

# **Appendix G**

## **Agencies and Persons Consulted**

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GREERS FERRY LAKE ELS

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Interview of Carl Garner

August 29, 2001

Parties present:

Tricia Anslow

Michael Dowell

Carl Garner

1                   MS. ANSLOW: Today is August 29th and this  
2 is Tricia Anslow, Mike Dowell and Carl Garner. And we  
3 have asked Mr. Garner some questions to gain some  
4 knowledge from when he was the resident manager for  
5 thirty-plus years at Greers Ferry Lake to help us with  
6 our environmental impact statement.

7                   So with that, I have given Mr. Garner about  
8 ten questions, and we've added one on him as we  
9 slipped one in on him. But we're going to just -- if  
10 he doesn't have that information with him, that's  
11 fine, but we're just going to go down the questions,  
12 and if you would, Mr. Garner, just answer them as you  
13 would.

14                   MR. GARNER: Okay. What is your earliest  
15 recollection of the establishment of shoreline  
16 management plan for Greers Ferry Lake?

17                   MS. ANSLOW: Uh-huh.

18                   MR. GARNER: Of course, let me just give you  
19 a little history ahead of that plan.

20                   MS. ANSLOW: Okay.

21                   MR. GARNER: You, know, I became the  
22 resident engineer in 1962, and at the Lakers Field in  
23 '64, and in the meantime, there were very docks put

1 out there, private docks, before we even had a plan  
2 approved. And then, once we took over, and I became  
3 the resident engineer, the first thing I did was visit  
4 projects all over the country to see what they were  
5 doing, what problems they had, and what they did  
6 right, and what we didn't want to do.

7           So, one of the main things I saw was, the  
8 two things that we're talking about now is mowing and  
9 boat docks -- private boat docks. And in some lakes,  
10 Altoona Lake, close to Atlanta, they had their people  
11 cut trees and mow all the way to the water, and just  
12 like sell houses like driving down the main street of  
13 Little Rock some were, and they -- in talking to them,  
14 they said, you don't want to do this. And they came  
15 up then later and we showed them Greers Ferry after  
16 about ten years of operation. They said, how did you  
17 keep people from cutting all these trees, would you  
18 come down and get our lake looking like yours? And I  
19 said I wouldn't live long enough to grow any trees.

20           But anyway, in view of that, when we started  
21 out, of course, the Corps didn't have any real,  
22 formulated plans at that time. We just kind of -- the  
23 general policy was, anybody could have a dock anywhere

1 they wanted it, because there wasn't any plan.

2           But we still -- they said, well, there are  
3 certain areas, seeding areas and gruff areas, and  
4 areas we don't want docks, but there were only very  
5 few, maybe in the beginning, let's see, I think I have  
6 a list of docks here but, in the early days, there  
7 were just maybe a half a dozen people that wanted  
8 docks to start with, and so it was not considered a  
9 real problem. But in the early '70s, we knew we could  
10 see there was a problem. And the district has the  
11 plans back even then. I have copies that came out of  
12 the files.

13           MS. ANSLOW: Okay.

14           MR. GARNER: And here is one. See, this is  
15 later, I think.

16           MR. DOWELL: That came out of the file at  
17 Greers Ferry?

18           MR. GARNER: Greers Ferry, right.

19           MR. DOWELL: Okay.

20           MR. GARNER: And you may or you may not have  
21 it. But you could pick all these up and look --  
22 here's one that -- it says it came from -- it says  
23 it's one that we have to use. And it says, "The

1 shoreline management plan has been developed in an  
2 effort to preserve the environmental setting of the  
3 lake. The plan is based on criteria formulated from  
4 actual operating experience, on site inspection, and  
5 from data collected at public meetings."

6 And, that's generally where our criteria  
7 came from was from actual operating experience, on  
8 site inspections, and from data collected at public  
9 meetings. And we'll get to that criteria later on,  
10 what it actually is.

