

Appendix L

PUBLIC COMMENTS

Final Environmental Impact Statement for the Greers Ferry Lake Shoreline Management Plan

**Greers Ferry Lake, Arkansas
Little Rock District
US Army Corps of Engineers**

April 2002

RESPONSES TO PUBLIC COMMENTS ON THE DRAFT EIS

Approximately 5,000 comments from Federal and State agencies and the public were received on the Draft EIS for the Greers Ferry Lake Shoreline Management Plan. Comments were received in the form of E-mails, letters, newspaper clippings, and petitions. Many comments expressed a preference for one alternative or another or for one of the elements of an alternative. Some comments expressed personal opinions about how the Corps manages the shoreline and Greers Ferry Lake, the condition of the lake, and how the lake should be preserved into the future. Those comments that addressed the two things which must be responded to (CEQ Regulations for Implementing NEPA, 1504.3), the Merit of the Alternatives and the Adequacy of the Analysis, are responded to in the following pages. These comments were submitted primarily by the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the organization Save Greers Ferry Lake, Inc., and Community Water Systems.

Following the comments and responses are copies of all comments received on the Draft EIS.

COMMENTS OF THE USEPA

Comment: EPA rates the DEIS as "LO-2" i.e., EPA has "Lack of Objections and Requests Additional Information in the final EIS." Overall, we believe the DEIS is quite good and our comments primarily identify areas where correction of apparent inconsistencies or contradictions and additional clarifications in the impact assessment may be warranted. Our classification will be published in the Federal Register according to EPA's responsibility under Section 309 of the CAA, to inform the public of our views on proposed federal actions.

Response: Comment noted.

Comment: Appendix D, page 1-3, footnote #2 (referenced in the first sentence) is located at the bottom of the page and also presented as the second paragraph in the text, which appears to be redundant.

Response: Appendix D contains the text of a final report issued before the EIS. While the comment does mention an error in that text, since the report was issued as a final document, the text of the Appendix was not edited.

Comment: Appendix D, page 1-3, states the Notice of Intent, dated August 23, 2000, is in Appendix A; however, Appendix A only contained a copy of the Greers Ferry Lake Rezoning Request Evaluation Criteria form.

Response: Appendix D contains the text of the Scoping Report, and the reference to the NOI in Appendix D was to Appendix A of the Scoping Report, rather than Appendix A of the EIS.

Comment: Appendix D (page 4-1) includes the subject heading "land use and land cover" as a scoping issue to be addressed in the EIS. Because of the distinction between land use (what is practiced, permitted or planned) and land cover (what is physically on the ground), the rationale for no effects on "Land Use, Land Cover, and Land Use Controls," appears to be because the alternatives are not in conflict with existing land use plans, policies, or controls. If this is the case, it seems more appropriate for this resource category to be entitled, "Land Use Plans, Policies, and Controls" since the impacts to land use and land cover are apparently not applicable and covered under other resource categories (e.g., watershed, aesthetics, ecology, and cultural resources).

Response: Effects to land use, land cover, and land use controls are discussed separately under each alternative for the lake shoreline, adjacent private property, and the watershed. The EIS concludes that no effects would occur to land use and land use controls for the reasons mentioned in the comment (i.e., lack of changes caused to land use plans or policies). Effects to land cover differ for each of the alternatives, as listed in the Effects Summary tables at the end of the discussion for each alternative. The discussions in Table ES-1 and 4-28 were revised per the comment.

Comment: Appendix D (on page 4-2) states scoping issues related to water resources to be addressed in the EIS were water quality, shoreline erosion, docks, lake levels, shoreline and other lake levels. Of these issues, only lake levels appeared not to be addressed in detail in the DEIS. The final EIS could be strengthened by evaluating this scoping issue or providing additional clarification on whether potential effects on lake levels are within the scope of the EIS.

Response: Analysis of lake levels was not included in the EIS because, while public comments were received on the issue, those comments did not indicate that it was an issue of primary

interest to the public. After consideration of the added benefit that such an analysis might lend to the EIS, it was concluded that the issue of lake level was not relevant to the analysis in the EIS.

Comment: Appendix G contains a letter dated 10/17/01 from Tetra Tech to the US Fish and Wildlife Service requesting concurrence in its no adverse effect determination on listed-Federal endangered and threatened species. The Final EIS would be strengthened by clarifying if Tetra Tech was designated as the Corps' non-Federal representative for the purposes of consultation under Section 7 of the Endangered Species Act.

Response: USFWS did not respond to the letter contained in Appendix G. The agency did provide a list of species potentially affected by the proposed action, and that response is contained in Appendix G. The response of USFWS concerning the impacts of the proposed action are contained in the comments of the agency.

Comment: Both Appendix D (page 4-1), and lines 10 and 11 on page 4-143, refer to the findings of a separate study on the carrying capacity of Greers Ferry Lake that will be incorporated into the EIS as a part of the evaluation of impacts on recreation and recreational facilities. However, it is unclear, if, or to what extent, the results of this study were incorporated into the DEIS. For example, alternatives evaluated under "Recreation and Recreational Facilities" relate to projected increases in boat traffic (e.g., by approximately 1 percent), but there is no citation provided in reference to the subject study in the text, or a COE report on this subject listed in the table of contents or included as an Appendix.

Response: The Recreational Carrying Capacity Study was a separate planning study conducted by the Corps. It is referenced in the EIS as "USACE, Little Rock District, 2001b." The study focused on use of the lake surface more than on shoreline use and impacts.

Comment: In reference to effective project management and sound environmental stewardship as noted on page 1-12 and table 1-1, pollution prevention can also be an effective way to mitigate adverse impacts under NEPA. CEQ instructs federal agencies to address pollution prevention in the proposed action and reasonable alternatives [40 CFR 1502.14(f), 1502.16(h) and 1508.20]. The proposed project provides an opportunity to integrate pollution prevention measures into both construction activities and the decision-making process. Pollution prevention can include: recycling, including using recycled materials in project construction and operation; increasing efficiency and conservation of energy and water resources; and reducing or eliminating contributions to point or non-point (e.g. runoff) source pollution. Pollution prevention can be implemented with techniques such as waste stream segregation, 'good housekeeping', or best management practices, and employee training. The record of decision (ROD), documenting the final decision, can be a valuable tool to inform the public and others how pollution prevention was not only included in the NEPA process, but also how it will be implemented.

Executive Order (EO) 12856 - Federal Compliance with Right-to-know Laws and Pollution Prevention Requirements (August 1993), includes commitments that the federal government "should become a leader in the field of pollution prevention through the management of its facilities, its acquisition practices, and in supporting the development of innovative pollution prevention programs and technologies."

EO 12873 - Federal Acquisition, Recycling and Waste Prevention (October 1993), directs the federal government to more efficiently use natural resources by maximizing recycling and preventing waste whenever possible, and "serve as a model in this regard for private and other public institutions."

EO 12902 - Energy Efficiency and Water Conservation at Federal Facilities (March 1994) includes requirements for buildings and structures that are constructed, renovated, or purchased for use by the federal government.

Response: EO 13148 revoked both EO 12856 and EO 12088. A description of EO 13148 was added to the text in place of that for EO 12088. EO 12873 was revoked by EO 13101. A description of EO 13101 was added to the EIS in Table 1-1. EO 12902 was revoked by EO 13123, which was added to Table 1-1.

Comment: Of the scoping issues listed to be addressed in the EIS under Hazardous and Toxic Substances, only hazardous materials/waste management as it relates to Little Rock District activities, including concession activities, appeared not to be covered in any detail in the DEIS.

Response: The text was modified to reflect that changes to hazardous materials and wastes would not be expected in the District's operational management of the docks, including concessions, and that no additional impacts to hazardous materials and wastes would be anticipated from concession activities.

Comment: On page ES-3, second paragraph, "limited development area" is not spelled-out prior to the first reference to LDA.

Response: "LDA" was spelled out at this first use as suggested.

Comment: On page ES-6 (line 1) and 4-17 (line 19), the reference to future reviews under the maximum modification alternative appear to be out of place or inappropriate in describing the scope of the no action alternative. For example, no action is stated to be equal to no changes to the 1994 SMP, while Alternative 5 (maximum modification) involves the largest increase or change from protected to limited development areas. Also, on page 4-24, line 15, no action is stated to maintain the proportion of LDA on the lake at 7 percent.

Response: The reference to rezoning applications being approved during future reviews to the extent described in the Maximum Modification Alternative (Alternative 5) is accurate. The No Action Alternative (Alternative 1) implies making "no changes" to current conditions. Currently, the SMP permits the Corps to accept rezoning applications and to approve those applications provided that the criteria for dock permitting are met. If this process of rezoning was continued until no more applications could possibly be approved, the result would be Alternative 5. Thus, Alternative 5 is the "maximum" occurrence of Alternative 1. Adoption of the No Action Alternative as it is described in the EIS would result in a review of the SMP every 5 years.

The No Action Alternative is also accurately described as maintaining the proportion of LDA at 7 percent, and on page 4-24, the text continues after the statement referred to above with "Note, however, that retention of the 1994 SMP could eventually result in rezoning along the shoreline to the extent described under Alternative 5, Maximum Modification." This statement is accurate. Alternative 1 describes the short-term (i.e., immediate or direct effect) situation if none of the 93 rezoning requests approved under the 1999 SMP were allowed to stand. Alternative 5 is included to describe the potential situation on the lake if the 1994 SMP were retained indefinitely.

Comment: On page 3-53, table 3-17 is presented as the baseline against which potential disproportionate risks to minority or low-income groups can be analyzed. With 18 percent of the ROI classified as living in poverty, the Final EIS could be strengthened by including additional clarification regarding potential impacts, if any, on this low-income group.

Response: Text has been modified to incorporate EPA's suggestion.

Comment: On page 4-9, lines 24 and 25 state that 80 percent of rezoning requests were associated with existing development. However, on page 4-11 (line 23) the language used

reflects that 80 percent existing development is "assumed". Since the rezoning permits were received, it appears inappropriate to include this same 80 percent in the list of general assumptions at the bottom of page 4-11.

Response: Text has been modified to incorporate EPA's suggestion: The bullet on page 4-11 was reworded to read, "It was determined by aerial photo interpretation that 80 percent of the 93 rezoning permits are associated with existing structures."

Comment: On page 4-10 (line 20), we suggest adding "that met the 80 percent rezoning criteria" to the end of the sentence ending "...request dock permits."

Response: Text edited per comment.

Comment: On page 4-26 (also see pages 4-55 and 4-94), we suggest omitting the phrase "and long-term indirect negligible and minor adverse effect" from the first sentence of the first paragraph on Infrastructure, since it appears these effects are addressed in the second or following paragraph(s). Also, of the scoping issues listed in Appendix D to be addressed under Infrastructure, only telecommunications systems appeared to have little, if any detail included in the DEIS.

Response: The first sentence of a major subsection, such as 4.2.4 *Infrastructure*, is intended to provide a summary of all effects to the resource area, and therefore may mention effects discussed again later in the section. For this reason, the text was not modified. Effects to telecommunication systems are addressed, as are other utility systems, with the statement, "Implementation of this alternative would not, however, be expected to directly affect other infrastructure elements such as utilities." (Page 4-26, lines 18-19; page 4-55, lines 7-9; page 4-94, lines 20-21.)

Comment: On page 4-85 (line 23), an additional 517 septic tanks are projected to be installed under the 90 percent rezoning criteria alternative; however, Table 4-18 presents a total of 519 additional septic systems (336 + 183). Also it is unclear why the 90 percent rezoning criteria and maximum modification alternatives included assessments of potential ground water impacts from septic tanks and there was no similar evaluation for the 80 percent rezoning criteria (preferred) alternative in paragraph 4.3.2.1 on page 4-46, particularly recognizing table 4-11 presents and additional 548 septic tanks.

Response: The number was corrected to be 519. A discussion of septic system impacts on ground water was added to Section 4.3.2.1. Table 4-11 was corrected from indicating 206 septic systems in the lower lake watershed to indicating 205 septic systems, in accordance with Table 4-5 on page 4-13.

Comment: On page 4-125, the phrase "degree of impact would depend" in the last sentence of the third paragraph (beginning on line 14) appears to conflict with the conclusion that modification would be significant (which connotes degree). We suggest omitting the last sentence or rewording it to convey that while the exact nature of the modifications, including landscaping maintenance, is site specific, the net effect of this change constitutes a significant impact on scenic attractiveness.

Response: The sentence on page 4-125 was modified to read, "Although the *precise nature* of impact would depend on the exact modifications undertaken . . ." (The italicized words replaced "degree.")

Comment: On page 4-143, the DEIS states that cumulative effects included actions from the past 10 years and known future actions that could occur within the next five years. Other than the new marina under consideration for Cove Creek in the south lake area, there were no other projects mentioned. The Final EIS could be strengthened by clarification of the scope of the analysis for cumulative impacts (e.g., a complete list of the known existing, planned and reasonably foreseeable projects).

Response: The last sentence of the paragraph referred to was modified to read, "The only important future action known to be planned and included in the analysis"

Comment: Recognizing no adverse impact are expected on prime farmland soils, the Final EIS would be strengthened by including documented coordination with the US Natural Resources Conservation Service on this important resource area.

Response: Considering that no direct effects to prime farmland soils currently being used for agriculture would be affected by the proposed federal action (since no Corps property is used for agriculture), the Corps did not see the benefit or necessity of coordinating with NRCS on the issue. Residential development of prime farmlands (though an unlikely indirect effect due to the absence of prime farmland soils used for agriculture in the immediate vicinity of the lake) off Corps property is not a federal action.

