock or structure presents a safety hazard or the permittee fails to comply with the conditions of the permit.

When the dock presents a safety hazard or the permittee fails to comply with permit conditions, the permit will be revoked, the dock must be removed, and another permit or outgrant will not be issued. If a structurally sound dock is damaged or destroyed by a storm or natural disaster, then repairs will be authorized. The permittee may rebuild no larger than that which was originally permitted, or to the

maximum size limit set-forth in the current shoreline management plan.

13. **Shoreline Allocation.** The shoreline of Lake Barkley is allocated as follows: Prohibited Access Areas, Public Recreation Areas, Protected Shoreline Areas, or Limited Development Areas. These allocations are shown on an eight-part Shoreline Allocation Map. The official map is on display at the Visitor Center and Resource Manager's Office. Information on the printed maps instructs anyone using them to always contact the Resource Manager's Office before making a final decision on property adjacent to the public shoreline. This will assure that they are looking at the proper location on the map and that they understand all of the requirements and conditions for privileges on the public shoreline property. A public notice will be issued describing any changes in the map resulting from updates of the shoreline management policy.

a. **Prohibited Access Areas.** These are areas, which are established for the physical safety of the public. Private exclusive use privileges are not allowed in these areas. The following areas are within this classification:

(1) The immediate area of the concrete dam and power plant, including the posted danger areas upstream and downstream.

(2) The service base, including the warehouse storage areas and the maintenance shop facilities.

(3) The restricted areas of the lock, power plant, and switchyard.

During the recreation season, exceptions to the above restrictions allow access to the designated visitor areas of the dam and to the power plant visitor center. Access to the tail water fishing area is allowed year-round.

b. **Public Recreation Areas.** Public Recreation Areas include Corps recreation areas and launching ramps, city, county, and state parks, group camps, and public marinas. These areas have been developed around the lake in accordance with the project master plan to provide for recreational needs of the general public. The Lake Barkley Master Plan and Operational Management Plan, Part II, contain descriptions of these areas. Shoreline Use Permits cannot be granted in these areas. Future recreation areas are also included in this classification.

c. **Protected Shoreline Areas.** These are areas, which have been established to retain the natural, undeveloped character of the shoreline, maintain shoreline aesthetics, prevent erosion, and to protect other environmental values of the lake. The ultimate goal in these areas is to protect them from private exclusive uses, which

would be contrary to the long-term, best interests of the general public. Fish and wildlife areas, scenic or cultural resource areas, areas impractical for moorage due to water depths, and areas of large public land holdings are included in this designation. The shoreline that adjoins Land Between the Lakes, the Cross Creek National Wildlife Refuge and the Barkley Waterfowl Management Area are allocated as protected shoreline areas. Also, shoreline areas that are adjacent to commercial navigation channels are included in this category.

Pedestrian access, boating, fishing, hiking, photography, and other recreational activities are allowed in these areas as long as they are compatible with the protection of the shoreline and with state hunting, fishing, and boating laws. Access paths, buried water pipelines, riprap, and agricultural leases may be authorized in Protected Areas upon receipt of proper permits or real estate outgrants obtained through the Resource Manager. Private docks and/or residential mowing privileges are not permitted in Protected Areas.

d. Limited Development Areas. Mowing and/or private dock privileges may be granted only to adjacent private property owners in these areas. Limited Development Areas on Lake Barkley are further classified according to the type of private use authorized. The two sub-classifications are Private Dock Facilities and Land Based Activities (mowing). The extent of the Limited Development Area for mowing is greater than that for private docks, since many areas, which may be open to mowing may front shorelines which are impractical for moorage of floating docks.

14. Permits Required. The items mentioned in this plan are approved by either a Shoreline Use Permit, real estate outgrant, or a Department of the Army Permit. All applications for privileges or improvement shall be made through the Resource Manager. The Resource Manager will forward applications for activities that require action by the Corps Real Estate Division or Regulatory Branch to the District Office in Nashville in accordance with local procedures (CEORDR 405-2-13).

15. Activities Requiring Shoreline Use Permits. Shoreline Use Permits are issued for private dock facilities and mowing privileges on public property. Any alteration or modification of natural vegetation or landforms on public property at Lake Barkley is prohibited without the express written approval of the U.S. Army Corps of Engineers. However, drift, debris, and any form of garbage may be removed without formal approval. Shoreline Use Permits are non-transferable. They become null and void upon sale or transfer of the permitted facility or the death of the permittee and his/her legal spouse. A new permit may be issued to a new adjoining private property owner after he or she submits a complete application and the

required fees. The Resource Manager will receive and process all applications for shoreline use permits.