11 MS. ANSLOW: Okay.

12 MR. GARNER: But here is one that's dated  
13 1972, and it says -- this was addressed to either the  
14 district, or me, the district engineer, and he talks  
15 about -- I think is probably Beaver Lake, but it says,  
16 a 20 to 25 percent shoreline in length, and we utilize  
17 -- it also says, private facilities owners contribute  
18 very small percent of overall visitation, yet  
19 one-fifth to one-fourth shoreline has been designated  
20 to their exclusive use. And it says, better balance  
21 is needed to provide optimum recreational use for the  
22 maximum amount of people and to protect the integrity  
23 of the shoreline. All these things were guidelines

1 that we had from time to time.

2 MS. ANSLOW: Okay, and what's that you're  
3 reading there?

4 MR. GARNER: It's a --

5 MS. ANSLOW: Go ahead.

6 MR. GARNER: I can leave all this with you  
7 and you can make copies of this, if you want.

8 MS. ANSLOW: Okay. October '72.

9 MR. GARNER: And it also says in there, it  
10 also indicates that all individuals have an equal  
11 opportunity for private purposes as adjacent  
12 landowners. Shoreline development should be listed  
13 lending to reaches accessible to public roads. Now  
14 that was one guidance we had, don't put any private  
15 docks unless there is a public road going down there.  
16 In other words, you have them at the end of these  
17 docks. That was some more guidance we had.

18 We had different guidance as we went a long.  
19 Let's see, I have -- this is a guide that we worked up  
20 on 30 of October, 1991. Here is another one. And the  
21 Federal Registry, I don't know whether you have a copy  
22 of that or not, but in the Federal Registry -- let me  
23 see if I can find that.

1           I will tell you what it said. The Federal  
2 Registry came along, it wasn't dated, but it said,  
3 this is for new regulations by Army Engineers to  
4 protect lake shore and Corps reservoirs. It says, the  
5 Army Corps of Engineers today in the Federal  
6 Registered proposed new regulations to protect the  
7 natural beauty, environmental quality of lake  
8 shorelines throughout the country.

9           The major element in new proposed regulation  
10 would be lakes that were designed to protect the  
11 natural beauty of the lake, maintain fish and  
12 wildlife, and promote safe and healthy use of  
13 shoreline for recreation by the public. In order to  
14 achieve this goal, which includes dock policy, reduce  
15 to a minimum, the private and exclusive use of lake  
16 shoreline by nearby property owners, or others, who  
17 have installed boat housings, boat ramps, piers and  
18 recreation structures. The proposed regulation would  
19 also provide that private recreation facilities on any  
20 new Corps lake, in other words, that meant, this thing  
21 that came out of, I assume, the chief's office, is  
22 talking about this.

23           Then the -- I'm just telling you some of the

1 things, the guidelines.

2           Then in the Federal Register it says, "It is  
3 the objective of the Corps to manage private,  
4 exclusive use of public property to a degree necessary  
5 to gain maximum benefit to the general public. Such  
6 actions are considered all forms of recreation,  
7 esthetics and fish and wild life.

8           It is the policy of the chief engineer that  
9 private, exclusive use will not be permitted on a new  
10 lake, or on lakes where no private citizens exist."  
11 Of course, that identified us. But to me, back to  
12 this, they said, you're not going to have any on new  
13 lakes, and they said here, you should be limited.  
14 That's the indication to me that we should not go  
15 ahead and try to hold -- we should try to go ahead and  
16 hold the docks to what we have, our absolute minimum,  
17 because that's what they -- and then he says, "Boat  
18 owners will be encouraged to moor their boats at  
19 commercial maintenance, utilize dry storage facilities  
20 off project land, or trailer their boats to public  
21 launching ramps which have been provided by the Corps  
22 of Engineers.

23           And then it says, "The District Engineer is

1 authorized to grant individual permits for the mooring  
2 section of a community mooring facility. We strongly  
3 discourage--" in other words, they strongly discourage  
4 that even.

5           And then they also said, "Activities in the  
6 land areas which affect the shoreline -- or lake  
7 shore, as well as activities in water areas, will be  
8 addressed in the plan." And then it also says, "The  
9 district engineer is authorized to use specific  
10 restraints and identify areas having unique  
11 characteristics not identified herein."