Comment: Recognizing SMP permitting is a continuing process that includes Section 106 consultation, it may be advantageous to consider executing a Programmatic Agreement (PA) with the Advisory Council on Historic Preservation. The PA could provide documented compliance with Section 106 of the National Historic Preservation Act, as well as the framework for site specific coordination with the SHPO, as needed, and subject to modification or revision over time.

Response: The discussions of mitigation measures for the alternatives were modified to include this suggestion.

Comment: References to trade-offs between short-term and long-term impacts or gains in Section 4.11 appears to be premature in the NEPA process. We suggest this type of impact analysis is more applicable to the ROD, which presents the decision-maker's rationale, including trade-offs between beneficial and adverse impacts.

Response: We agree with the comment. Section 4.11 was intended to address conflicts between short-term use of the environment and long-term environmental sustainability, and the text was modified to reflect this.

Comment: Regarding effects on aquatic habitat and wildlife, the Final EIS could be strengthened by including the applicability of Section 10/404 permitting for new boat docks. For example, such permits may include conditions that restrict the use of certain materials (e.g., pesticide treated lumber) that could be harmful to certain aquatic species that locate on or around these shoreline structures.

Response: Information on Section 10/404 is provided below. Dock installation does not involve construction, as docks are preconstructed and floated to their installation locations. Dredging and fill deposition for a dock are normally not allowed. Table 1-1, page 1-13, lists the relevant statutory authorities for the proposed action. The Rivers and Harbors Act of 1899 and the Clean

Water Act are both included. The SMP for Greers Ferry Lake specifies the types of materials that are suitable for docks and these specifications are part of dock permits.

Section 10 of the Rivers and Harbors Act of 1899 requires approval prior to the accomplishment of any work in or over "navigable waters" of the United States, or which affects the course, location, condition or capacity of such waters. Typical activities requiring Section 10 permits are:

- ? Construction of piers, wharves, bulkheads, dolphins, marinas, ramps, floats intake structures, and cable or pipeline crossings.
- ? Dredging and excavation

Section 404 of the Clean Water Act requires approval prior to discharging dredged or fill material into the "waters of the United States". Typical activities requiring Section 404 permits are:

- ? Depositing of fill or dredged material in waters of the U.S. or adjacent wetlands.
- ? Site development fill for residential, commercial, or recreational developments.
- ? The landward regulatory limit for non-tidal waters (in the absence of adjacent wetlands) is the "ordinary high water mark." The ordinary high water mark is the line on the shores established by the fluctuations of water and indicated by physical characteristics.

Comment: Since some categories in Section 4.9 do not specifically refer to impacts as adverse (e.g., recreation), we suggest adding the word "adverse" after "unavoidable" in line 2 at the top of page 4-153.

Response: The text was edited per the comment.

Comment: The DEIS concludes the degree and extent of short-term impacts on water quality would be a direct function of construction practices and the use of BMP's at construction sites. To help reduce or mitigate potential adverse impacts at construction sites of five acres or larger, the Final EIS should include the applicability of EPA's NPDES storm water general permit. Single housing lots can be affected if they are part of a larger "common plan of development or sale" that cumulatively would disturb 5 or more acres (one or more acres after 3/10/03). An example would be a custom home subdivision that sells lots to individuals (or builders). If the roads total 3 acres disturbance and the portion of 24 lots that would be disturbed is 1/4 acre each (6 acres total) you have a "common plan" that disturbs 9 acres and triggers permitting for any construction activity in that subdivision, even though any one lot disturbs on 1/4 acre. For additional information see: www.epa.gov/earth1r6/sws.

Response: The applicability of EPA's NPDES storm water general permit was added to Section 4.8.2, page 4-149.

Comment: The DEIS is somewhat ambiguous regarding future growth around the lake being induced by the USACE's proposed action. For example, table ES-1 states that induced development from Alternatives 1, 2, 4 and 5 will impact the local infrastructure, utilities, services, etc. However, certain alternative evaluations in Section 4 conclude that the potential for permitting actions to induce additional growth is not known (i.e., on page 4-18 line 27, on page 4-28, line 9, on page 4-47, line 5, and on page 4-86, line 18). Also, page 4-115 states that increased phosphorus loading could be as low as 3 to 5 percent if Corps actions only partially induce growth, while page 4-55 states induced growth associated with the permitting of additional docks would have long-term minor adverse effects on infrastructure resources.

Response: According to the water quality model used, only Alternative 5, the Maximum Modification Alternative, could potentially increase phosphorus loadings by more than 1 percent,

as stated on page 4-115. In concert with statements made on pages 4-18, 4-28, 4-47, and 4-86, phosphorus loadings were calculated under two possible scenarios: Corps actions fully induce growth in the surrounding area, and Corps actions only partially induce growth in the surrounding area. As stated on the pages referenced, the potential for Corps actions to induce growth is not known. The statements made in Table ES-1 were modified to reflect this uncertainty.

COMMENTS OF "SAVE GREERS FERRY LAKE"

Comment: For the criteria of Visual and Aesthetic Resources, the draft EIS states (p. 4-57) that the Corps' preferred alternative (alternative 2) would have "Long-term minor direct adverse impacts on visual and aesthetic resources." However, an examination of the narrative description of such impacts indicates that the impacts are not minor, but highly significant. The draft EIS highly misleading in characterizing such adverse impacts as "minor."

For example, on Scenic Attractiveness (Section 4.3.6.1, p. 4-58), the draft EIS states that "The potential addition of 93 boat docks (over the baseline of an additional 170 docks, which are projected under the current SMP and the No Action Alternative) on the Greers Ferry Lake shoreline, representing a potential increase of 89 percent over the 295 existing boat docks, would reduce the scenic attractiveness of the lake's shoreline."

Under Scenic Integrity (Section 4.3.6.2, p 4-58), the draft EIS states that "the potential addition of 263 boat docks on the Greers Ferry Lake shoreline would reduce the scenic integrity of the lake's shoreline because more of the shoreline would become altered from its natural state."

Comment: The significant adverse effects of the new private boat docks that would be allowed under the Corps Preferred Alternative are clearly set forth in Section 4.3.6.3 (Landscape Visibility, p 4-59), where it stated:

"The 263 potential new boat docks would be clearly visible from some 15,385 acres of the lake, compared to the 12,000 acres where the existing boat docks (alternative 1) are clearly visible (Table 4-14)."

"...Under this alternative (alternative 2), with 263 potential new boat docks, there could be a 56 percent increase in the acreage of the lake where one or more boat docks would be clearly visible over the existing situation and a 32 percent increase over No Action Alternative."

"The largest changes in boat dock viewsheds from implementation of the Preferred Alternative, compared to the No Action Alternative, would be the 51 percent increase in lake acreage from which 11 to 20 boat docks would be clearly visible (from 1,243 acres to 1,878 acres), as well as the 83 percent increase in lake acreage from which as many as 21 to 30 boat docks would be clearly visible (from 103 acres to 188 acres). These changes would be especially noticeable in the upper part of the lake, where 1 to 10 boat docks would be clearly visible for almost the entire stretch of the lake ..."

"Another area of the lake that would noticeably be affected is in the lower part of the lake to the east and southeast of Millers Point. The visual impacts in these areas would be more pronounced because the areas have been devoid of boat docks to date and the introduction of new boat docks would be particularly noticeable.

Response: An expert on Visual and Aesthetic Resources analysis prepared the analyses of the visual and aesthetic impacts of the alternatives. The opinion of this expert, based in his experience and knowledge of the literature, is that qualifiers such as "minor" and "major" cannot be ascribed to changes in landscape character unless such change is so miniscule or dramatic as to leave no doubt as to the general impression that it would create. For this reason, the visual impacts of the No Growth Alternative and Maximum Modification Alternative were appropriately labeled "negligible" and "significant," respectively. Due to the very subjective nature of these impacts, no qualifier was added to the impact assessments of the other alternatives. Later, to be consistent with the rest of the document, the qualifier "minor" was added. Based on the

comments received, an arbitrary dividing line of a 50 percent change in visibility of docks from the lake surface or the surrounding land was chosen between "minor" impacts and "major" impacts. With this dividing line, Alternative 2 (the Preferred Alternative in the Draft EIS) has major visual and aesthetic impacts and Alternative 6, the Revised Preferred Alternative, has both minor and major visual and aesthetic impacts.

Comment: Alternative No. 2 (The Corps' Preferred Alternative) misrepresents to the public that no future rezoning request will be accepted.

In an effort to persuade the public to accept the Corps' proposed plan as a "one-time" allowance of additional boat docks on the Lake, the draft EIS states in its description of Alternative 2 that: "No future rezoning requests would be accepted under this alternative." (Draft EIS, pp. ES-6; 4-45). These unqualified statements signify to the reader that, if Alternative 2 is adopted, there will never be additional private boat dock applications accepted after the 93 new docks contemplated under Alternative 2.

In discussing Alternative 2, the Corps did not disclose to the public that, under its own regulations, it has an obligation to review the SMP for the Lake every five years, and it is free to at least accept applications for new boat docks that require rezoning of Protected Areas into Limited Development Areas. It may also, at any time, issue private boat dock permits for areas that are already zoned as Limited Development. The Corps undoubtedly will not limit its obligations and authority under its own regulations to accept new boat dock applications and to act on them. It is extremely misleading to the public for the Corps to imply that it will do so.

Based upon statements attributed to persons supporting the Corps Preferred Alternative in the news media, there is a widespread mistaken impression that there will be no more private boat dock permits issued after this SMP review. The public has been misled by serious misrepresentations in the draft EIS concerning the merits of the Corps Preferred Alternative that has poisoned at least a portion of the public's response to the draft EIS.

Response: The EIS clearly states in Section 2.4, *Alternative Analyzed*, the meaning of the phrase "until the next review," used in the descriptions of the alternatives. "Changing future conditions and sound adaptive resource management," the Corps states, "might create circumstances that call for additional review and possibly revision of earlier decisions."

Comment: We strongly oppose the Corps' Preferred Alternative (Alternative No. 2). Furthermore, the draft EIS is fatally flawed, and is legally and technically inadequate to support any of the other Alternatives set forth in the draft EIS.

Comment: The draft EIS relies heavily on assumptions rather than empirical data, and the data is insufficient to support the proposed action. Throughout the draft EIS, assumptions are substituted for empirical data and facts. For example, the draft EIS assumes a 20 percent failure rate for septic tanks in the Lake areas, when past studies show that, in fact, the failure rate is significantly higher. It is universally acknowledged that the soils of the Lake area are poorly suited for septic tanks. In a 1981 "Environmental Protection Study" prepared for the Corps, the following statement appears: "The assumption that existing and future septic tanks and wastewater treatment plants function properly is not realistic. As mentioned earlier, the majority of soils found in the study area were rated as severely limited for the operation of septic tank absorption fields. The area has a history of malfunctioning septic tank systems."

Indeed, in 1981, the Arkansas Health Department suspended the issuance of permits for septic tanks at Fairfield Bay because it found that one-third of the septic tanks in the community were

failing and in some cases, raw sewage was surfacing in yards (Arkansas Gazette, May 12, 1981). In a letter of September 30, 1980, from the U.S. Fish and Wildlife Service of the Department of the Interior, to the Corps' District Engineer, it is stated: "The use of septic tanks in close proximity to the Greers Ferry lakeshore and tributaries is extensive. Two hundred and eleven subdivisions located adjacent to the lake treat individual home wastes by the use of septic tanks with disposal fields. Recently there was a small fish kill reported at the entrance of Devil's Fork tributary into Greers Ferry Lake (AGFC). The fish kill was attributed to a private residence using a septic tank treatment system in an area with poor soil conditions relative to septic tank absorption fields. The proliferation of septic tanks resulting from present and future residential developments points to an existing and potential pollution problems compounded by poor soil conditions in the lake area. Detailed studies must be made to identify and quantify these problems of water quality and environmental degradation associated with septic tank absorption fields.

Another example of the draft EIS' use of assumptions is in the use of the term "nutrient loadings" in discussing the potential effect of the Corps' proposed actions on the Lake. Analysis of actual samples and calibrations are necessary to use such loadings information with any degree of confidence. Otherwise, the data is based solely on assumptions. In the draft EIS, the baseline loading conditions were developed using a Hydrologic Simulation Program - Fortran and Nonpoint Source Loading Model. This model was apparently not calibrated, but used "literature values," which are, again, assumptions. There is no empirical data supporting the results of those models.

The draft EIS also states that boating activities are not creating adverse water quality conditions relative to fuel contamination. The sole basis for this statement is the results of eight samples taken on August 4 and 8, 2001, a Saturday and a Wednesday, respectively. Eight samples are not adequate to quantify the broad conclusion that is reached in the draft EIS. In addition, it appears from the laboratory analysis reports that samples were not analyzed within the requisite time after taking of the samples that is prescribed by EPA guidelines, so that the results of that analysis are invalid.

Regarding pathogens, the data presentation for water quality is conveniently lumped so that no interpretation can be made. In other words, the pathogens section states median values at all stations are less than 5 MPN/100ml. That is uninformative. Nevertheless, the report goes on to state at least two high values (water quality violations).

Regarding dissolved oxygen, temperature and pH, the narrative states that there is a noncompliant measurement, but does not state which one. It then goes on to discuss oxygen-demanding material, and closes by saying that overall results show levels generally below 2.0 mg/l. However, it does not specify what levels.