16. **Private Dock Facilities.** Private dock facilities consist of individual docks, community docks, or courtesy floats, as described below. Permits for these facilities will be issued only in Limited Development Areas allocated for private docks. Applicants must submit a Shoreline Use Permit Application with a detailed plan of the proposed facility. Each application will be considered according to location, amount of lake frontage, pool fluctuation, shoreline characteristics, water depth, impact on public use and potential for interference with commercial and recreational boat traffic. The density of private docks allowed will depend on the criteria under a. (1), below. Docks are for the moorage of boats only and shall not contain diving boards, slides, grills, sinks, household appliances or amenities roof decks, furniture, or similar facilities. The only utilities allowed on docks are water and electric lines. Tree plantings and the placement of riprap on the shoreline, is a requirement for obtaining a permit in most instances, see #17 - Land Based Activities, on page 13 and 14. In most cases bank stabilization will be required in areas where boat docks are constructed.

a. **Individual Docks.** To be eligible for an individual private dock, an applicant must own private property, which qualifies for a residential building permit and directly adjoins public property at the proposed dock location. Furthermore, the applicant should have at least 50 feet of frontage property at the proposed dock location. However, adjacent landowners requesting private docks in limited development areas will be accommodated if possible. Only one dock will be permitted per individual at a single location. Therefore, an individual with a large parcel or group of contiguous parcels of private property adjoining public property will be permitted only one dock, regardless of total lake frontage. The permittee will be responsible for all watercraft moored at the permitted dock. The permitted dock may not be rented, leased, or licensed to other individuals.

(1) **Location.** A new individual dock should be constructed within the limits of the shoreline defined by the shortest possible lines from the adjoining private property corners to the shoreline at normal pool elevation as determined by the Resource Manager. The dock must also be located at least fifty feet away from any other dock. The Resource Manager or his/her representative will designate the exact location of the facility. The density of facilities will not be more than 50% of the Limited Development Area. Whenever possible, a location will be selected which will allow neighboring adjacent landowners to also qualify for dock privileges.

(2) **Size.** Docks including the boats moored shall not extend more than fifty feet from the beginning of the walkway to the outer

edge of the dock, in a direction perpendicular to the shoreline. If in a cove, the dock shall not exceed fifty feet in length or one-third the width of the cove. The maximum allowable width for individual private docks is forty feet. The maximum allowable total surface area (overall length x width) is seven hundred (700) square feet, including the slip(s) but excluding the access walkway. Size limits may be reduced by the Resource Manager if determined necessary. Circumstances requiring the dock size to be reduced are as follows: navigation interest, precluding another adjacent landowner from qualifying for a private dock due to spacing restrictions, or public recreational use of the lake. Floating platforms, rafts, decks, etc. which do not have enclosed hulls or are not designed and used primarily for recreational navigation will be considered a part of the dock structure. A boatlift may be allowed in conjunction with an approved dock; the space occupied by the lift will be counted toward the size limitation of the dock. .

(3) Construction Criteria. Fixed piers, fixed walkways or fixed docks are prohibited. Floating docks must be properly constructed and firmly secured in place with shoreline anchors and/or spud poles. If spud poles are used, they must be long enough to allow for fluctuation of the lake to flood pool elevation. Docks cannot be moored to trees.

Only encased materials that will not sink when punctured will be approved for flotation. Flotation material of bead-board construction has created problems in area lakes. When the surface of this material is not properly coated to prevent deterioration, the beads break down and create unsightly drift, which is very difficult to clean up. Birds and fish may also consume it. Beadboard flotation is susceptible to damage from waterfowl, muskrats, and beaver, and petroleum products such as oil and gasoline readily damage it. Therefore, only good quality, closed cell (extruded) expanded polystyrene manufactured for marine use or beadboard encased in a protective coating to prevent deterioration and the resultant loss of beads will be approved for dock flotation. The use of pontoons or barrels for flotation is prohibited. The Resource Manager maintains a list of approved flotation materials. Shoreline Use Permit Condition #14 specifically addresses flotation material.