12           And then it talks about protecting lake  
13 shore areas down here, including details.

14           The land access to the lakeshore should  
15 provide aesthetic environmental natural resources are  
16 not damaged or destroyed. Recreation facilities may  
17 be moored in these areas.

18           Then it talks about, in general, over here  
19 it says, lists of -- it says, "However, the foremost  
20 objective is to secure maximum storage of boats and  
21 related equipment at commercial marinas through the  
22 direction of the boating public to tourist areas to  
23 try and minimize the number of shoreline developments

1    which could prove esthetically distracting,  
2    unreasonably injurious to the environment, or limit use  
3    of Federal property by the general public."

4                    These were the guidelines leading up to --  
5    that we received early on.

6                    MS. ANSLOW:   Okay.

7                    MR. GARNER:   And soon, before we even had a  
8    formal lake shore line, we started looking at all  
9    these areas.

10                   MR. DOWELL:   Now, is that issued by, what?

11                   MR. GARNER:   It doesn't have a date on it,  
12    but the letter here.

13                   MR. DOWELL:   And that's at 327?

14                   MR. GARNER:   Referred to -- let's see if  
15    this one is dated here.  The trouble is, there isn't  
16    any date on these things.  I don't know why.  But I  
17    know it was sometime in the '70s, early '70s when it  
18    came out.

19                   Let's see --

20                   MS. ANSLOW:   I think it's got the date on  
21    the back there.

22                   MR. GARNER:   Yeah.

23                   MS. ANSLOW:   December, 1974.

1                   MR. DOWELL: 327 30, the very first lake  
2 shore national policy.

3                   MR. GARNER: That was leading up to the  
4 actual one. But it came out about the time that lake  
5 shore management -- I guess one thing that is hard for  
6 me to understand, they had plans here early on, based  
7 on experiences, and investigations, and all this, and  
8 now in the last few years, we've seen them just throw  
9 them all out the window. In other words, somebody  
10 decided well, we don't want to do any of these things.  
11 But early on, which I think everybody I know of seemed  
12 to agree with that.

13                   (Discussion off the record.)

14                   MR. GARNER: And let's see, this is the 1994  
15 review that we had.

16                   MS. ANSLOW: Okay. We'll talk about that in  
17 a little bit.

18                   MR. GARNER: So we can talk about that later  
19 when we get up to that.

20                   MS. ANSLOW: Yeah.

21                   MR. GARNER: But I think in view of this,  
22 let's see, let me read the question again.

23                   MS. ANSLOW: So basically, you're telling us

1 you used all that documentation to lay the baseline  
2 for your initial --

3 MR. GARNER: Then the guidance --

4 MR. DOWELL: And a lot of that early  
5 guidance, did it come from the district, or did it  
6 come from the southwest division?

7 MR. GARNER: Well, all of it came from at  
8 least the divisions.

9 MR. DOWELL: Okay.

10 MR. GARNER: The corps plan is nationwide.

11 MR. DOWELL: Okay.

12 MR. GARNER: You know, it wasn't just the  
13 Littlerock district.

14 MR. DOWELL: Okay.

15 MR. GARNER: In one case here we've got --  
16 somebody had recommended that we have shoreline  
17 storage. And they wanted to have a small boat dock  
18 there so they could all tie up.

19 I recommend against that because a launching  
20 ramp was really all they would need. We would provide  
21 him a launching ramp because if you do that, the first  
22 thing you know, you're going to have one long enough  
23 to put 100 boats to it. That's when they're all tied

1 up at the same time. And if you do one of these, then  
2 some people are going to complain about, "Well, I  
3 can't tie my boat up." Or if somebody says, "Tie  
4 their's up there." So that could cause all kinds of  
5 problems. And I don't know how you would relieve that.

6 This is a list here of the docks that we had  
7 by years.

8 MS. ANSLOW: Okay.

9 MR. GARNER: You can see where in 1963, we  
10 had nine docks. And as we got past the -- well, these  
11 were all that we had at the lake shore management  
12 plan.