The draft EIS also states at several places that 80 percent of the pollutant load enters the Lake from the three major tributaries. This is the norm for reservoirs. The more important consideration should be eutrophic zone of the Lake, and how it compares historically. For example, is the eutrophic zone moving toward the dam?

In summary, the draft EIS is a digest of largely pre-existing data lumped together in highly technical language and form as to make analysis of the issues presented by the Corps' proposed Alternative 2 difficult. The data are insufficient to answer some of the more specific questions that are relevant to the proposed action, and in some cases, is invalid. As a result, the draft EIS is insufficient.

Response: Independent experts, to include members of Tulsa District and Dr. Larry Canter, extensively reviewed the Preliminary Draft EIS. All comments received were incorporated into the Draft EIS, which received a rating of LO-2 from the EPA. This is defined as a Lack of Objections, with additional information requirement in the Final EIS. The second highest rating possible. All the data used came from the latest possible sources. The Little Rock District has collected water quality data on the lake from the 1988-1998 and additional samples were taken in 2001 for petroleum, oil and grease. Water quality sampling occurs at the beaches annually, as well as at intake and discharge sites. Septic data was acquired from a 1981 study identified by the Save Greers Ferry Lake group during Scoping and there appeared no reason to update the report, because little has changed in the soils or geology in the last 20 years.

Comment: There is no reasonable justification for increasing the vegetation modification (mowing) radius to 100 feet from a habitable structure.

In fact, this issue was thoroughly reviewed in the 1999 EA conducted by the Corps, and found to be unjustifiable considering the conditions along the shoreline at Greers Ferry Lake: "A third alternative that would replace the existing vegetation modification permit system with the standards outlined in the National Fire Protection Association Standard 200 (NFPA 299) evaluation process was proposed. The NFPA 299 process involves the evaluation of a wildfire hazard through a wildfire hazard severity analysis, which includes a number of factors or variables. These variables include: weather history; fuels; number and types of structures; construction materials; slope and aspect; fire history; access and evaluation; and other local factors that can increase or decrease the likelihood of fire... A defensible space is an area between an improved property and a potential wildfire... [U]sing the criteria for determining wildfire hazard severity in a preliminary analysis..., it was determined that the average defensible space requirement for homes in the vicinity of Greers Ferry Lake would be less than the current 50 feet of allowable vegetation modification. In most cases the defensible space would be approximately 30 feet. The wildfire hazard in the vicinity of Greers Ferry Lake is relatively low due to several factors. Some of these factors include: the relatively humid and temperate weather conditions, the lack of fuel loading and ladder fuels; the lack of a significant fire history; and the juxtaposition of the permanent habitable structures with Greers Ferry Lake." 1999 EA, p. 3-2, 3-3.

There is nothing in the draft EIS to overcome this scientific basis for limiting the radius of mowing from private property onto the public easement to no more than 50 feet, and certainly nothing that would justify the increase of the mowing radius from 50 feet to 100 feet, as proposed in Alternative 2 of the draft EIS.

The principle justification given in the draft EIS for the increase to 100 feet is that it would improve the adjoining landowners' views of the lake. However, unlike the EA, the draft EIS is very vague about the adverse effects of the increased mowing radius on soils around the lake, and on scenic integrity. For example, the draft EIS states only that: "Long-term minor adverse impacts on soils would be expected if the Corps extended the permitted fire protection vegetation modifications (mowing) distance to 100 feet from habitable structures and permitted increased development in LDA's. The acreage of modified areas would increase, resulting in some reduction of vegetative cover. However, it is assumed that a grassy cover would remain in modified areas and bare soil would not be exposed, thus limiting any major amount of soil erosion."

The draft EIS also attempts to justify an increase in mowing radius from 50 to 100 feet (an increase of 300 percent) by referring to it as "fire protection vegetation modification." However,

as the EA determined, in the Greers Ferry Lake shoreline area, a radius of more than 30 feet is not justified by use of the National Fire Protection Association Standard. Nor is there any attempt in the EIS to quantify the amount of increased mowing that would occur under Alternative 2, or the additional silt or other pollutant loading to Greers Ferry Lake that would occur in order to determine the adverse environmental effects of such a change.

Comment: The 50 foot vegetation buffer that is a component of alternative 2 was found in the EA and the Draft EIS to cause significant increase in vegetation removal and erosion, with significant impact to the environment, and is unworkable.

Alternative 2 of the draft EIS proposes that "A minimum buffer from the vegetated edge of the shoreline inland for 50 feet would be established for Corps property, where mowing would be prohibited." However, the draft EIS does not attempt to quantify how much additional mowing would be allowed on public property as a result of the establishment of the "buffer," nor how adjoining private property owners would be prohibited from mowing new vegetation attempting to establish itself in such buffer zone.

The proposed 50-foot "buffer zone" did not originate with the Corps' Alternative 2 in the draft EIS. It was considered in the EA prepared by the Corps in December, 1999, and found to likely cause "significant impact to the surrounding natural environment." More specifically, the EA stated: "A second alternative that would allow vegetation modification from the USACE fee title boundary to approximately 50 feet from the conservation pool elevation (461.25 feet NGVD) was considered. This alternative would guarantee a minimum 50-foot buffer strip around the entire lake, however vegetation modification (mowing) would be allowed throughout the remainder of the federal property, excluding parks and park buffers. Therefore, it was determined that this alternative would likely cause significant impacts to the surrounding natural environment, especially for vegetation, resident wildlife, and aesthetics, and this alternative will not be further evaluated."

There is nothing in the draft EIS that purports to study the effects of establishing such a 50-foot buffer, or more importantly, the effects of increased mowing into the public easement in excess of the amount currently allowed by the 51-foot radius of mowing from habitable structure. Nothing in the draft EIS refutes the above quoted finding of the 1999 EA. Indeed, the draft EIS appears to recognize the potentially severe consequences of this proposed action in the following statement: "It is not clear at this time whether establishing a 50-foot vegetated shoreline buffer would limit the impact of loss of vegetation caused by extending mowing permits from 50 to 100 feet from a habitable structure. Homes located more than 150 feet from the conservation pool and not affected by the flowage easement could take full advantage of the 100 foot moving radius without being constrained by the 50-foot shoreline buffer regulation, thereby resulting in an overall net loss of vegetation. (Draft EIS, p 4-70)

The draft EIS is deficient in that it does not have adequate scientific support for allowing increased mowing on the public easement.

Furthermore, proposed Alternative No. 2 is further misleading in that it states that the 50-foot minimum "buffer" will be measured from the "vegetated edge of the shoreline." Assuming that, at the time Alternative No. 2 were to go into effect as the new SMP, and there was, at that time, no vegetation on a discrete area within 50 feet of the shoreline, could an adjoining property owner whose habitable structure were 150 feet or closer to that area of the shoreline continue to mow to the waterline, preventing the growth of new vegetation? This is an incentive to adjoining property owners to mow any vegetation fronting their property to the waterline.

Response: The Corps has estimated the amount of land that would be affected by an increase in mowing distance in the Final EIS. The calculation is an estimate only because of the complicated circumstances involved in the calculation. For instance, a homeowner with a house located 48 feet from the vegetated buffer limit would be able to mow 2 feet into the buffer to achieve a 50-foot distance from their home. A homeowner with a house located 25 feet from the vegetated buffer would be permitted to mow into the buffer up to 25 feet. A homeowner with a house located 75 feet from the buffer would be permitted to mow up to 50 feet from their house, and, based on the circumstances, might be able to mow up to the buffer (an additional 25 feet). If not required by the circumstances, then mowing would be limited to 50 feet. Inspection of the location of every house, existing and future, would be necessary to determine whether mowing would infringe on the buffer and by how much, and whether an additional 50 feet of mowing would be permitted, and how much such mowing would actually affect natural vegetation before reaching the buffer.

National Fire Safety Code does recommend that vegetative clearing around a habitable structure be more than 35 feet under special circumstances, such as when a structure is on a steep slope. The land surrounding Greers Ferry Lake is steep in many places. Hence, the EIS has been modified by including in Alternative 6, the Revised Preferred Alternative, a 50-foot mowing distance and an additional distance up to 50 feet where necessary.

Comment: We also note that there is no Statement of Qualifications or Statement of Potential Conflicts of Interest relative to the contractor who prepared the draft EIS, as is required by NEPA and its implementing regulations. Such statements should be disclosed to the public.

Response: A statement of Conflicts of Interest was added to the Final EIS. The qualifications of all persons who prepared the EIS are contained in Section 5 of the EIS.

Comment: ...the Corps attempts to justify despoiling the scenic attractiveness and integrity of the Lake by explaining that, with more private boat docks on the lake, the need for new dry land boat storage facilities in the lake area would be reduced. This is the only reference to dry land boat storage as an alternative to more boat docks. The following sentence makes it clear that the Corps did not study dry land storage as a real alternative: "[A]llowing more boat docks on the lake itself would tend to reduce the need for expansion or construction of new dry land boat storage facilities in the areas surrounding the lake. Thus, adverse impacts on the scenic attractiveness of those areas that would have accommodated dry land boat storage would be partially avoided. Without knowing the specifics of these reasonably anticipated changes and the sites or locations that would be involved, a visual resource impact assessment of the dry land storage facilities cannot be made."

This position is tantamount to the Corps claiming to save the Lake and its users from one evil (dry land boat storage, the consequences of which were not studied) by imposing yet another (arguably worse) evil in private boat docks, the adverse effects of which were only partially studied.

Response: The element of dry stack storage would have considered rezoning requests to permit courtesy docks to support off-site dry storage of boats. Consideration of rezoning areas to permit the establishment of courtesy docks was discussed at the scoping meeting. There was no mention of this, however, in the public scoping comments. The Operations Manager can permit courtesy docks and ramps in current LDA areas for the purpose of off-site boat storage. Since implementation of a new SMP would not allow for additional rezoning there was no need to carry this element forward in the analysis in the EIS.

Comment: The draft EIS is defective in failing to consider all reasonable alternatives to the Corps preferred alternative. Under NEPA, it is the obligation of the Corps to consider all reasonable alternatives to the Preferred Alternative. Reasonable alternatives are those that are practical or feasible from the technical and economical standpoint and using common sense, rather than simply desirable from the standpoint of the Corps. The consideration and discussion of alternatives is central to the NEPA's goal of promoting environmentally sound decision making. It is not necessary, in order to be considered, that the agency have the power or authority to implement the alternative.

The draft EIS is deficient in failing to consider all reasonable and feasible alternatives to the Corps preferred plan. Without limitation, there are at least two alternatives that should have been included in the draft EIS: 1) dry land storage of boats and 2) expansion of existing marinas or development of new marinas.

Comment: An alternative that was not studied is the dry land storage of boats in lieu of additional private boat docks on the lake. In fact, the scoping report for this EIS process, issued by the Corps in April 2001, expressly stated that off-lake dry storage of boats was one of the "major aspects" to be analyzed in the draft EIS. (Scoping Report, p. 2-1). Notwithstanding this, there was no serious consideration given or mention made in the draft EIS of off-lake dry storage.

The draft EIS recognizes adverse effects on the scenic qualities of the lake could be avoided by increased use of off-lake dry storage (e.g. Section 4.3.6.1, p 4-58). Although the draft EIS does not discuss it, adverse effects to water quality and soils would be avoided by the dry land storage of boats. In discussing the expansion of recreational activities in and on the lake in the future, the draft EIS acknowledges that "some demand [for access to the lake] could be met by an increase in the availability of dry dock storage facilities in the area surrounding the lake. Access to the lake would be expected to be expanded with new launch ramps or launching lanes as necessary..."

Off-lake dry storage of boats is far less environmentally harmful, more economical for the boat owner, and promotes the general economy more than the construction of private boat docks. The only advantage of a boat dock over dry storage is the convenience to the owner of the boat dock. Convenience of a few dock/boat owners is not a sufficient reason to encroach upon the enjoyment of the Lakeshore by millions of visitors to the lake, and the thousands who reside in the area who enjoy its many natural qualities. Off-lake dry storage is a subject that, even according to the Corps scoping report, should have been comprehensively studied as part of the draft EIS.

Comment: The potential for the expansion of existing commercial marinas or development of new marinas on the lake as demanded for boat slips grows is another alternative that was not analyzed in the draft EIS. It could be argued that the concentration of boats in commercial marinas, where they can be attended to on a daily basis, is less environmentally harmful to water quality than a multiplicity of private boat docks. There is no doubt that the adverse effects on other aspects of the lake and its shoreline are avoided or reduced by concentrating boats into a small number of commercial marinas located in coves rather than in scattering them about the Lake in large number of private boat docks in highly visible locations.

For example, the draft EIS discusses the planning for a new commercial marina at Cove Creek Park, but does not analyze the effect that it and the recent expansions of other commercial marinas on the lake would have regarding the demand for new private boat docks, nor does it analyze the synergistic effect of the marinas and the proposed new private boat docks on the lake and its environment. This is an obvious subject that should have been included in the analysis of alternatives of the draft EIS.