Steel, aluminum, concrete, fiberglass, pressure treated wood, or a combination of these are acceptable building materials for docks. Roofs may be authorized for the protection of the applicants' boat, but may not be used as a sun deck or storage area. Enclosed boathouses will not be permitted. Roof overhangs on docks shall not exceed three feet. Handrails may be installed on the dock and walkway. A storage compartment not to exceed fifty cubic feet may be constructed on the dock to store equipment related to boating. If the dock is painted, it should be an earth-tone color, such as green, brown, or tan. A permit tag furnished by the Resource Manager must be displayed on each dock so that it can easily be seen from the waterway. The permittee must maintain the structure in a safe and

structurally sound condition. See paragraph 19.(a) for safety requirements concerning electrical installations associated with private docks.

b. Community Docks. A community dock can reduce the visual and physical impacts of private development along the shoreline, by replacing several potential individual docks with one centralized facility. In order to equitably accommodate as many adjacent property owners as possible in congested areas, the resource manager may determine that only community dock applications will be approved. Property owners who qualify for individual docks can benefit from a community dock association in several ways. Overall construction and maintenance costs per person are generally lower for a community dock than for a separate individual dock. Electrical installation, maintenance, and inspection costs would also be lower per person in the case of a consolidated dock. The permit cost is reduced because only one facility, and consequently one shoreline use permit, is needed to serve several adjoining property owners.

The members of the community dock association own a community dock. Individual slips may not be rented, leased or licensed, nor may any other commercial activity be associated with the operation of the facility. The length of a community dock walkway will be limited to 50-feet, ending at the inside of the first slip. The dock shall not extend more than one-third the distance across a cove. The Resource Manager may reduce or deny expansion of the dock, if it is determined to be in the best interest of the public. If the proposed expansion is approved, the dimensions of additional slips must match that of the existing ones. The construction requirements are the same as for private individual docks. The community dock must be located within the limits of an area defined by the Resource Manager or his or her representative so that it is at least fifty feet from any other existing dock. Community docks shall be permitted only in shoreline areas allocated as Limited Development for private docks. Public lands will not be made available for parking. No offshore moorage may be approved. A new community dock can no longer accommodate individuals who do not own property contiguous to public property allocated as Limited Development for private docks. Existing community docks will continue to operate under their approved Corporate Charter and By-Laws.

There are two types of community dock associations authorized on Lake Barkley:

(1) Association of Individual Property Owners. Two or more individuals, each of whom meet all the requirements for obtaining a permit for a private dock, may establish a community association and apply for a community dock. Individual slips will be assigned to specific individuals. Since the permit is issued to the association, new members (those who purchase the adjoining private property of a former member) would not have to apply for a separate permit. The community dock association would simply notify the Resource Manager

of the change in ownership. The association must furnish the Resource Manager with a list of the names, addresses, and subdivision lot numbers of all members and provide notification of any changes in membership annually. Moorage at a community dock by individuals who are not members of the association may not exceed fourteen days. A member of the community dock association is not eligible for an additional individual private dock permit. However, a person with a permit for an individual dock can give up his permit to participate in a community dock. The total surface area of a community dock serving an association of individual adjoining property owners shall not exceed 475 square feet per member. No incorporation or surety is required for this type of community dock. Liability insurance coverage is required.

(2) Association of Multiple Family Developments. A community dock permit may be issued to an association of property owners of a condominium, cluster home development, or similar residential development with jointly owned property directly fronting a Limited Development Area allocated for private docks. The individual occupants must own the residential units. This excludes apartments or rental units in which residents do not actually hold title to the property involved. Persons eligible to use the community dock will be determined by the legally incorporated property owners association (see next section). Since the number of residents will generally exceed the number of slips available, association by-laws must clearly state the criteria for dock usage and turnover. Also, a property owners association shall qualify for a community dock permit only after the residential development is substantially completed, fifty per cent of the units are owner occupied, and the association officers are bona fide residents. The purpose of this requirement is to assure that the community dock is for the legitimate recreational use of actual residents and not a speculative venture by developers to enhance marketability.

For permitting and fee purposes, a community dock serving a multiple family development is defined as a single facility of up to sixteen boat slips. The maximum number of slips allowed will be determined by allotting one slip per sixty-five linear feet of available shoreline suitable for placement of individual private docks (fifteen-foot average dock width with a minimum clearance between docks of fifty feet). However, the maximum number of slips allowed in this type of community dock shall be sixteen. No other private dock will be allowed within the community area.

Guidelines for Establishing a Non-Profit Corporation
Multi-Family Development.

(i) The applicant for a community dock for multi-family development must be a legal non-profit corporation. Copies of the state certificate of incorporation, the corporate charter, corporate by-laws, and a list of officers and members (names, addresses, phone numbers, and subdivision lot numbers) must be submitted with the

application. Boat registration numbers of vessels to be moored at the facility shall be made available upon request. The charter must state that, "The purpose for which the corporation is organized is to obtain a permit from the U. S. Army Corps of Engineers to construct and maintain a private boat dock facility, and not to engage in any activities which are inconsistent with local, state, or federal laws."