13 MS. ANSLOW: Okay.

14 MR. GARNER: A lot of these were in areas  
15 that we later decided they weren't in zoned areas, so  
16 then they grandfather clausd.

17 MS. ANSLOW: So by 1973, they had 176 boat  
18 docks out there?

19 MR. GARNER: Right, yes.

20 MR. DOWELL: That was before we had --

21 MR. GARNER: Lake shore -- is when we  
22 initiated the formulation that we have now.

23 But as I said earlier on, see, you didn't

1 have -- when we had nine or thirteen out there, we  
2 weren't paying much attention to it anyway.

3 MS. ANSLOW: Sure.

4 MR. GARNER: And we would have had them  
5 where we wanted. We also, back in the early stages,  
6 I'm probably covering several of your questions.

7 MS. ANSLOW: That's okay.

8 MR. GARNER: But we let people trim the  
9 trees as high as they could reach, all the way down to  
10 the water. And we didn't let them mow, but they could  
11 trim so they could see the water. Then the court came  
12 out with the regulation saying, you cannot trim these  
13 trees, you can't cut any brush or trees or anything  
14 just for the view of the lake. They said in some  
15 extenuating circumstances, it justified the need, you  
16 can't do that any longer. So we stopped that.

17 One thing we learned right away, it wasn't  
18 the thing to do, because people would go out there and  
19 get on ladders, they'd trim half way up the tree. And  
20 some of them, in order to get a view, we talked about  
21 views, if they go up high, they'd get up there with a  
22 sand saw and cut off the tops of them. We had one at  
23 Devils Fork cut the top off from half way up so he

1 could see right over them. Once you do that, there  
2 isn't anything you can do about. And that's what  
3 these things encourage when you start letting them do  
4 this, if you encourage them to do that. So we had to  
5 back off of that.

6 (Inaudible). In another place here it say,  
7 "The lake shore management plan is described below."  
8 It talks about it down here. This is in 1974.

9 MS. ANSLOW: Okay.

10 MR. GARNER: It says -- let's see, this came  
11 out of the district. "The lake shore management plan  
12 as described below will be prepared for each Corps  
13 lake where private recreation facility exists as of  
14 the date of this regulation. This will be used in  
15 preparation of a plan to provide for protection of  
16 public land and private investments and honor any past  
17 commitments which might have been made." So we're  
18 talking about, you had to honor the ones that were  
19 already out there. If we gave them a permit, we had  
20 to honor it. And that's the reason the rezoned the  
21 lake then and then we -- 38 of them, I believe, no it  
22 was 48 of them were out there on Greers Ferry now are  
23 outside of the zoned area. They were on the

1 grandfather clause.

2 MS. ANSLOW: Okay.

3 MR. GARNER: Here's a note that came back  
4 from the division, the district engineer on the plan,  
5 and we looked at all of these as to guidance, because  
6 if it applied to one, it applied to another one. And  
7 this says that, "Three percent of shoreline allocated  
8 within the Norfolk development is considered to be  
9 maximum allowable. The district may eliminate any  
10 areas or reduce the size of areas designated for  
11 development."

12 MR. DOWELL: What's the date on that?

13 MR. GARNER: That's a date of 13 November,  
14 1975.

15 MS. ANSLOW: And that was for Norfolk, and  
16 it's by division. See, they're talking about three  
17 percent being too much. For Norfolk?

18 MR. GARNER: Yeah. And, of course, Norfolk  
19 would be -- I would say Norfolk could have a -- not be  
20 as destructive I would say as Greers Ferry, because  
21 they both went way back. And you wouldn't have --  
22 anywhere you've got a dock, you've got a tendency to  
23 -- in the first place, if you buy a dock, right now

1 the shoreline, you know, in 1973, we lost 100,000  
2 trees around the lake, because was at 484. All the  
3 pine trees and oak trees wasn't water tolerant, many  
4 of them got killed. So that's the reason we got a ban  
5 all around the lake, because it doesn't have trees.  
6 But it is restored itself, because young trees are  
7 coming up every where in the scrub brush. And one of  
8 these days, if we leave it alone, it will be -- it  
9 will look like a natural shoreline again, back when it  
10 was originally pulled up.