Response: The alternative of dry land storage of boats is responded to in the response to the comment above. Marina expansion was covered in the EIS. The impacts of a new marina at Cove Creek were considered under *Cumulative Impacts*. This is the only known marina addition currently planned. An EIS is not required to consider hypothetical situations such as unplanned and highly speculative expansions of existing marinas, and such actions would not constitute Corps actions because all marinas on Greers Ferry Lake are privately owned. The Corps leases the property to the marina owners, and in the case of expansions, the Corps's decision is limited to determining whether revised lease should be granted. The issue of concern in the EIS is a revision to the SMP. Expansions of existing marinas, while not explicitly included, are in effect covered under all alternatives. This is because such expansions would affect the visual landscapes near existing marinas, which are analyzed under all alternatives. Marina expansions combined with additional docks, therefore, are implicitly analyzed under Alternatives 1, 2, 4, and 5 in the Draft EIS and Alternatives 1, 2, 4, 5, and 6 of the Final EIS. Marina expansions to the exclusion of additional docks are analyzed implicitly in Alternative 3, the No Growth Alternative.

Comment: Maintaining a 50-foot vegetation buffer is an ineffective and illusory mitigation measure. The wording of this mitigation measure indicates that even the Corps and its contractor do not have great confidence that this is particularly effective as a mitigation measure, providing the 50-foot buffer "would provide some interception of nutrient loadings to the lake..." As has been extensively discussed in an earlier section of these comments, the proposed 50-foot vegetation buffer will not be effective to significantly reduce erosion of lakeshore soils or in providing wildlife habitat and other beneficial uses.

Comment: The "monitor water quality" mitigation measure is ineffective and illusory. The second mitigation measure proposed by the Corps draft EIS for adoption of its preferred Alternative 2, is to "monitor water quality for pollutants to assess present conditions and evaluate future changes and effects of activity on water quality." While that is an admirable activity, and should be undertaken regardless of the outcome of this proposed action, it is a pitifully ineffective mitigation measure, and is similar to closing the barn door after the cow has gotten out. If water quality is affected by the Corps' allowing additional private boat docks on the Lake, and/or by allowing increased mowing of lakeshore vegetation, it will be too late to reverse that decline in water quality. In fact, the barn door will have been opened to allow additional boat docks and mowing to occur in the future, so that the decline in water quality (which will surely occur), will be impossible to stop.

Furthermore, this measure focuses solely on water quality. The mitigation measures proposed by the Corps do not address the effect of its proposed alternative on the scenic, recreational, and other aspects of the lake that will be affected by implementation of the proposed alternative. There are no mitigation measures for those aspects.

Comment: Use of the Corps "Rezoning Request Evaluation Criteria" document is an ineffective and illusory mitigation measure. The Corps' "Greers Ferry Lake Rezoning Request Evaluation Criteria" is a questionnaire prepared by the Corps Project Office in 1999 to facilitate the granting of requests to rezone protected areas to limited development areas that the Corps had solicited. It contains a series of questions regarding a proposed boat dock site, many of which are highly subjective, and can be easily manipulated to achieve a score that allows the rezoning to be granted. The document contains a cryptic question of "Are there any significant environmental, ecological or cultural features present [at the proposed dock site]?" but there is no explanation of what those features include to guide the person [usually the Corps' employee] in making such evaluation.

The fact that, of approximately 110 applications for rezoning of Protected Areas to Limited Development Areas around the lake that were filed in 1999, 103 of those applications were approved through the use of the "Rezoning Request Evaluation Criteria" indicates that the criteria, and the way in which those criteria are applied to specific locations, are not particularly stringent.

Aside from the weakness of the Corps' "Rezoning Request Evaluation Criteria", there is the question of whether the Corps ought to be making decisions of the magnitude and significance that are involved in changing the face of a natural resource such as Greers Ferry Lake through the use of a vague, standardless questionnaire such as that document. The change of Protected Area to limited development area is, by the Corps' own admission, a "major Federal action," and should require far more study and evaluation than the criteria that are contained in the Corps' "Rezoning Request Evaluation Criteria" .

Comment: Use of Best Management Practices (BMP's) is an ineffective and illusory mitigation measure. The draft EIS proposes that persons who construct homes, install and access paths and anchor boat docks voluntarily use BMP's in those construction and excavation activities in order to reduce sediment runoff. While on its face this proposal sounds good, it is difficult to accept that it is made seriously in view of the difficulty that has been encountered by the USEPA and state environmental agencies in requiring the use of similar BMP's at construction sites in excess of 5 acres under the federal Clean Water Act NPDES program. Compliance with that program, particularly in Arkansas, has been very low and very grudging.

It is unimaginable that landowners who have been granted a permit to install a new boat dock on Greers Ferry Lake will install silt fences, sediment basins, diversion berms, flow mitigation devices, and other devices and materials that are generally considered as BMP's when installing their boat docks. It is noteworthy that the Corps has not proposed to make the use of such BMP's mandatory in its preferred alternative, and even if it did, would undoubtedly not have the resources to enforce their use. In addition, practically speaking, BMP's would probably not have any significant effect in settings so close to the lake, and especially when installed by landowners who had no knowledge of or training in how to use BMP's to prevent discharge of sediment runoff.

Response: Mitigation was covered in Section 4.8 of the Draft EIS. There were several items listed, BMPs, Evaluation Criteria, water quality monitoring. These are all good mitigation. The Corps will continue to evaluate additional mitigation like requiring neutral colors to boat docks, as described in the Final EIS.

Comment: The draft EIS fails to analyze the precedential effect of the Corps' proposed action on future development at Greers Ferry Lake. The potential of the Corps' proposed action to establish a precedent for additional future actions, all of which could have adverse environmental impacts upon the lake, is not sufficiently analyzed in the draft EIS. Such potential is a major consideration under the National Environmental Policy Act and its implementing regulations.

The Corps' preferred Alternative 2 would rezone 93 areas of the lake shoreline to Limited Development for private boat docks that have heretofore been zoned as Protected shoreline, and most are in the middle of very scenic areas. While the Corps attempts to minimize the effect of this rezoning by claiming that there are only 100 feet of rezoned shoreline in connection with each new dock, that is only the immediate impact. The precedential effect of that change would be to subject all Protected areas to eventual rezoning as Limited Development.

As noted in the draft EIS, Greers Ferry Lake is the most popular lake in the State of Arkansas, and one of the most popular in the nation, made so by its high quality clear water and natural shoreline. As a result of its natural beauty, and the location in an area that is growing in population at a rate double the state's average, there has been considerable development around the shoreline of the lake. Growth around the lake is certain to continue, and as it does, the pressures on the lake will mount from land clearance, septic tank malfunctions, pesticide and herbicide use, boat usage, and the demand for private boat docks to accompany the new houses that will abut the Lake - if they are available.

Only the most naïve person would believe that, once the Protected Areas of the Lake are breached by rezoning portions of those areas for Limited Development, persons who purchase properties adjacent to owners of boat docks in those rezoned areas will expect to also receive a rezoning for a boat dock for their property. If the Corps resists, political or legal pressure will be brought to bear, if necessary. The Corps will be unable to justify why it allowed one landowner to have a rezoning for a boat dock, but not an adjacent landowner. As a result, as development occurs in private property fronted by Protected Areas, those Protected Areas will fall like dominos to Limited Development Areas.

This process will not occur overnight. However, through the years, more and more rezoning of Protected Areas will occur, until the Lake is crowded with private boat docks, and the scenic views are destroyed. Once that occurs, it will be permanent. There will be no reversal of the shoreline to its natural state.

The draft EIS purports to look only at the immediate effects of the Corps' proposed SMP of 2002, but not beyond those effects. Assuming that the Corps' adopts its Preferred Alternative, the draft EIS does not address the effect of that SMP on future SMP revisions. Clearly, there will be even more development around the lake, and even more pressure on the Corps in subsequent SMP review to allow more private boat docks. Once having opened up the Protected Areas, there will be no justification for refusing such requests. The draft EIS should examine closely the snowballing precedential consequences of this action, as required by the NEPA.

Response: Greers Ferry Project Office has accepted rezoning in the past, although not nearly as many as proposed in the 1999 SMP revision. During the 1982 review 31 rezoning requested were acted upon. According to Mr. Carl Garner's taped history the zones were reallocated from protected to LDA and some areas were reallocated from LDA to protected, which may have resulted in a net increase of protected area. Mr. Garner admitted we would never be able to rezone that way now, because it would not be fair adjacent landowners. In the 1994 review 3 rezoning requests were granted for a total of 300 feet. So, over the last 25+ years there has been a net increase of at least 300 feet of LDA from protected. Some of the alternatives proposed would rezone some protected areas to LDA, and there is no clear indication that future rezoning from protected to LDA would occur if the Corps was to add the element of no future rezoning to the revised SMP. During the 2000 SMP review, the Arkansas Department of Environmental Quality recommended not crowding the coves and spreading out the boat docks. The Corps has had support to spread out the boat docks for aesthetics and water quality and support to keep the docks in the coves for aesthetic purposes.

Comment: Other portions of the draft EIS, in discussing Alternative 2 (as well as the additional alternatives), state that Alternative 2 would cause "minor" impacts upon other factors that were evaluated, such as Recreation and Recreational Facilities, Geology and Soils, Ecological Systems, Cultural Resources, and Hazardous and Toxic Substances. However, a reading of many of those sections indicates that the impacts will be substantial. There is no quantification of the impacts in the discussion of these factors or criteria, so that the draft EIS' conclusion that the impacts of the

Corps' proposed plan will be "minor" is scientifically unsubstantiated, highly subjective and argumentative.

Response: The Corps agrees with the commenter that the conclusion that the impacts of the Preferred Alternative will be "minor" is subjective and argumentative for some resource areas. Visual and aesthetic impacts are very subjective; impacts to vegetation can only be estimated, not precisely calculated; impacts to geology and soils are directly dependent on impacts to vegetation; impacts to ecological systems depend on the exact nature and location of the disturbance and the vegetation and wildlife occurring on and around the location of the disturbance; the extent of the occurrence of cultural and historic resources around the lake is unknown and could only be known upon surveying an area proposed to be disturbed; impacts to recreation and recreational facilities (other than the addition of docks), such as safety and navigation and expansion of campsites and boat launching lanes, are speculative and would be in response to changes in lake usage patterns, which are themselves partially dependent on the growth of surrounding areas; and impacts to hazardous and toxic materials and wastes are primarily dependent on the care taken by users of those materials. The Corps can ensure proper handling, storage, and cleanup of materials and wastes in its possession but cannot ensure the same for materials used by visitors to the lake. The assumptions used in the EIS and the conclusions reached therein are the "best professional judgement" of the technical experts who prepared the document and the Corps has no reason to doubt those assumptions or conclusions, particularly given the LO-2 rating given to the document by the EPA.

RESPONSES TO OTHER COMMENTS RECEIVED ON THE DRAFT EIS FOR THE SHORELINE MANAGEMENT PLAN FOR GREERS FERRY LAKE, ARKANSAS

Comments on Merits of the Alternatives: According to the Guide to Shoreline Use at Greers Ferry Lake pamphlet printed and distributed by the Corps of Engineers the primary objective is to ensure the general public full recreational enjoyment. Part of this enjoyment is the clean water and natural beauty. The changes recommended in the SMP draft benefit the few with special interests and offer no benefit to the majority of the general public who are our vacationers and visitors. If the general public is to enjoy full recreational enjoyment why not add more campsites or improve the existing sites in the park?

. . . the draft EIS discusses the planning for a new commercial marina at Cove Creek Park, but does not analyze the effect that it and the recent expansions of other commercial marinas on the lake would have regarding the demand for new private boat docks, nor does it analyze the synergistic effect of the marinas and the proposed new private boat docks on the lake and its environment. This is an obvious subject that should have been included in the analysis of alternatives of the draft EIS.

I am against private docks on the lake, and I am for expanded marina and park locations to handle reasonable growth. As well intentioned as private docks may be, the maintenance and care sometimes has to be daily in times of rising and falling lake levels, as well as high winds. No amount of rules and regulations can overcome this problem. Maintaining docks, coupled with losing the aesthetic values of a clean shoreline, a successful national program on Greers Ferry, just seem to make the private dock program more of a problem than a solution. Docks need to be managed, owned and maintained by professionals.

There are numerous affordable slips available on Greers Ferry Lake. Normally, a major argument for new development is based on need and supply/demand characteristics. Currently, multiple marinas on Greers Ferry Lake have availability at very reasonable rates. They will actually be negatively impacted financially (at least in the short term) so any argument that increased dock allowance will help the economic infrastructure of the area is once again flawed, even in the short term.

The whole plan of rezoning previously protected areas for 93 "private" docks on government property has been represented by the Corps as serving a few individuals who live adjacent to the public land and have a "right" to build a dock there. The Corps has made no study of the actual use or intent of the docks. It has ignored letters in the Scoping Report that describe sale of "right of way" to anyone wishing to claim "lake access" for permit purposes. It ignores the commercial ventures of individuals building multi-slip docks for sale to anyone. It ignores the multi-dock requests by single individuals, or the granting of SIXTY slip permits for one developer with only his name and only the Corporation property listed on the application. The Corps has attempted to hide the fact that the 93 docks are initially approved for 420 slips, and that each dock could be expanded to 20 slips in the future. I was required to file a Public Information Act request before the Corps would release this information to me. (Who else was required to file such form?)

Why the 100' buffer? If it is beneficial and creates no new problems maybe it should be in the other alternatives. It would create more no fire protection mowing and create a problem with the other 48 applicants who would not get docks. It would also create a serious problem for the Corps to reduce the 93 to 45. With the Corps commitment and most if not all of the 93 applicants

is Alternative 4 a viable, doable plan or just a plan to satisfy the requirement for a number of alternatives?