(ii) The corporate by-laws must clearly state:

- * The qualifications for participation.

- * Evidence of membership on a non-discriminatory basis.

- * Procedures for utilization by members, routine maintenance, and removal of inoperable or ineligible vessels, and reassignment of slips.

- * The schedule for regular meetings, and procedures to deal with problems occurring between scheduled meetings.

- * There shall be no correlation between unit ownership and slip assignment or ownership. Individual slips cannot be rented, leased, or licensed.

(iii) The corporation must submit a shoreline use permit application with detailed plans showing the location of the facility on the shoreline and the type of construction. No deviation from the approved plans is allowed without the prior written approval of the Resource Manager.

(iv) The responsible corporate representative must sign a statement certifying that the rules and conditions covering the issuance of the permit have been read, understood, and agreed to by all members.

c. Courtesy Floats. Courtesy floats are different from other private docks in that they are only for temporary day use (no extended moorage authorized). Such floats may be authorized to provide daytime boat tie-up and landing facilities for residents of adjacent condominiums or apartment complexes, which adjoin Limited Development Areas approved for private docks. Roofs will not be allowed on courtesy floats. Courtesy floats must conform to all other construction requirements and maximum size limitations applicable to individual private docks. The Resource Manager may determine a lesser maximum size based on the demonstrated needs of the development. The permit for a courtesy float may be issued either to the property owners association of a condominium or the property owner of a rental building.

17. **Land Based Activities**. In Limited Development Areas for mowing, adjoining private property owners may apply for a shoreline use permit to mow and maintain the public property between their property and the lake. Dense undergrowth can be removed to make it possible to mow, but cutting trees greater than one inch in diameter is prohibited. The type of vegetation to be removed must be clearly specified on the individual's land use plan and approved by the Resource Manager before any work takes place. Limbs may be trimmed up to one third the height of the tree, but not to exceed 7 feet. The use of bulldozers or graders of any type to clear vegetation on public land is strictly prohibited. The Resource Manager or his or her representative will specify the limits of clearing in areas previously not mown. Applicants are encouraged to plant trees and riprap where needed.

a. Permittees shall be required to mark the boundary line between their property and public property so the general public can determine the extent of public shoreline property. The permittee may accomplish this by one or a combination of the following methods:

1. Plant and maintain trees or shrubs on or near the private property corners and on forty-foot centers along the public property line.

2. Maintain a birdhouse or feeder attached to a 4" X 4" wooden post on or near the private property corners and on forty-foot centers along the public property line. A property line sign may be attached to selected posts by a Corps ranger.

3. Plant and maintain a solid hedgerow along the public property line.

4. Install a fence or wall on private property next to the public property line.

The Resource Manager must approve the method of delineation. In heavily wooded areas where the planting of additional vegetation is impractical, the boundary will be delineated with Corps of Engineers property line signs and/or blazes on trees painted yellow.

b. The following measures are required for all new mowing permits and will not apply to existing permits at the time of renewal. Permittees must plant and maintain trees and/or shrubs on the public land to a density of 24 trees or shrubs per acre. Fifty percent of the plants must be trees and they must be a minimum one-inch base diameter. Shrubs must be a minimum size of two-gallon containers. In areas that are partially or totally wooded, the permittee will be required to plant trees or shrubs only where needed to establish the required density. Existing trees or shrubs on public land will be counted towards the 24 per acre. Trees can be close together and randomly planted to simulate natural conditions. Symmetrical

planting on evenly spaced centers is not natural in appearance and will not be required except to delineate property boundaries. If trees die, they must be replanted. Planting designs must use only indigenous plant materials. Designs can be approved on a case-by-case basis for planting of native ornamental trees and shrubs, wildflowers, and grasses. All planting designs and layouts must be approved before planting. A list of species recommended for shoreline planting is available at the Resource Manager's office.

c. The following measures are required for all new mowing permits and will not apply to existing permits at the time of renewal. When the Resource Manager determines erosion control is required, the applicant must control erosion on a portion or all of the shoreline. The applicant will have five years to complete this requirement. Erosion control can be accomplished by one or a combination of three methods: by either placing quarry-run stone (riprap), placing existing natural rocks, or using vegetative structures along the shoreline.