11           But if you put a dock here, then the water  
12 comes up, this guy has got to have room to move his  
13 dock up. He can't tie it to low trees out here or  
14 anything else. What they want to do is clear an area  
15 out to the trees, and keep it cleared out all the  
16 time. So we put those docks out there and you've got  
17 these strips all around the shoreline which  
18 contributes to erosion around the banks. And it also  
19 is private use for that part of the land all of the  
20 way up there. And if it isn't private, it has the  
21 appearance of being private when you keep it mowed and  
22 trees cut on it. You may not mow it, but you cut  
23 trees.

1 MS. ANSLOW: Right.

2 MR. GARNER: And this is one here that I had  
3 a question on. It says, lakeshore management plan, to  
4 be reviewed at intervals of not less than five years  
5 from the date of proof. If it is determined the need  
6 to revise and update the plan if such review reveals  
7 the plan may be necessary.

8 Now then, we talked about here that the  
9 Corps will review this plan -- and it also said down  
10 here, it says, "Equal consideration," so you're  
11 getting into reducing the expanding number in size of  
12 limited areas. In other words, you don't try to  
13 expand it all the time, but reduce them.

14 One year, we did -- we reviewed ours, and we  
15 reduced it 200 miles. The main thing that we've done  
16 all these years, since we had our reviews, we didn't  
17 look at extending big areas or expanding big areas,  
18 but if there is an area here, let's say along here,  
19 that you have zoned for docks, and nobody was using  
20 it, and you felt like back in the shallow area or  
21 maybe along here, somebody over here had an area about  
22 the same, they would lose over here. But that's not  
23 possible any more, because everybody knows it's zoned

1 in front their place, and if you start moving it,  
2 you're in trouble.

3 MS. ANSLOW: Right.

4 MR. GARNER: But the reason we did that, we  
5 shifted areas pretty well. And if we found out that  
6 there's an area zoned here, and there was a house,  
7 some up here, and it didn't look too good, then we  
8 would -- the fellow down here wanted a house around  
9 this zoned area and we would shift one lot with down  
10 here, so this could have it. But that's the kind of  
11 change that we made all these years. We didn't go  
12 into this wholesale.

13 But to me, when they say, review the plan,  
14 it speaks in here somewhere that in your course of  
15 review of the plan, if you feel like it's necessary to  
16 change it, then you hold public meetings. You review,  
17 based on the -- you've taken boat dock applications  
18 all year. And if you feel like it should be changed,  
19 to me, I've always thought, and we tried to say, well,  
20 physically, has anything changed out there and did we  
21 make a mistake? Is it an area you cannot use for any  
22 reason? Maybe it's too shallow or something else.  
23 These are the kind of errors we change. We didn't go

1 with the -- with the no zoned areas and zoned areas,  
2 we didn't look at the no zoned areas, because we knew  
3 they'd want to keep those out to begin with. So we  
4 felt like -- and to me, what I think what the intent  
5 was, I think the intent is to review your plan and see  
6 if you made any mistakes, or if there is any changes  
7 in the physical condition, the way the lake was  
8 operated. If there isn't, then you're going to go  
9 wholesale and have docks everywhere on the lake. You  
10 don't pull areas out of your original area. If you're  
11 satisfied with what we've done originally, and of  
12 course, after it's been there a while, five years,  
13 after about ten years, you probably have already  
14 reviewed everything that should be changed as far  
15 areas you have zoned and not zoned.

16 I think I instructed you -- you see here, it  
17 was not to keep on changing areas from zone to zone.  
18 In fact, it was to -- if anything, it was to reduce  
19 and Norfolk was told they had too many from the very  
20 beginning.