Response: The Draft EIS developed by the Corps analyzed 5 alternatives with impacts ranging from negligible to significant. All reasonable alternatives were considered in the analysis, and the impacts of those alternatives covered the entire range of impacts that could reasonably be considered to result from changes in Corps management of the shoreline of Greers Ferry Lake. While many possible combinations of key elements considered in the EIS were not included, the alternatives that were included incorporated the potential actions that the Corps could take. Some alternatives were considered but not included for reasons mentioned in the EIS, including lack of public interest (based on responses to scoping) and lack of Corps authority to implement the alternative (e.g., marina expansion).

There are beneficial economic impacts to the entire community from boat dock permitting (pg 4-56).

Boat dock permits are available to anyone with legal access, not only to select individuals with a particular political or economic status.

The majority (74 of the 93 rezoning requests that met 80% of the criteria) are for 2-4 slips, which indicate the vast majority are not developers. An individual is only authorized one permit, so developers could not have multiple sites without multiple permits.

All increases in boat docks as proposed in the EIS abide by all Corps regulations, and the Corps's permitting a boat dock does not prohibit the public access to the shoreline where the dock is located.

Comments on Precedence: Although the SMP draft changes might appear to be minimal at this time, in years to come these continual minimal changes will have encompassed the entire lake shoreline.

Alternatives 2, 4, and 5 represent a major policy change: the precedent it sets was not studied. The EIS failed to analyze the fact that the Preferred Alternative represents a major policy shift for Greers Ferry Lake by the Corps of Engineers. The precedent set by these three proposed alternatives has major implications for future activity on the lake and should have been the centerpiece for analysis in the EIS.

Although a moratorium is proposed under this new plan allowing no new dock permit applications to be accepted until all of the existing zoned areas are full, I feel that this will be a difficult ruling to defend since the door will have been opened. Where does it all end? Could there eventually be thousands of private docks on this lake? Would individuals lease these slips privately unbeknownst to the Corps? Will others, claiming discrimination, take legal action against the Corps demanding that they too be given a dock permit? One could argue that these things would never happen but the bottom line is that under this plan scores of 20 slip docks could spring up everywhere. I do not believe that this is in the best interest of the lake. Not only would this undermine and defeat the natural beauty of our lake, it would certainly have a negative economic impact on every commercial marina.

If the Corps allows the 93 plus docks with multiple slips to be built in this four-year period, there will be an increase of many more applications in the next time period (Mikie wants one too!).

This will result in even more visual and environmental destruction of the lake. Once the floodgates are open, the rush will be on.

The draft EIS fails to analyze the precedential effect of the Corps' proposed action on future development at Greers Ferry Lake. The potential of the Corps' proposed action to establish a precedent for additional future actions, all of which could have adverse environmental impacts upon the lake, is not sufficiently analyzed in the draft EIS. Such potential is a major consideration under the National Environmental Policy Act and its implementing regulations.

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Only the most naïve person would believe that, once the Protected Areas of the Lake are breached by rezoning portions of those areas for Limited Development, persons who purchase properties adjacent to owners of boat docks in those rezoned areas will expect to also receive a rezoning for a boat dock for their property. If the Corps resists, political or legal pressure will be brought to bear, if necessary. The Corps will be unable to justify why it allowed one landowner to have a rezoning for a boat dock, but not an adjacent landowner. As a result, as development occurs in private property fronted by Protected Areas, those Protected Areas will fall like dominos to Limited Development Areas.

This process will not occur overnight. However, through the years, more and more rezoning of Protected Areas will occur, until the Lake is crowded with private boat docks, and the scenic views are destroyed. Once that occurs, it will be permanent. There will be no reversal of the shoreline to its natural state.

The draft EIS purports to look only at the immediate effects of the Corps' proposed SMP of 2002, but not beyond those effects. Assuming that the Corps' adopts its Preferred Alternative, the draft EIS does not address the effect of that SMP on future SMP revisions. Clearly, there will be even more development around the lake, and even more pressure on the Corps in subsequent SMP review to allow more private boat docks. Once having opened up the Protected Areas, there will be no justification for refusing such requests. The draft EIS should examine closely the snowballing precedential consequences of this action, as required by the NEPA.

Response: Greers Ferry has accepted rezoning in the past, although not nearly at this amount. During the 1982 review 31 rezoning requested were acted upon. According to Carl Garner's taped history the zones were reallocated from LDA to protected and some areas were reallocated from LDA to protected. I do not have the net change; it may have actually resulted in a net increase of protected area. Mr. Garner admitted we would never be able rezone that way now, because it would not be fair adjacent landowners. In the 1994 review 3 rezoning requests were granted for a total of 300 feet. So, over the last 25+ years there has been a net increase of at least 300 feet of LDA from protected. Alternative #2 will open up 9300 feet of LDA from protected, there is no clear indication that it will continue to open up areas in the future if we add

the element of no future rezoning. During the 2000 SMP review, the Arkansas Department of Environmental Quality (ADEQ) recommended not crowding the coves and spreading out the boat docks. We have had support to spread out the boat docks for aesthetics and water quality and we have had support to keep the docks in the coves for aesthetics.

Comments on Mowing: The most important reason to drop this terrible idea comes from the EIS. "Forest vegetation in shoreline areas intercepts sediment, pesticides, nutrients and other materials in surface runoff and reduces nutrients and other pollutants in shallow subsurface water flow." Ninety thousand people get their drinking water from this lake and that number is expected to grow dramatically in coming years as a new line to the Cabot, Arkansas area is built and other rural areas demand their share of this clean drinking water source. It would be irresponsible to take steps today that will lead to the need for increased chemical treatment in the future to maintain the lake's water quality.

As to mowing: Any increase in the area allowed will adversely affect the lake in that it will inhibit the natural growth of trees from seedlings because land owners will be fertilizing, using herbicides and pesticides. This will not only allow pollutants from the treatments but also inhibit the filtration of effluents from septic tanks adjacent to the shoreline. Actually I feel that the area should be reduced to the 25 foot margin.

Increase in mowing (removal of underbrush and small trees) from 50' to 100', the Corps own policy or regulation states (from EIS) "Vegetation modification (mowing) on Corps land is justified for fire protection only and not for landscape enhancement. According to the Corps Environmental Assessment of the National Fire Protection Code finds that 30' to 35' mowed area provides efficient fire protection for habitable structures around Greers Ferry Lake and that more than that would be difficult to defend.

The current policy is and has always been 50'. No permits have ever been issued for more. Why did the Corps even consider increasing to 100'? What is the justification? Is it enhancement of private property? Increasing to 100' has many adverse impacts and no beneficial ones except to the private property owner. It removes the natural filtering system; it will increase erosion substantially during periods of high lake level; it removes the underbrush and small trees, which also increases erosion and prevents replenishing the trees.

Increased mowing to 100 feet is indefensible on any grounds and this proposal also should be dropped. Since the only justification in Corps regulations for vegetation modification is for fire protection, and the National Fire Code stipulates only a 30-foot buffer from a home, the current 50 foot buffer is more than adequate. Because the climate here doesn't lend itself to wild fires, it is clear that homeowners wanting to underbrush simply want to improve their view of the water (and provide a great view of their house, car, boat, pets, garbage cans and other flotsam and jetsam for us to see from the water). Removing small trees will lead forested areas to "gradually turn into lawns" (pg 4-69) further changing the natural character of the shoreline.

One can state, quite flippantly, that there is no important impact to the shoreline from floating docks that are situated in relatively small coves that are not highly visible from the many points in the lake. However, given sufficient use, there will result adverse impact to the areas from use of the dock over time, especially when associated facilities, such as access roads, electric power and light, etc. are demanded for their convenience, to ease maintenance and other seemingly laudable purposes. The effect of this use of the land is cumulative and when use reaches certain

thresholds, soil erosion, loss of vegetation, water quality, and other related adverse effects become evident. With continued use, site degradation accelerates and at some point becomes irreversible. There is a certain level of acceptable lake use that when reached will trigger adverse, irreversible effects to one or more components within the lake system. It seems that this limiting factor may be the capacity of the lake shoreline to house, dock and launch vessels.

The 50' buffer proposed sounds good and could provide some benefits, however, it will be difficult to administer and maintain. The EIS in describing the lower limits of the 50' has inconsistencies in locating the lower limits of the 50'. It will be difficult to locate and in several areas may result in no large trees within. Also, the 50' buffer is claimed to provide protection from wave action and screen private development. It will result in little or no mowing for fire protection in a number of areas. It will also be very difficult to prevent illegal cutting of underbrush and small trees in this 50' based on past experiences.

The 50 foot vegetation buffer that is a component of alternative 2 was found in the EA and the Draft EIS to cause significant increase in vegetation removal and erosion, with significant impact to the environment, and is unworkable.

Alternative 2 of the draft EIS proposes that "A minimum buffer from the vegetated edge of the shoreline inland for 50 feet would be established for Corps property, where mowing would be prohibited." However, the draft EIS does not attempt to quantify how much additional mowing would be allowed on public property as a result of the establishment of the "buffer," nor how adjoining private property owners would be prohibited from mowing new vegetation attempting to establish itself in such buffer zone.

The proposed 50-foot "buffer zone" did not originate with the Corps' Alternative 2 in the draft EIS. It was considered in the EA prepared by the Corps in December, 1999, and found to likely cause "significant impact to the surrounding natural environment." More specifically, the EA stated: "A second alternative that would allow vegetation modification from the USACE fee title boundary to approximately 50 feet from the conservation pool elevation (461.25 feet NGVD) was considered. This alternative would guarantee a minimum 50-foot buffer strip around the entire lake, however vegetation modification (mowing) would be allowed throughout the remainder of the federal property, excluding parks and park buffers. Therefore, it was determined that this alternative would likely cause significant impacts to the surrounding natural environment, especially for vegetation, resident wildlife, and aesthetics, and this alternative will not be further evaluated."

There is nothing in the draft EIS that purports to study the effects of establishing such a 50-foot buffer, or more importantly, the effects of increased mowing into the public easement in excess of the amount currently allowed by the 51-foot radius of mowing from habitable structure. Nothing in the draft EIS refutes the above quoted finding of the 1999 EA. Indeed, the draft EIS appears to recognize the potentially severe consequences of this proposed action in the following statement: "It is not clear at this time whether establishing a 50-foot vegetated shoreline buffer would limit the impact of loss of vegetation caused by extending mowing permits from 50 to 100 feet from a habitable structure. Homes located more than 150 feet from the conservation pool and not affected by the flowage easement could take full advantage of the 100 foot moving radius without being constrained by the 50-foot shoreline buffer regulation, thereby resulting in an overall net loss of vegetation. (Draft EIS, p 4-70).

The draft EIS is deficient in that it does not have adequate scientific support for allowing increased mowing on the public easement.

Furthermore, proposed Alternative No. 2 is further misleading in that it states that the 50-foot minimum "buffer" will be measured from the "vegetated edge of the shoreline." Assuming that, at the time Alternative No. 2 were to go into effect as the new SMP, and there was, at that time, no vegetation on a discrete area within 50 feet of the shoreline, could an adjoining property

owner whose habitable structure were 150 feet or closer to that area of the shoreline continue to mow to the waterline, preventing the growth of new vegetation? This is an incentive to adjoining property owners to mow any vegetation fronting their property to the waterline.

There is no reasonable justification for increasing the vegetation modification (mowing) radius to 100 feet from a habitable structure.

In fact, this issue was thoroughly reviewed in the 1999 EA conducted by the Corps, and found to be unjustifiable considering the conditions along the shoreline at Greers Ferry Lake: "A third alternative that would replace the existing vegetation modification permit system with the standards outlined in the National Fire Protection Association Standard 200 (NFPA 299) evaluation process was proposed. The NFPA 299 process involves the evaluation of a wildfire hazard through a wildfire hazard severity analysis, which includes a number of factors or variables. These variables include: weather history; fuels; number and types of structures; construction materials; slope and aspect; fire history; access and evaluation; and other local factors that can increase or decrease the likelihood of fire... A defensible space is an area between an improved property and a potential wildfire... [U]sing the criteria for determining wildfire hazard severity in a preliminary analysis..., it was determined that the average defensible space requirement for homes in the vicinity of Greers Ferry Lake would be less than the current 50 feet of allowable vegetation modification. In most cases the defensible space would be approximately 30 feet. The wildfire hazard in the vicinity of Greers Ferry Lake is relatively low due to several factors. Some of these factors include: the relatively humid and temperate weather conditions, the lack of fuel loading and ladder fuels; the lack of a significant fire history; and the juxtaposition of the permanent habitable structures with Greers Ferry Lake." 1999 EA, p. 3-2, 3-3.

There is nothing in the draft EIS to overcome this scientific basis for limiting the radius of mowing from private property onto the public easement to no more than 50 feet, and certainly nothing that would justify the increase of the mowing radius from 50 feet to 100 feet, as proposed in Alternative 2 of the draft EIS.

The principle justification given in the draft EIS for the increase to 100 feet is that it would improve the adjoining landowners' views of the lake. However, unlike the EA, the draft EIS is very vague about the adverse effects of the increased mowing radius on soils around the lake, and on scenic integrity. For example, the draft EIS states only that: "Long-term minor adverse impacts on soils would be expected if the Corps extended the permitted fire protection vegetation modifications (mowing) distance to 100 feet from habitable structures and permitted increased development in LDA's. The acreage of modified areas would increase, resulting in some reduction of vegetative cover. However, it is assumed that a grassy cover would remain in modified areas and bare soil would not be exposed, thus limiting any major amount of soil erosion."