18. Other Activities Approved By The Resource Manager.

a. Paths. The Resource Manager may authorize a meandering path not to exceed four feet in width to improve pedestrian access to the lake. Tree cutting will not be allowed. The path must blend in with the natural terrain, and only a natural surface will be permitted. The use of natural material for stepping-stones will be allowed if such material is placed flush with the ground and the resulting appearance is not that of a sidewalk. Access paths across public lands will be restricted to pedestrian use only and will be available for the use of the general public. This does not include the construction of concrete, metal, or wooden walkways, or steps; these structures require a license from the Real Estate Division and are approved on a case-by-case basis in Limited Development Areas.

b. Special Activities. The Resource Manager can authorize, through a Specified Acts Permit, the removal of damaged trees, downed trees, or selected standing trees, and the filling of holes and eroded drainage areas on public land if he or she determines that such conditions constitute a bona fide safety hazard. These activities will be considered on a case-by-case basis. Generally when a standing tree is allowed to be removed, a suitable replacement tree must be planted somewhere on public land. The planting of native trees and shrubs and/or species beneficial to wildlife is encouraged on public land.

c. Aquatic Plant Control. Native aquatic vegetation is beneficial to the aquatic ecosystem. Certain non-native species, such as Eurasian Watermilfoil and Hydrilla have the potential to drastically alter the ecological balance, recreation potential and adjoining land values at Lake Barkley. When aquatic plant management is required, priority consideration will be given to physical and biological

controls to the maximum extent possible. The Resource Manager will be responsible for aquatic plant management at priority Corps operated public use areas such as beaches and launching ramps. The Corps will not be responsible for aquatic plant control around commercial marinas, private docks, community docks, utility water intakes, etc.

Generally, individuals desiring to remove aquatic plants manually or with hand tools to restore access to boat docks may do so without formal authorization from the Resource Manager. The use of commercial harvesting equipment, dredging, or rotovating will be evaluated on a case-by-case basis and may be permitted in writing by the Resource Manager, or through Department of the Army permit, if applicable. If aquatic herbicides are to be used, only those specifically approved for aquatic use by EPA will be authorized in strict accordance with label restrictions. Plant control for the benefit of individuals, commercial marinas and utility water districts will be accomplished by a licensed, certified, commercial applicator operating under written authority (permit obtained in advance) of the Resource Manager, at no expense to the government.

d. Aids to Navigation and No-Wake Areas. The U.S. Aids to Navigation System on the Western River System and the Uniform State Waterway Marking System specify the accepted navigation markers on Lake Barkley. No-wake areas can be approved for marinas, public boat launching areas and other public areas after a navigation review to determine the impact on commercial navigation. Coordination will be made with the Kentucky Department Fish and Wildlife Resources, Division of Law of Enforcement.

19. **Activities Requiring Real Estate Instruments**. Items which involve structures placed on public land or changes in landform are covered by a lease, license, or other legal outgrant issued by the Corps Real Estate Division. All commercial development activities require a real estate lease. Minor privileges, such as water or electrical lines, marine railways, and steps, are covered under a five-year license.

a. Electrical Lighting and Equipment. Electrical equipment, including service for a private dock or shoreline security light, may be permitted provided that the installation of such equipment does not pose a safety hazard or conflict with other recreational use. Electrical facilities on public property shall be approved only to provide security lighting or power for a permitted private dock. The Resource Manager or his or her representative will approve the location of all security lights on public land. Electrical installations must meet all applicable codes. A state electrical inspector must certify the electrical installation, and a copy of the electrical inspection certificate must be furnished to the Resource Manager before final approval. A copy of every subsequent re-certification (e.g. for rewiring or adding more outlets) shall

also be furnished to the Resource Manager. Because of the potential hazards of electrical shock, the Resource Manager will require removal of any electrical equipment if the installation cannot be certified. Overhead electrical lines will not be permitted unless the Resource Manager determines that natural conditions preclude underground installation. Electrical lines or fixtures cannot be affixed to trees on public property.

b. Pipelines. Applications for water pipeline licenses for domestic use will be considered if the total quantity of water to be drawn from the lake does not adversely affect project operations. All water pipelines will be buried except where the Resource Manager determines that natural conditions preclude such installation. Water pumps, which are not of submersible design, must be located on private property or on a permitted private dock. The fee for a water pipeline license will include a charge for water withdrawal as well as the charge for granting, administering, and inspecting the pipeline right-of-way.

c. Marine Railways. A license for a marine railway may be granted in lieu of a shoreline use permit for a private dock. The applicant must own property, which qualifies for a residential building permit and adjoins a Limited Development Area approved for private docks. The Resource Manager or his/her representative will determine the exact location of a railway. The marine railway must conform to the natural contour of the ground. The installation must be constructed and anchored so that it does not create a safety hazard or restrict public use of the shoreline. Any electrical equipment for the railway must meet all applicable codes and be certified by the state electrical inspector. A copy of the electrical inspection certificate shall be provided to the Resource Manager. Boats must be stored on private property.