21 But these are some of the things that we  
22 looked in to, and as I said, we did -- let me see if I  
23 can find that -- yeah, here is one that shows what we

1 did one year. I say miles, it's feet, it's not miles,  
2 it's feet. These are ones here that we didn't change.  
3 See there, 100 feet, and we had 100 feet over some  
4 wells.

5 MS. ANSLOW: Okay.

6 MR. GARNER: And here we took 100 out.

7 MS. ANSLOW: And these are based on  
8 requests?

9 MR. GARNER: Yeah, request, yes.

10 MS. ANSLOW: So what you showed is, if  
11 somebody asked for a rezoning request, you gave it to  
12 them, but you probably took away the same?

13 MR. GARNER: To go somewhere else. One end  
14 of the zoned area to another.

15 MS. ANSLOW: Although you allowed them, you  
16 ended up taking LBA out?

17 MR. GARNER: We didn't add any new ones.  
18 And that difference was, right here we had 300 feet  
19 deleted.

20 MR. DOWELL: But when you did something like  
21 that, did you take into account the property owner, or  
22 whoever that might be above that zone that you moved  
23 from one point, you know, from point A to point B?

1 How did that determine your --

2 MR. GARNER: Yes, we did. And we would ask  
3 that person -- we found out -- originally we zoned  
4 some areas back and had it called -- and we shouldn't  
5 have done it. And that's the reason we take the head  
6 and move it out here where it's in deeper water. When  
7 you first go out there and look at the lake, unless  
8 you're fairly familiar with it, and if it's been down,  
9 unless you make a detailed sounding survey out here,  
10 you really don't know how much water exists. But  
11 those are areas that we didn't move, and in some  
12 places, a subdivider where he owned all of it. See,  
13 if he had somebody that wanted to be down here and  
14 didn't want to be up here, that was generally the  
15 case. Back in the early days, subdividers still owned  
16 most of the lots. So he was happy to have it moved  
17 out here, because we didn't ever move any that we had  
18 any problem with. If we had a problem, we'd move it.

19 MS. ANSLOW: That kind of leads us into that  
20 second question that I had, Carl, which was, do you  
21 recall how the original shoreline zones were  
22 established? And was there specific criteria?

23 MR. GARNER: Let's see, I've got the

1 criteria here.

2 MS. ANSLOW: Okay.

3 MR. GARNER: Just let me get a hold of it.

4 MR. DOWELL: And I would guess, if our first  
5 plan was in 1976, is that when we really first  
6 established our zone?

7 MR. GARNER: That's when we first initiated.

8 Let's see, Here's where we had -- these were  
9 the original criteria we used. These came out of the  
10 chief's office to everybody. And then this date here,  
11 they were changed to this.

12 MS. ANSLOW: Okay.

13 MR. GARNER: Of course, that's in something  
14 I know we sent down here.

15 MS. ANSLOW: I see.

16 MR. GARNER: But those are -- see, we had  
17 recreation areas right up here, didn't have a gruff  
18 area, scenic areas, areas unprotected from weather.  
19 And they're adjacent to the recreation areas. And  
20 boat storage provided for commercial boats. Boat  
21 storage should be provided at special dock near  
22 recreation areas. Areas subject to that are of  
23 drawdown and areas zoned for private community

1 floating facilities, 22 1/2 miles.

2 MS. ANSLOW: Okay.

3 MR. GARNER: But then they changed, and they  
4 left out these scenic areas. It got changed to  
5 limited development areas, parks, and protected  
6 areas, and nothing was said about some of these things  
7 in here.

8 MS. ANSLOW: And this change was as a result  
9 of the regulation changing, right, CFR changed on  
10 that?

11 MR. GARNER: I believe that's right.

12 MS. ANSLOW: Okay. Now, did you actually --  
13 I guess my question was more specifically like, did  
14 somebody just take a map out, or did they drive around  
15 in a boat, or how did they --

16 MR. GARNER: What we did, our rangers and  
17 myself went out and looked at all these areas. We  
18 looked at them on a map first to see where they had  
19 docks, and we were influenced by how many docks were  
20 in an area if it was suitable.