The draft EIS also attempts to justify an increase in mowing radius from 50 to 100 feet (an increase of 300 percent) by referring to it as "fire protection vegetation modification." However, as the EA determined, in the Greers Ferry Lake shoreline area, a radius of more than 30 feet is not justified by use of the National Fire Protection Association Standard. Nor is there any attempt in the EIS to quantify the amount of increased mowing that would occur under Alternative 2, or the additional silt or other pollutant loading to Greers Ferry Lake that would occur in order to determine the adverse environmental effects of such a change.

Under Alternative 3, no growth alternative, the shoreline zoning path would be frozen to the current configuration (7% LDA). No new land use permits (docks and paths) would be approved. No rezoning request from those submitted in 1999 would be approved. No rezoning request would be accepted or approved at future SMP reviews. No new permits [for vegetative modification] and expiring permits [would not be] renewed for vegetative modification. What

basis or justification is there for this provision on vegetation modification? To prevent the minimum mowing for fire protection, which is provided for in the Corps current policy is non-enforceable. Also why not the 50' buffer? Alternative 3 as described on pages ES-6&7 and 2-9 is addressed here to show there are differences. The one on 2-9 speaks to no future rezoning as does Alternative 2 and 4.

Response: There was no mention in the EIS of any significant impacts adverse or beneficial effects of the increase in the mowing distance to 100 feet. Under Alternative 2 of the Draft EIS, the proposal to establish a buffer from the vegetated edge of the shoreline to 50 feet away from the lake was intended to protect vegetation near the water's edge regardless of any other potential shoreline activities. It does not mean that 50 feet of vegetation would be protected while all other Corps property would become automatically eligible for mowing. Attempts to obliterate or disguise the vegetated edge of the shoreline in order to circumvent the buffer requirement would have to be done illegally because vegetation modification on Corps property requires a permit, and Corps staff inspect projects before issuing permits.

Illegal activity, such as landowners ignoring provisions of their permits or mowing without a permit, is not relevant to the EIS. The SMP is intended to prescribe appropriate best management practices to balance human use and protection of natural resources. There is no logical reason to develop an SMP under the assumption that the public will ignore the SMP.

Analyses of Alternative 2 and other alternatives in the EIS state that minor adverse impacts to wildlife and vegetation would be expected from issuing vegetation modification permits that result in a net increase the total mowed acreage around the lake. The Corps decision to propose an increase in the distance from habitable structures eligible for vegetative modification is based on the preferences of some members of the public, not science, nor guidelines set forth by fire safety experts.

The EIS made no claim that the Corps decision to expand the vegetation modification permit for fire protection of habitable structures from 50 feet to 100 or 200 feet was justified by scientific evidence or the National Fire Protection Association Standard. The Corps is looking at the increase in the permit limit because of considerable public request for change. The increase from 50' to 100' would also get the lake closer to other District lakes. The Corps is authorized to manage the lakeshore as it sees fit, even if it creates adverse environmental impacts. Alternatives under the EIS do not have to be free of impacts in order to be legally sufficient. The primary legal requirement is that the impacts be thoroughly considered. It is not practical or necessary to quantify the acres of vegetation around existing houses potentially impacted by an increase in the vegetation modification permit. In order to perform such an analysis, researchers would have to count every habitable structure adjacent to Corps property, measure the distance of the structure's foundation to the Corps boundary, and then interview the owners to determine how many owners would apply for a vegetation modification permit, and among those who did, whether they would take advantage of the maximum area allowed or modify less area.

Long term effects of preventing tree regeneration are addressed in Section 4.3.9, page 4-69, lines 22-28 which state: "Removal of trees and brush less than 2 inches diameter breast height would be expected to result in a reduction in the benefits of natural vegetation in lakeshore areas. However, it is assumed that vegetative cover in the upper tree canopy would remain intact and vegetation in mowed areas would not be reduced to bare soil. Instead, dominant plant species would shift from small trees, vines, and tall shrubs to herbaceous plants, grasses, and short shrubs as a result of clearing and mowing. However, without young trees to replace older trees as they die, forested areas would be expected to gradually turn into lawns over a span of many years."

Cumulative impacts to vegetation from boat docks (in new LDAs) are addressed in Section 4.5.9, Page 4-106, lines 10-13 which state "Rezoning protected area into LDA's would be expected to

cause an increase in foot traffic, footpaths, soil disturbance, and construction of habitable structures in previously undisturbed areas. Potential new residential development over time would be expected to have minor adverse cumulative affects on vegetation and wildlife." Similar text appears under descriptions of other alternatives.

The Vegetation modification issue is separate from the use of herbicides, fertilizers, and malfunctioning septic tanks. Although landowners adjacent to Corps property are allowed unlimited use of lawn chemicals on private land, not all landowners use lawn chemicals. Furthermore, the private use of pesticides and herbicides is not permitted on Corps property. The scope of the SMP is legal activity on Corps-owned land. Impacts to tree regeneration on Corps property from vegetation modification have been discussed in Section 4.3.9, page 4-69, lines 22-28.

The Corps maintains a recreational fishery in Greers Ferry Lake, but it is only one of many uses for which the lake is managed. It is not practical or necessary to perform a study on walleye or algae populations in order to analyze the various SMP alternatives in the EIS.

Regarding the buffer being difficult to manage, The process would be the same as current permits. The area is staked during the permit process and inspected by rangers annually. If encroachment occurs the owners are fined and the area is converted to a restoration area. The buffer will start at the vegetative edge above conservation pool elevation, if the early spring floods cause the vegetation to die off, this will push the buffer up the hill and reduce the amount of land that can be permitted for a vegetative modification.

Comments on Water Quality: Also, the addition of docks and/or more gas pumps etc. will further degrade the water quality and health of the lake. Already there is a marked diminishment of walleye. Why? Has the Corps looked into this issue as well as an increase in the algae population.

Watershed: Another concern is the extent of investigating and evaluating the watershed area. The area is mostly wooded, however, there are numerous cattle farms with sizeable feed lots and many chicken houses. About 25 years ago the government became concerned about the pollution from feed lots entering Greers Ferry Lake and made some funds available to construct holding ponds below these lots. This occurred for only one or two years. Most of these lots have no holding ponds. Did the EIS thoroughly look at this?

As the deadline approaches, I would like to stress that the proposed shoreline management plan under consideration for Greers Ferry Lake ignores the long range effects of increased pollution from: (a) the reduction of the current buffer zone between the lake and private property; and (b) the increase in the number of boats docking in the waters of the lake and possible accidental and careless pollution accidents.

As to new docks: Any new docks will only add to the pollution on the lake. There is currently a ruling on fueling boats on the lake, however there is little or no enforcement. There is no way that the sheriff or the Corps will be able to patrol more docks. They have little control on the present docks.

I am also of the opinion that the Environmental Impact Statement is an incomplete document as pertaining to the review of sewage treatment disposal lines crossing the shoreline of the lake for deposit into the lake. These sites also impact the shoreline directly both by disturbing the

shoreline and by polluting the lake. The water quality in these areas should be included in the Environmental Impact Study as this is also a shoreline management issue when sewage treatment lines are allowed to cross the Federal shoreline into the lake.

I understand that an environmental impact was conducted for the expansion of boat docks along the shore line, but was refueling of these various watercrafts that will be associated with this expansion addressed in your impact study?

In my opinion, it is absolutely ridiculous for your "experts" to indicate that this [the proposal to add 93 additional docks] would have little or no effect on the cleanliness of the water. I have lived on this lake for 26 years and have always appreciated the efforts of the Corp in the past trying to maintain its overall appearance and cleanliness. Even with their efforts, we can see some deterioration over this period of time. Adding 93 docks with capacity of over 1500 slips, leaking oil, gas, and other refuse would certainly muddy up these waters.

No boat docks should be placed in areas that were previously restricted to private boat docks. This is not fair to existing dock owners and will lead to more pollution and enforcement problems. We want to keep Greers Lake like it is, safe and beautiful.

One cannot deny that more boat docks will increase traffic on the lake. And with that addition comes more contamination of the lake water from petroleum-based products that diminishes all forms of wildlife. Human health that depends on the lake for drinking water and other uses is not immune to the toxic chemicals that are emitted from motor-powered watercraft.

I don't know what kind of environmental impact study the Corps has made on what the effect of excessive petroleum hydrocarbons would make on the water of Greers Ferry Lake. If it is encouraging more boat docks, then it must have been a poor study indeed!

MTBE (methyl tert-butyl ether) is an oxygenate added to gasoline to make it burn more cleanly, thus reducing air pollution. It has been found in water supplies in all of our states. In 31 states, MTBE has become a major contributor to water pollution and is being phased out by the EPA.

The Corps should address the spilling of fuel while gassing up boats. With gas tanks of boats being filled at private docks, there would be more spillage dispersed around the lake. Would these private docks be inspected regularly?

One of my major concerns is that lake is now a water supply for a large number of people in the surrounding communities. What a calamity could occur with the increased number of boats, gasoline, and oil products as well as the probability of increased boating accidents. It is also a fact that when the shorelines get cleared the erosion will be greater and there are MANY septic tanks that eventually drain into the lake and that flow would get bigger since there wouldn't be the vegetation to slow it down.

Quite frankly, an EIS developed by the COE seems a little biased in my opinion. Any competent biologist, ecologist, or environmental engineer can predict that the precedent set by this plan (if approved and executed) would significantly impact water quality, both from a natural resource and human health perspective.

Section 4.3.2.1 Hydrogeology/Groundwater. Your statement is incorrect. The groundwater does have effect on the lake because most of it runs down slopes to the Lake.

The addition of docks will cause water pollution from the filling of gas tanks and leaching of ground discharges from the paths cut to the docks.

The draft EIS relies heavily on assumptions rather than empirical data, and the data is insufficient to support the proposed action. Throughout the draft EIS, assumptions are substituted for empirical data and facts. For example, the draft EIS assumes a 20 percent failure rate for septic tanks in the Lake areas, when past studies show that, in fact, the failure rate is significantly higher. It is universally acknowledged that the soils of the Lake area are poorly suited for septic tanks. In a 1981 "Environmental Protection Study" prepared for the Corps, the following statement appears: "The assumption that existing and future septic tanks and wastewater treatment plants function properly is not realistic. As mentioned earlier, the majority of soils found in the study area were rated as severely limited for the operation of septic tank absorption fields. The area has a history of malfunctioning septic tank systems."

Indeed, in 1981, the Arkansas Health Department suspended the issuance of permits for septic tanks at Fairfield Bay because it found that one-third of the septic tanks in the community were failing and in some cases, raw sewage was surfacing in yards (Arkansas Gazette, May 12, 1981). In a letter of September 30, 1980, from the U.S. Fish and Wildlife Service of the Department of the Interior, to the Corps' District Engineer, it is stated: "The use of septic tanks in close proximity to the Greers Ferry lakeshore and tributaries is extensive. Two hundred and eleven subdivisions located adjacent to the lake treat individual home wastes by the use of septic tanks with disposal fields. Recently there was a small fish kill reported at the entrance of Devil's Fork tributary into Greers Ferry Lake (AGFC). The fish kill was attributed to a private residence using a septic tank treatment system in an area with poor soil conditions relative to septic tank absorption fields. The proliferation of septic tanks resulting from present and future residential developments points to an existing and potential pollution problems compounded by poor soil conditions in the lake area. Detailed studies must be made to identify and quantify these problems of water quality and environmental degradation associated with septic tank absorption fields.

Another example of the draft EIS's use of assumptions is in the use of the term "nutrient loadings" in discussing the potential effect of the Corps' proposed actions on the Lake. Analysis of actual samples and calibrations are necessary to use such loadings information with any degree of confidence. Otherwise, the data is based solely on assumptions. In the draft EIS, the baseline loading conditions were developed using a Hydrologic Simulation Program - Fortran and Nonpoint Source Loading Model. This model was apparently not calibrated, but used "literature values," which are, again, assumptions. There is no empirical data supporting the results of those models.

The draft EIS also states that boating activities are not creating adverse water quality conditions relative to fuel contamination. The sole basis for this statement is the results of eight samples taken on August 4 and 8, 2001, a Saturday and a Wednesday, respectively. Eight samples are not adequate to quantify the broad conclusion that is reached in the draft EIS. In addition, it appears from the laboratory analysis reports that samples were not analyzed within the requisite time after taking of the samples that is prescribed by EPA guidelines, so that the results of that analysis are invalid.

Regarding pathogens, the data presentation for water quality is conveniently lumped so that no interpretation can be made. In other words, the pathogens section states median values at all stations are less than 5 MPN/100ml. That is uninformative. Nevertheless, the report goes on to state at least two high values (water quality violations).

Regarding dissolved oxygen, temperature and pH, the narrative states that there is a noncompliant measurement, but does not state which one. It then goes on to discuss oxygen-demanding material, and closes by saying that overall results show levels generally below 2.0 mg/l. However, it does not specify what levels.

The draft EIS also states at several places that 80 percent of the pollutant load enters the Lake from the three major tributaries. This is the norm for reservoirs. The more important

consideration should be eutrophic zone of the Lake, and how it compares historically. For example, is the eutrophic zone moving toward the dam?

In summary, the draft EIS is a digest of largely pre-existing data lumped together in highly technical language and form as to make analysis of the issues presented by the Corps' proposed Alternative 2 difficult. The data are insufficient to answer some of the more specific questions that are relevant to the proposed action, and in some cases, is invalid. As a result, the draft EIS is insufficient.

The lake is used as a water source for many communities. This plan I feel would put in jeopardy the guarantee of a safe supply of drinking water. It would also create many unnecessary hazards to the people who use the lake for recreational purposes.