A marine railway may be approved to serve the moorage needs of landowners where the Corps holds only an easement estate. The installation must accommodate the existing contour of the shoreline.

d. Personnel Lifts. Licenses for the construction of personnel lifts or similar structures may be permitted in special situations (i.e., for persons with disabilities). The size of such facilities will be limited in order to minimize impact on the shoreline. Personnel lifts will be permitted only in Limited Development Areas allocated for private docks.

e. Steps and Walkways. Licenses for steps or walkways may be granted when the Resource Manager deems such facilities are needed to provide safe access to permitted private moorage facilities. These licenses will be approved on a case-by-case basis in locations where terrain is steep or other conditions exist which make access difficult. Pressure treated wood or landscaping timbers are recommended to minimize aesthetic impacts. In any case, the materials to be used and overall design and must be approved by the Resource Manager

before installation. Upon transfer of the adjoining private property, the new owner may apply for a license to continue use and maintenance of the structure.

f. Agricultural Leases. Agricultural leases may be issued for hay, grazing, and water access. First consideration will be given to the quality of existing or potential wildlife habitat. If it is determined that the agricultural activity, will have an adverse impact on aquatic or terrestrial wildlife communities, the application for lease will be denied. When approved the lease area will be determined by the Resource Manager. Where land area permits, a suitable buffer strip along the immediate shoreline shall not be mowed, used only for grazing and water access. Agricultural leases will not be issued for residential mowing purposes. Areas leased for hay and grazing purposes must remain open for the recreational use of the general public. These areas may not be subleased.

20. Activities Requiring Department of the Army Permits. Activities involving excavation of the lake bottom, depositing dredged or fill material into the lake, construction of outfalls, intakes, pipeline crossings, installation of fish attractors, etc. require Department of the Army approval under Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act. Some categories of work have previously been authorized under provisions of nationwide or regional permits (general permits) so that an individual Department of the Army Permit is not required. The average processing time for non-controversial, individual permit applications is sixty days from the date a complete application is received in the Corps' Nashville District Office. Because of the public notification process required, controversial applications, which involve potentially adverse environmental impacts, could take much longer and ultimately be denied. Therefore, applications should be submitted to the Resource Manager as far in advance of the proposed work as possible.

a. Dredging. Applications for dredging are accepted in Limited Development Areas allocated for boat dock privileges to provide sufficient water depths for boat access. All spoil material must be disposed above elevation 378 MSL. Measures to control siltation and erosion of dredged material shall be outlined on the initial application.

b. Shoreline Erosion Control. Shoreline erosion control is encouraged because it benefits public property as well as the adjacent private property owner. Placement of quarry-run stone (referred to as riprap), with its inherent habitat values for aquatic life, is the cheapest, most environmentally desirable, and most effective structural method of shoreline erosion control.

Normally stone less than six inches in diameter does not provide adequate erosion protection and will not be approved for use as

riprap. However, if large stone is used and recreational access is desired across the riprap, a pedestrian access way can be prepared by top-dressing with a limited amount of fine stone material to fill voids and make access safe and easy. Small stone can also be approved for use as a filter blanket, provided it is topped with large stone. The Resource Manager will recommend the proper way to install the riprap for a particular situation and will require a method, which will minimize destruction of vegetation along the shoreline.

Riprap will be placed along the existing shoreline and in a continuous manner without creating inlets, boat harbors or jetties. No land reclamation will be authorized. Public land disturbed by equipment used for placing riprap must be leveled, seeded, mulched, and replanted (with trees if required) to restore vegetative cover to the shoreline. The Resource Manager will verify and approve in writing bank stabilization activities that do not exceed 500 lineal-feet under a Department of Army Nationwide Permit. However, bank stabilization activities in excess of five hundred feet along the shoreline or in an amount greater than one cubic yard per linear foot (below the waterline) may require processing as an individual Department of the Army Permit.