21 MS. ANSLOW: Okay.

22 MR. GARNER: We tried to leave them out  
23 there, so they all have grandfathered. Most of them

1 back in there -- well, we had a few around Eden Hall,  
2 and they had to be grandfathered. And a few of their  
3 heirs there, they had to be grandfathered because we  
4 found out in those areas, we're restricted anyway. So  
5 eventually, right now, it's dangerous out there on a  
6 holiday weekend in that area, especially if you got a  
7 boat dock sticking out there -- and by the time you  
8 put the bridge out there, it is half an acre.

9           So these areas, we looked -- we went and we  
10 saw back in the cove, if it looked like it was okay,  
11 we zoned it for a dock. And we did the same thing --  
12 and we deal with some -- because we didn't want to  
13 have -- most of the docks were kind of concentrated I  
14 believe on the upper half of the lake, because there's  
15 Fairfield Bay, and there's Lakeshore shoreline --  
16 Southport Bay.

17           We didn't want -- we tried to distribute  
18 about the same number that we had here all over the  
19 lake and coves. Which Greers Ferry doesn't have a lot  
20 of coves, that's one of the problems. But on the  
21 lower half of Greers Ferry Lake, you know, there was  
22 no coves at all. So that's how we arrived at these.

23           We went out, and I went out, the rangers

1 went out at different times, different mornings,  
2 looked at the areas and all came back in and put it  
3 together. Then district came up. We went out with  
4 them, they did the same thing. The division came up,  
5 we went out and looked and we did the same thing. So  
6 it was not just one person.

7 MS. ANSLOW: Okay.

8 MR. GARNER: In fact, we dealt with for, I  
9 guess, a couple of years, almost that long.

10 MR. DOWELL: Did you look at the water dam?  
11 Did you have anything that gave your water dam --

12 MR. GARNER: Well, one thing we had was  
13 contour mass. But in the meantime, we have seen the  
14 lake in '73, it got high and we used to kill the lake  
15 down about -- every year to about 450 or 448. We had  
16 seen the lake, and of course, as I said, we've had  
17 real contoured maps. They weren't always as accurate,  
18 but you knew pretty well. And I think we did some  
19 sounding, a tape with a rock on it and drop down and  
20 see how much -- and also you look at the bluff areas  
21 where they can anchor.

22 But we spent six months, over that period of  
23 time, working on this thing, changing and adjusting.

1 So it wasn't just something that we dreamed up over  
2 night.

3 MS. ANSLOW: Sure.

4 MR. GARNER: And by the district coming up  
5 and looking at it, and the division looking at it, we  
6 felt like we got a lot of input. And there were some  
7 changes made when district looked at it, and division.  
8 They recommended different things.

9 But normally -- generally they went along  
10 with what we did, because they felt like we knew --  
11 and of course, at the same time we had this, we had  
12 all these other things over here that they were  
13 telling us. Don't zone a lot of this lake, try to  
14 take care of what you got out there. You're obligated  
15 to do that.

16 Does that answer any of the questions?

17 MS. ANSLOW: Yeah, that answers two.

18 MR. GARNER: That probably takes the first  
19 two then.

20 MS. ANSLOW: It sure does.

21 MR. GARNER: I was hands on person.

22 MS. ANSLOW: Were you?

23 MR. GARNER: Yeah. Some people are not that

1 way. Bill Lassett was totally different.

2 MS. ANSLOW: Just let it happen.

3 MR. GARNER: But I was hands on. You know,  
4 I gave the guys the work, but I'd go -- I was  
5 checking, I knew what was going on. I just didn't  
6 stamp it every time it came through there. In fact, I  
7 stamped very few letters when they came through  
8 without being -- knowing about them. That was too  
9 much I guess.

10 MS. ANSLOW: Scrutinized them pretty good.  
11 Actually, that probably answers number 3, because I  
12 asked you what your -- basically the natural resource  
13 management was, and I think you've explained that.