The new plan will lead to water quality problems and degradation of the natural beauty of our lake area. If grass is planted closer to the lakeshore, fertilizer run off will increase which can cause death to lakes. Take lessons from other Corps lakes which are now polluted and undesirable for recreation and for a water source.

The proposal to narrow the "buffer zone" between Corps controlled lakeshore and private property is unconscionable. I repeat: manicured lawns and landscaping near the shoreline that includes frequent fertilizer, herbicide, and pesticide use contributes to runoff, and with the buffer zone narrowed allows more of unwanted contaminants to enter the lake.

There is insufficient investigation and evaluation regarding the number of septic systems and associated problems as to pollution entering the lake. The 1981 Environmental study found a number of potential and some problem areas and indicated there would be more by 2000 with the anticipated growth around the lake. This study including the 1981 map indicated findings of the 1981 study.

The septic tank study is out of date. The septic tank map in the EIS is dated 1981. How recent is the population data in BASIN that was used to compute septic tank failures in the watershed? Is the description in the EIS about the 1981 study? Why was it not updated?

Response: The statement that real data were not used in the evaluation of water quality conditions within Greer's Ferry Lake is incorrect. The water quality conditions presented within Section 3.0 (Affected Environment) relied on an extensive water quality and hydrologic data set. This data set consisted of water quality samples collected from 1990 to the present. Figure 3-1 of the EIS presents the locations of the water quality monitoring stations. The measurements quantified the water quality entering the lake from the three primary tributaries as well as water quality conditions within the upper and lower lake. The number of observations at each station averaged around 30 to 40 samples providing statistically significant results. The measured data were utilized to verify that the water quality model was reasonably projecting the loads to the lake and that accepted literature values used in the model were appropriate.

Septic tank failure rates used in the analyses were based upon typical values and must reflect the average conditions throughout the lake not on one specific location (i.e. Fairfield Bay). Based upon the identification in 1981 that Fairfield Bays septic systems showed around a 30 percent failure rate, and represent the more extreme conditions (due to it's closure), then a 20 percent overall failure rate throughout the watershed would seem reasonable.

The eight samples reflect measurements made in the areas of highest boat traffic and during periods of very high usage. These data are sufficient to identify potential adverse impacts associated with boating activity.

The water quality section on Pathogens presents the full range of data measured within the system within Section 3.0 and all data tables are presented in Appendix F showing the full range of measurements in the system. Section 3.0 identifies the measured maximum concentrations as well as the median of 5 MPN/100ml.

The one noncompliance reading relates to all three parameters, dissolved oxygen, temperature, and pH. The 2.0 mg/L relates to BOD5.

The data do not indicate that the lake is presenting experiencing eutrophication, therefore identifying how the eutrophic zone of the lake is moving would be inappropriate.

For all alternatives the evaluation of potential septic system impacts was adequately addressed using accepted loading and failure assumptions. The methodology utilized is identical to that used by EPA in development of TMDLs under the Clean Water Act for maintenance of water quality standards.

The EIS adequately addressed all loading issues from the upper watershed through application of the water quality loading model which was verified using actual water quality measurements and whose inputs reflect the land use distribution including agricultural activities and their associated loadings.

The EIS adequately addresses all impacts on water quality due to additional boat docks associated with soil erosion, turbidity, and chemical and biological contamination (see Section 4.0).

The EIS adequately addresses all impacts associated with filling of gas tanks and leaching of discharges from the paths (see Section 4.0).

The EIS accounts for additional nutrient loads associated with additional residential development around the lake shore. Section 4.0 presents associated nutrient increases by alternative.

The impacts associated with petroleum hydrocarbons was addressed by a study which evaluated petroleum levels in the water through sampling. The samples reflect measurements made in the areas of highest boat traffic and during periods of very high usage. These data are sufficient to identify potential adverse impacts associated with boating activity and petroleum hydrocarbons in the water.

Comments on Safety and Navigation: Although I realize it has been considered, density is not a separate issue that is clearly discussed in any of the material I have researched, and it needs to be. You mentioned that complex mathematical algorithms had been used to review density in relation to placement/allowance of new docks. Common sense needs to be used here as anyone that has used the lake can tell you that the increased number of docks will lead to increased traffic in many areas that are already crowded and will negatively affect the sight lines of many existing homes. Skiing will be materially impacted in all of these areas, especially cove areas. There is no great solution here other than rejecting additional docks (if you put them in the cove, you face possibly ruining the cove for skiing and fishing, if you put them in the wider areas of the lake you face increasing heavy traffic and hurt sailing). Also, many (I believe nine) of the submitted applications requesting dock allowance, have multiple slips. These should be considered more carefully. One dock with twenty slips is more like twenty docks, and should be considered as such.

But as our lake has more and more traffic, should we be taking away from the usable boating area? Every time a boat dock is installed, boaters cannot use that area and are forced into smaller, more concentrated area. Two docks have been built in the south end of Kidney Cove within the past couple of years that have rendered this end of the cove unusable for water sports. This has made a major impact on the boating area in this cove and now the remaining area is much more saturated than in the past. The north end of the cove is also zoned for docks and there will soon be a dock on this end of the cove. The end result will push most of the boaters out of the cove and into the main body of the lake which is also the main thoroughfare for the lake. Water sport there is like riding your bicycle in the interstate highway. It should be noted that both ends of the cove were zoned for docks under the old, shoreline plan and not by the proposed lake management plan. Eden Isle cove has also basically been rendered unusable for water sports due to the expansion of Eden Isle Marina. Heber Springs Marina has also expanded into the Little Dike Area over the years which has made that cove smaller in usable area. Bottom line? We're continuing to shrink the boating area of the lake as lake traffic continues to expand. We are forcing boaters into the main body of the lake and into smaller areas that are unrestricted by boat docks, thus creating a more crowded and less safe boating environment.

It seems from the Executive Summary that the Corps is seeking to meet the needs/desires of 93 applicants, particularly regarding rezoning for new boat docks, to the detriment of all other property owners and lake users (thousands) of the Lake. This is not only adverse to visual aesthetics but is an extreme boating safety hazard.

Recently, a dock was added to Horseshoe Lake (very near Memphis) that was considered by many to be the cause of a horrible accident. A boat struck the new dock and both the driver and occupant were killed. To assume that new docks will not materially impact safety is irresponsible. The Corps should be on notice here as it may have liability for allowing such additional docks should there be an accident in the near future. This is not meant as a threat, rather it is meant to focus your attention on what should be a legitimate concern. Is allowing a relatively small group of property owners more direct access to the lake remotely worth making the lake less safe?

Response: The Corps manages Greers Ferry Lake for a variety of reasons, only one of which is recreational activity. In order to make the lake available to as many people as possible, the Corps has developed areas around the lake that offer access to the public for their boating pleasure. Most of the time these facilities are adequate. During high-use periods such as Memorial Day weekend and the Fourth of July, use peaks and facilities may seem to be inadequate. The Corps, in attempting to maintain a balance among the scenic appeal of the lake, public access, and safety, has not dramatically increased the quantity of facilities on the lake. Nor has the Corps opened the shoreline to dock placement where it believes that docks would pose a safety hazard. Docks are primarily limited to being placed in coves, and this also represents a balance among the competing issues for which the Corps has to manage the lake.

It is interesting to note that increased development and use of lakes such as Lake Lanier in Georgia has actually decreased the accident rate. This could be attributed to many factors, including increased boater education and boaters taking greater precautions rather than greater risks under more congested conditions.

Comments on Visual and Aesthetics: By permitting the interruption of the shoreline with private boat docks, even while allowing private modification of federal public lands adjacent to these docks, the Corps will be, in effect, denying ordinary citizens access to that shoreline, visually and literally, for the personal benefit of a few well-heeled citizens and developers. These public lands should remain public.

Visual and Aesthetic Resources: For the criteria of Visual and Aesthetic Resources, the draft EIS states (p. 4-57) that the Corps' preferred alternative (alternative 2) would have "Long-term minor direct adverse impacts on visual and aesthetic resources." However, an examination of the narrative description of such impacts indicates that the impacts are not minor, but highly significant. The draft EIS highly misleading in characterizing such adverse impacts as "minor."

For example, on Scenic Attractiveness (Section 4.3.6.1, p. 4-58), the draft EIS states that "The potential addition of 93 boat docks (over the baseline of an additional 170 docks, which are projected under the current SMP and the No Action Alternative) on the Greers Ferry Lake shoreline, representing a potential increase of 89 percent over the 295 existing boat docks, would reduce the scenic attractiveness of the lake's shoreline."

Under Scenic Integrity (Section 4.3.6.2, p 4-58), the draft EIS states that "the potential addition of 263 boat docks on the Greers Ferry Lake shoreline would reduce the scenic integrity of the lake's shoreline because more of the shoreline would become altered from its natural state."

Visual and Aesthetic Resources: From your own admission, "given the current public preference for an uncluttered shoreline", your study "would reduce the scenic integrity of the Lake's shoreline."

Visual and Aesthetic Resources: Further, to characterize the effect on scenic attractiveness and scenic integrity of the shoreline by the proposed Cove Creek Marina as minor, (it is projected to have 400 slips) is puzzling to say the least. The EIS' definition (4-30) of scenic integrity if "the state of naturalness, or, conversely, the state of disturbance caused by human activities or alteration...(or) degrees of deviation from the existing landscape character." "...given the current public preference for an uncluttered shoreline," the cumulative impact is not minor.

It seems from the Executive Summary that the Corps is seeking to meet the needs/desires of 93 applicants, particularly regarding rezoning for new boat docks, to the detriment of all other property owners and lake users (thousands) of the Lake. This is not only adverse to visual aesthetics but is an extreme boating safety hazard.

Reference potential Boat Dock Viewshed maps for the 5 alternatives. The maps indicate distance and area from which a private dock can be seen. I have been on the lake hundreds of times and viewed the shoreline from the water and also from the land. On a clear day a 2 slip or a 20 slip dock can be seen from anywhere there is no obstruction up to 5 miles on the water and farther from the land. The person who arrived at the map distances may need glasses.

The addition of docks, many being quite large (up to 20 slips per dock), will create a cluttered and ugly shoreline. Many of these docks will not be well maintained because some owners will be part time or leave for extensive winter vacations. They [the docks] will in time degrade and be subject to storm damage.

...the Corps attempts to justify despoiling the scenic attractiveness and integrity of the Lake by explaining that, with more private boat docks on the lake, the need for new dry land boat storage facilities in the lake area would be reduced. This is the only reference to dry land boat storage as an alternative to more boat docks. The following sentence makes it clear that the Corps did not

study dry land storage as a real alternative: "[A]llowing more boat docks on the lake itself would tend to reduce the need for expansion or construction of new dry land boat storage facilities in the areas surrounding the lake. Thus, adverse impacts on the scenic attractiveness of those areas that would have accommodated dry land boat storage would be partially avoided. Without knowing the specifics of these reasonably anticipated changes and the sites or locations that would be involved, a visual resource impact assessment of the dry land storage facilities cannot be made."

This position is tantamount to the Corps claiming to save the Lake and its users from one evil (dry land boat storage, the consequences of which were not studied) by imposing yet another (arguably worse) evil in private boat docks, the adverse effects of which were only partially studied.

The evidence is clear that allowing the proliferation of boat docks drastically decreases the appeal of a lake, both aesthetically and environmentally.

The letters in the paper stating that this Alternative 2 proposal would allow boat docks on Miller Point particularly has disturbed me. Miller Point is a beautiful scenic area where people often fish, ski and just admire the trees at the waters edge of the mountain. This point is portrayed in paintings at almost every art show in our area. A length of boat docks at the shore would destroy this panorama.

Response: The visual and aesthetic impacts of the alternatives analyzed in the EIS are thoroughly discussed in the EIS. Characterization of some of those effects were changed in the Final EIS based upon comments received which stated that the characterization as "minor" of some of the impacts was inappropriate. While the Corps does not explicitly agree, and the analyses themselves were not altered, the Corps chose to define, for the purposes of visual and aesthetic impacts only, an arbitrary dividing line between "minor" and "major" impacts. The Corps maintains that visual and aesthetic impacts are highly subjective and do not lend themselves well to such characterization, but the division was added to better distinguish between the effects of the alternatives.

Included in the Revised Preferred Alternative is a provision to designate three highly scenic and open water areas of the lake as "highly scenic" and to prohibit dock permitting in those areas. Permitting docks on the lake, while it might decrease the visual appeal of the lake in the immediate vicinity, is one of the regulated permitted uses allowed in the SMP and the Corps is obligated to balance its management of the lake to accommodate all legal uses and purposes of the lake.

Comments on Economics: Interestingly, the Statement (EIS) assumes that Alternative 2 would lead to more infrastructure on the lake. This is flawed logic on two fronts. One, it will actually drive away many of the current owners and users of the lake (many of whom selected Greers Ferry due to its beauty, sailing, skiing, and general ease of use). By negatively impacting the lake so that a group of developers and homeowners might increase short-term property value and access the lake more directly, a larger number of existing and future users will likely be driven away. Values of existing property will actually be negatively impacted over the longer term. Two, infrastructure can take the shape of many things and infrastructure for the sake of building more man-made objects does not necessarily benefit an area economically. In fact, many new developers throughout the country are finding that land values are proven to increase when density is reduced and controlled.

Response: There is no empirical evidence suggesting that further growth in a tourist area would negatively impact property values. Other Corps lakes that have a greater amount of development than Greers Ferry Lake have seen continued increases in property values (e.g., Lake Lanier).