Vegetative structures can also be used to control shoreline erosion. Mechanical bank stabilization is used to protect the existing vegetation, while the biotechnical approach (or vegetative approach) saves existing vegetation, which alone is not strong enough to hold the slope or shoreline. These biotechnical methods are an alternative to riprap, which combines mechanical and vegetative methods to stabilize a site by constructing living structures that control erosion and sediment. Vegetation used may include native woody species which root easily, such as willow, ash, dogwood, maples, birch, sycamore, locust and even forsythia. These methods promote a more natural shoreline appearance. As plants become established, they control erosion in several ways. Leaves intercept raindrops, which may cause erosion. Stem material catches sediment. Roots stabilize soil conditions and can help protect against slope failure.

c. Fish Attractors. Fish attractors are man made habitat for concentrating fish, and a Department of the Army Permit must approve their placement in Lake Barkley. Fish attractors meet the criteria for approval under the Nationwide Permit for fish and wildlife harvesting devices {33 CFR 330.5(a)(4)}. Permits for fish attractors may be issued by the Resource Manager provided such installations meet the Nationwide Permit conditions.

21. Duration Of Shoreline Use Permits. Permits will normally be issued for a five-year period. Permits can be suspended or revoked by the Resource Manager at any time for non-compliance with permit conditions, or if it becomes necessary to protect the overall public interest.

22. **Consolidation Of Real Estate Outgrants And Shoreline Use Permits.**

If the same individual holds both a shoreline use permit and one or more real estate outgrants, the terms will be adjusted based on the instrument that is due for renewal first, so that the permit and all outgrants issued to an individual can be renewed at the same time.

23. **Fees.** A non-refundable administrative fee will be charged for shoreline use permits. Real estate outgrants will be assessed a separate fee appropriate to the type of use granted. A schedule of current fees for activities mentioned in this plan is available from the Resource Manager

24. **Prohibited Items.** Land owned by the federal government around Lake Barkley is for use by the general public. Private exclusive uses not specifically authorized above are prohibited. Prohibited items include, but are not limited to:

a. Structures including patios, fences, sidewalks, buildings, sheds, barbecue grills, satellite dish antennas, playground equipment or planters.

b. Gardens and orchards.

c. The spreading of sand to construct a beach, or gravel or any other material to construct a private access ramp.

d. The storage of any object including firewood, boats, trash cans, scrap material, pet houses and pens, etc.

e. The disposal of litter, leaves, trash, or any other debris or waste.

All unauthorized structures and private items shall be removed from government property within thirty days of written notice. Trash, litter, and debris shall be removed immediately upon verbal or written notice. Prohibited items are subject to impoundment and removal by the Corps of Engineers at the owner's expense.

25. **Boundary Line Encroachments.** The public property line around the lake has been established and clearly marked with signs on metal or wooden posts and blaze marks painted yellow on trees. It is the responsibility of each adjoining landowner to know the exact location of his or her property lines and corners. Construction on, or alteration of, public land can be avoided by proper research and planning to prevent costly removal of private structures and/or after-the-fact restoration of public property. Removal or alteration of public property line markers or survey points is expressly prohibited.

26. **Existing Enclosed Boathouses.** Existing enclosed boathouses that were approved prior to the original Lake Barkley Lakeshore Management Plan in 1973 will be allowed to remain in their present condition. When the ownership of the boathouse changes, the new permittee will be required to modify the dock to create a substantial opening such as a window or fenced door. This will allow the interior of the structure to be readily inspected to assure that it is not being used as a floating cabin or does not contain facilities such as refrigerators, stoves, toilets, etc., that are conducive to human habitation.

27. **Water Quality.** Because Lake Barkley provides aquatic habitat, recreational opportunities, and a dependable residential, municipal, and industrial water supply, safeguarding the water quality of the lake is of utmost importance. The cooperation of area residents and federal, state, and local agencies is necessary in this effort.

a. **Trash, Refuse, Debris.** The disposal of household trash, grass cuttings, leaves, tree limbs, waste oil or chemicals, or any other material in the lake is strictly prohibited. Burning household trash or garbage on public land is also prohibited.

b. **Privately Owned Sanitary Facilities on Adjoining Property.** Septic tanks, drain fields, and other sanitary facilities on adjoining private property are regulated by the Water Division of the Kentucky Office of Natural Resources and Environmental Protection and the Groundwater Protection Division of the Tennessee Department of Health and Environment. The construction or installation of a septic tank, drain field, or holding tank on public land is not allowed.

c. **Fill Material.** The U.S. Army Corps of Engineers regulates the discharge of dredged or fill material into any waterway or adjacent wetland, regardless of ownership, under the authorities of Section 404 of the Clean Water Act and/or the Rivers and Harbors Act of 1899. (See Paragraph 19.) Copies of these regulations are available for public review from the Resource Manager.