Comments on Mitigation measures: Maintaining a 50-foot vegetation buffer is an ineffective and illusory mitigation measure. The wording of this mitigation measure indicates that even the Corps and its contractor do not have great confidence that this is particularly effective as a mitigation measure, providing the 50-foot buffer "would provide some interception of nutrient loadings to the lake..." As has been extensively discussed in an earlier section of these comments, the proposed 50-foot vegetation buffer will not be effective to significantly reduce erosion of lakeshore soils or in providing wildlife habitat and other beneficial uses.

Mitigation measures are inadequate. In the section, Effects of Land Use Alteration on Watershed Loading, "The degree and extent of short-term impacts would be a direct function of construction practices and the use of appropriate Best Management Practices on the construction sites." Depending on BMP's for mitigation is not acceptable. BMP's are voluntary; if it were voluntary to stop at a stop sign, we'd have chaos at intersections. BMP's impose nothing on a homeowner or contractor and would have just that effect.

These mitigation measures are an affront to common sense and are another attempt to mislead the public into thinking there will be little impact arising from the Corps' proposed action. It is clear that, without meaningful mitigation, degradation will simply take its course from site to site around the shoreline, and new soil and water quality insults will spread in inevitable ensuing Shoreline Management Plan expansions.

The "monitor water quality" mitigation measure is ineffective and illusory. The second mitigation measure proposed by the Corps draft EIS for adoption of its preferred Alternative 2, is to "monitor water quality for pollutants to assess present conditions and evaluate future changes and effects of activity on water quality." While that is an admirable activity, and should be undertaken regardless of the outcome of this proposed action, it is a pitifully ineffective mitigation measure, and is similar to closing the barn door after the cow has gotten out. If water quality is affected by the Corps' allowing additional private boat docks on the Lake, and/or by allowing increased mowing of lakeshore vegetation, it will be too late to reverse that decline in water quality. In fact, the barn door will have been opened to allow additional boat docks and mowing to occur in the future, so that the decline in water quality (which will surely occur), will be impossible to stop.

Furthermore, this measure focuses solely on water quality. The mitigation measures proposed by the Corps do not address the effect of its proposed alternative on the scenic, recreational, and other aspects of the lake that will be affected by implementation of the proposed alternative. There are no mitigation measures for those aspects.

Use of the Corps "Rezoning Request Evaluation Criteria" document is an ineffective and illusory mitigation measure. The Corps' "Greers Ferry Lake Rezoning Request Evaluation Criteria" is a questionnaire prepared by the Corps Project Office in 1999 to facilitate the granting of requests to rezone protected areas to limited development areas that the Corps had solicited. It contains a series of questions regarding a proposed boat dock site, many of which are highly subjective, and can be easily manipulated to achieve a score that allows the rezoning to be granted. The

document contains a cryptic question of "Are there any significant environmental, ecological or cultural features present [at the proposed dock site]?" but there is no explanation of what those features include to guide the person [usually the Corps' employee] in making such evaluation.

The fact that, of approximately 110 applications for rezoning of Protected Areas to Limited Development Areas around the lake that were filed in 1999, 103 of those applications were approved through the use of the "Rezoning Request Evaluation Criteria" indicates that the criteria, and the way in which those criteria are applied to specific locations, are not particularly stringent.

Aside from the weakness of the Corps' "Rezoning Request Evaluation Criteria", there is the question of whether the Corps ought to be making decisions of the magnitude and significance that are involved in changing the face of a natural resource such as Greers Ferry Lake through the use of a vague, standard-less questionnaire such as that document. The change of Protected Area to limited development area is, by the Corps' own admission, a "major Federal action," and should require far more study and evaluation than the criteria that are contained in the Corps' "Rezoning Request Evaluation Criteria".

Use of Best Management Practices (BMP's) is an ineffective and illusory mitigation measure. The draft EIS proposes that persons who construct homes, install and access paths and anchor boat docks voluntarily use BMP's in those construction and excavation activities in order to reduce sediment runoff. While on its face this proposal sounds good, it is difficult to accept that it is made seriously in view of the difficulty that has been encountered by the USEPA and state environmental agencies in requiring the use of similar BMP's at construction sites in excess of 5 acres under the federal Clean Water Act NPDES program. Compliance with that program, particularly in Arkansas, has been very low and very grudging.

It is unimaginable that landowners who have been granted a permit to install a new boat dock on Greers Ferry Lake will install silt fences, sediment basins, diversion berms, flow mitigation devices, and other devices and materials that are generally considered as BMP's when installing their boat docks. It is noteworthy that the Corps has not proposed to make the use of such BMP's mandatory in its preferred alternative, and even if it did, would undoubtedly not have the resources to enforce their use. In addition, practically speaking, BMP's would probably not have any significant effect in settings so close to the lake, and especially when installed by landowners who had no knowledge of or training in how to use BMP's to prevent discharge of sediment runoff.

Response: Mitigation is covered on page 4-75 of the Draft EIS. There are several items listed, including BMPs recommended by the USEPA for inclusion in state nonpoint source water quality programs, the Corps's Evaluation Criteria, and water quality monitoring. These are all well-established, good mitigation measures which, if implemented, can dramatically reduce pollution to surface and ground waters. The Corps will continue to evaluate additional mitigation like requiring neutral colors to boat docks, which was added to the Final EIS.

Comments on Cumulative Impacts: The cumulative impacts section is not adequate. The discussion of the cumulative impacts of the proposed alternatives is incomplete. Section 4.7.6, Visual and Aesthetic Resources, only talks about the effects of the addition of the proposed Cove Creek Marina. The section (4-145) does not discuss increased mowing and private multi-slip docks, including changes to the viewsheds, as contributing to a cumulative impact. Cumulative impacts are the combination of those of the proposed project plus others pertinent to it. These changes to visual and aesthetic resources (for instance, an increase of 79% in land from which a

dock will be seen, plus several hundred acres of underbrushed lawns, plus the 89% increase in docks), plus the addition of the Cove Creek Marina, make for a dramatic cumulative impact, and yet there is no mention of it.

The cumulative effect of the changes under the Preferred Alternative plus the Cove Creek Marina is to change the appearance of Greers Ferry lake in the short and the long term. Thus the overall description of the cumulative impact on Greers Ferry Lake of this policy change by the Corps is inadequate.

In Geology and Soils, Section 4.7.8, "This EIS (p4-143) considered actions from the past 10 years and known future action that could occur within the next 5 years." Here there was no effort to assess the long term cumulative effect of the increased number of private boat docks that would result from the change in rezoning policy outlined in the Corps' Preferred Alternative.

Response: Cumulative impacts were addressed in Section 4.7. In the Final EIS, some of the subsections in this section were improved by considering a broader range of cumulative impacts, while others that were considered to have been adequate were not modified. Where characterization of the cumulative impacts was not identified as "minor," "major," or another category, such characterization was added.

Comment On Failure To Notify The Public: Those parties that have submitted applications are clearly knowledgeable about the existing Shoreline Management Plan and the process of its modification. Although the Corps has attempted to notify interested parties, the reality is that a very large number of impacted persons (both owners of area property and users of the lake) are unaware of what is currently being discussed and considered - especially those that do not live in the Heber area. I have recently been informed of what is happening and have notified over ten persons that were unaware of the situation and were alarmed to hear that any modification may take place. Those of us that use this Federal lake are often from areas far removed from the daily life of the Heber and Greers Ferry area. A substantial number of people will find out the hard way that their worst fears have been realized after it is too late to even comment. At a minimum, you should delay any decisions until 2003 so that an entire summer season can take place and interested parties are more likely to be made aware of what is happening in time to make meaningful comment.

Response: Efforts to contact the public regarding the Scoping Meeting included three press releases sent to all major newspapers in or around the area. Two mass mailings regarding notification and invitation to the Scoping meeting were sent to approx. 1,040 individuals including land owners and individuals who had made public comments.

The Memphis office of Tetra Tech placed legal notices in the Batesville Guard, the Conway Log Cabin Democrat, the Heber Springs Sun Times, and the Searcy Daily Citizen approx. 1-2 weeks before the meeting to notify the public of the meeting.

In addition, several newspaper articles were written regarding the meeting place and time in the Heber Springs Sun Times, the Jonesboro Sun, the Van Buren County Democrat, the Jacksonville Patriot, and the West Memphis Evening Times.

All efforts to notify the public have been documented in the Appendices of the Scoping Report. These include copies all documents and a copy of the mailing lists.

I based this email on information obtained in the appendix of the scoping report. I hope this helps. The corps did a lot of the notification through their press office. I handled the legal notices and some coordination of the scoping meeting including brochures, sign up sheets, attendance roster and coordination of the court reporters.

Comments On The Insufficiency Of The EIS: Implementation of the current SMP would only further erode the Corps credibility. The study did not disprove the adverse impacts cited in the EA and did not include many of the factors that were asked to be studied in the Scoping Report.

The EIS was prepared quickly, using existing data, some more than twenty years old. Generally an Environmental Impact Statement takes many months to prepare, on average about 18 months to 2 years. The production of this EIS was handed to a contractor who was on current contract with the Corps, rather than put out to bid, and was completed in about 6 months. This would suggest the outcome was determined before the study commenced. Further this would suggest that the work was not a "zero base" product, that is, one that started with a clean slate, but rather used existing data to prove what needed to be proved, that is, the Preferred Alternative.

The writer of this document questions your reviewers' expertise: i.e. 2-3 years experience of many preparers and a company that has NO bases in Arkansas. 54 boat rides and 23 car rides, phone calls, and outdated laws do not seem to add credence to your study. Some laws and Water Pollution Acts were published years before the Lake was dedicated.

We also note that there is no Statement of Qualifications or Statement of Potential Conflicts of Interest relative to the contractor who prepared the draft EIS, as is required by NEPA and its implementing regulations. Such statements should be disclosed to the public.

Response: Tetra Tech is an extremely experienced firm with a long record of NEPA compliance assistance. They compiled a very knowledgeable staff to accomplish this study. Independent experts, to include members of Tulsa District and Dr. Larry Canter, extensively reviewed the Preliminary Draft EIS. All comments received were incorporated into the Draft EIS, which received a rating of LO-2 from the EPA. This is defined as a Lack of Objections, with additional information requirement in the Final EIS. The second highest rating possible. All the data used came from the latest possible sources. The Little Rock District has collected water quality data on the lake from the 1988-1998 and additional samples were taken in 2001 for petroleum, oil and grease. Water quality sampling occurs at the beaches annually, as well as at intake and discharge sites. Septic data was acquired from a 1981 study identified by the Save Greers Ferry Lake, Inc., group during Scoping and there appeared no reason to update the report, because little has changed in the soils or geology in the last 20 years. A statement was added to the Final EIS disclosing that no one who prepared or reviewed the EIS will profit from any of the findings of the study.

Comment on the Glossary: The use of jargon and unknown acronyms in the document creates obstructions to understanding. For example, the average reader doesn't know that watershed loading means water pollution and BMP means best management practices, or what constitutes BMP for this application.

Response: A glossary that contained all technical terms thought to be necessary to understanding the document was included. The term "watershed loading" was added to the

glossary. All acronyms used in the document were defined upon first use and a listing was provided at the end of the document for easy reference. BMPs for the action were clearly explained in the *Mitigation Measures* section.

Comments on the Recreational Study: A "Lake Slip Renter Summer Survey" OMB 0710-0001 was sent out by the Corps contractor, Tetra Tech, to measure visitor perception of lake activities. Why were the results of this survey not made public or included in the EIS? Is this another example of withholding information that does not support the Corps attempt to force a harmful SMP on the public? The Public Hearings have also been a sham! The Corps merely made its own subjective statements, allowed limited public statements, and the Corps presenters then gave NO public response to the questions or suggestions made by the individuals that spoke. I believe that is called "stonewalling."

Comment: Greers Ferry Lake Reservoir is a FEDERAL project not state, county or city - SO WHY JUST A LOCAL SURVEY?? What about the 4,000,000 visitors?

Comment: The Corps paid for a recreation study to buttress its arguments in the EIS. Where is that study? It should be made public; the public knows it was performed and expects to see the results. However, when it is made public, the following reservations should be announced: 1) some of the survey questions measure opinion about current pollution; this is somewhat relevant, but no questions explore opinions about the proposed expansion in the number of docks or the Cove Creek Marina. If the problems listed on the questionnaire existed today, we would be speaking of the beauty and health of the lake in past tense. 2) the population surveyed is grossly inadequate; the survey omitted actual and potential visitors, property owner, private dock owners and the area population in general.

Response: The Lake Slip Renter Survey was sent to a randomly-chosen group of persons who rent slips at marinas on Greers Ferry Lake. Not all marina owners on the lake were willing to share lists of slip renters, so not all marinas could be included in the mailing. A separate survey was sent to randomly-chosen landowners with property within approximately 1 mile of the lake. A separate survey was conducted at boat ramps and marinas between Memorial Day and July 8, 2001. From the latter survey, the Corps obtained the opinions of many people from states other than Arkansas or the Greers Ferry Lake area, including Indiana, Missouri, Tennessee, and California. The Corps believes the surveys were conducted professionally and the results adequately represent the opinions of the broad population of people who visit the lake.

The survey was not conducted as a requirement of conducting the EIS. The survey was conducted and the report prepared as a management tool for Operations Manager. The report results will be provided on the Greers Ferry Lake web page for public consumption.

Copies of all comments received on the Draft EIS follow.