d. **Non-Point Sources of Water Pollution.** The Water Division of the Kentucky Cabinet of Natural Resources and Environmental Protection and the Division of Water Pollution Control, Tennessee Department of Health and Environment, are responsible for the prevention and control of streambank dumping, unauthorized gravel dredging, siltation from unprotected construction sites, and other activities which occur off federal property in the tributaries of the lake and do not involve a direct discharge of fill material as described in Paragraph c., above. The Kentucky Department of Fish and Wildlife Resources or the Tennessee Wildlife Resources Agency assesses penalties for fish kills resulting from water pollution.

e. **Municipal and Industrial Discharges.** Industries and municipal sewage treatment plants located adjacent to public property

which have outfalls designed to discharge treated effluent directly into the lake are regulated and monitored by the Water Division of the Kentucky Office of Natural Resources and Environmental Protection and the Division of Water Pollution Control, Tennessee Department of Health and Environment. Currently there are four municipal sewage treatment plants with outfalls in Lake Barkley.

28. **Grandfathered Privileges.** In an effort to implement this management plan fairly with regard to existing private use on public land, the Resource Manager will honor all prior commitments of the government. The "grandfather clause" is a provision which allows existing land-based privileges of a type no longer permitted to continue to the individual who originally obtained the permit or real estate outgrant, provided he or she adheres to all terms and conditions of the permit or outgrant. Such permits or outgrants shall remain in affect until:

a. The transfer of ownership of the individual's adjoining private property.

b. The death of the individual and spouse.

c. Permit or outgrant conditions are violated and not corrected upon reasonable notice.

d. The individual voluntarily discontinues the private use covered by the grandfather clause.

When any of these events occurs, the permit or outgrant becomes null and void. Any future private use on public property at that location must conform to current requirements of the shoreline management plan. (See Paragraph 11 for policy on existing permitted docks, which are not located in Limited Development Areas allocated for private docks.)

29. **Appeals Process.** Most problems concerning shoreline management can be resolved at the local level through the Resource Manager. If a problem cannot be resolved at this level, documentation of the dispute may be forwarded to the District Engineer for review. The review will focus on any procedural deficiencies in the Resource Manager's decision, or conflicts with the decision and the Shoreline Management Plan. The decision of the District Engineer is final.

30. **Procedures for Items Not Otherwise Covered in this Plan.** There may be occasions when requests for privileges or work within the scope of shoreline management arise which are not specifically addressed in this Plan. If this occurs, the Resource Manager will take the following actions:

a. Review the request for general conformance with the objectives and intent of the Shoreline Management Plan. Determine if

the request is likely a one-time event or whether it will likely be a recurring demand.

b. If the request is likely a one-time event and a decision concerning the application could clearly be shown to be either contrary to, or not contrary to, the overall public interest in light of the objectives of the Shoreline Management Plan, the Resource Manager shall approve or deny the request in a timely manner and document the administrative file as to the nature of the request and reasons for actions taken.

c. If the request would likely be of a recurring nature, in addition to making a determination and taking action as in (b), above, the Resource Manager shall forward a copy of the documentation to the Nashville District Office, with a proposal of how such requests should be addressed in updates to the Shoreline Management Plan.

d. If a request is highly controversial, could impact the administration of the shoreline management program by setting a precedent for similar proposals, or is not clearly in, or is contrary to, the overall public interest, the Resource Manager shall forward the request to the District Office for review and joint determination as to the proper course of action. The applicant will be advised in a timely manner as to the status of his or her request and informed of the anticipated date of a decision on the request. Once a decision is made, the Resource Manager will draft proposed wording to be included in updates to the Shoreline Management Plan to address similar requests, and submit the proposal to the District Office for review.

31. **General Evaluation of the Plan.** This Shoreline Management Plan is intended to provide optimum benefits to the general public and to conserve the natural resources of Lake Barkley. Present and future recreational needs of the general public and environmental considerations were evaluated in formulating the Plan. This Shoreline Management Plan will be reviewed periodically, but no less often than every five years, to determine the need for update. This Plan is prepared as an appendix to Part II of the Operational Management Plan for Lake Barkley.

32. **Public Involvement.** Public meetings will be held to seek public input and involvement for any major update in the Shoreline Management Plan or the Project Master Plan. This will also apply to policy revisions, which affect changes in land use and/or impact a large number of people.