14 MR. GARNER: It's exactly what you read in  
15 here at the very beginning, because I had seen and  
16 read about all of the horror stories on other lakes,  
17 Sidney Lanier Lake in Atlanta and Altoona Lake in Hot  
18 Springs, and Lake at Ozarks. And every one of these  
19 people that you talk to, they say, don't do it.

20 Pat Taylor, down at Sidney Lanier Lake, he's  
21 a friend of mine, he's assistant manager there, and he  
22 told me, he said, "25 years ago, we're roughly where  
23 you all are. If you don't stop it now, 25 years from

1 now, you'll be where we are." Because he said,  
2 Congressional pressures will make you do it, whether  
3 you like it or not. And that's one thing that I think  
4 that the contractors should look at very closely is,  
5 don't put anything out there that will give a change  
6 to -- it's like the grandfather clause -- we said, the  
7 family can put all these things on here, on this dock,  
8 but when all of them sell their interest, the last  
9 one, the dock is going to get out of here.

10 Hammersmith, somebody went to him and said  
11 he had a law passed in Congress that it would be there  
12 forever. And anytime you give a chance, an  
13 opportunity, and the more things you do out there, it  
14 looks it for private interest for somebody, that's  
15 exactly what's going to happen. And we try to stay  
16 away from that all together. We never had  
17 Congressional pressure put on us one time to change  
18 anything. Every time they'd write a letter to the  
19 Corps and get it back saying to them, that was the end  
20 of it. But it's not that way. And also the courts  
21 can change in a hurry too.

22 MS. ANSLOW: Right.

23 MR. GARNER: On this plan that's opposed, I

1 had to cut the lawyers, there was fighting all around.  
2 I said, "Could you get a dock and make it for that one  
3 if you wanted to?" And he said, "Sure, it would be  
4 discrimination." No matter what you say in your  
5 letter, stop it or not stop it, he said, "All I got to  
6 do is go to court." But the Congress doesn't have to  
7 go to court. All they have got to do is say it and  
8 they've got you.

9           But to me, any shoreline plans should --  
10 environment and the study views -- and like one letter  
11 says here, a small percent of the people that want the  
12 docks, compared to the total number of users of the  
13 lake. And if you gave docks based on a percent of  
14 usage, you'd get very few compared with everyone else  
15 who uses it, because they probably wouldn't be half of  
16 -- say 5 million visitors, there's probably 2 or 3  
17 million actual visitors that come to the lake, and on  
18 the shoreline, you may have -- right now, if you took  
19 all of them, you'd have 90 something, and you have 200  
20 something already, so that would be say 500 compared  
21 to the 3 million is just a small percent.

22           And I've got some drawings here I want to  
23 show you. And one of the biggest problems, and you

1 know that too, is when that was bought. And you need  
2 the most restrictive plan you can get, and that's not  
3 easy to do, and probably nobody else will want to hear  
4 that, but anything -- you can change anything and give  
5 people more private use, then it complicates the whole  
6 management plan because they don't have a boat. It  
7 really complicates, and I'll show you a little bit  
8 about that. But I think we need to go through these.

9 MS. ANSLOW: Okay. I think the fourth  
10 question was, what type of process was established for  
11 reviewing the original and subsequent shoreline  
12 management plans? You talked a little bit about that.

13 MR. GARNER: Yeah, it was the same, because  
14 we had a public hearing and we -- in fact, we -- in  
15 fact, then, people would come in and tell us, you  
16 know, I want a dock. And we would say, well, we'll  
17 look at it, but according to our plan, we're not going  
18 to easily change this thing. You may not even have a  
19 change. Not everybody is going to get a dock that  
20 wants one. And for that reason, through the years, I  
21 guess we only had -- I think the last time, we had 13  
22 applications for docks. But in the time, we had what,  
23 a hundred and something.

1 MR. DOWELL: Right.

2 MR. GARNER: But he's had me go -- I think  
3 one thing in there, I'm not going to say it on this,  
4 I'll tell you later, but the reason that happens,  
5 because when you change administration, there's always  
6 somebody that thinks, well this is time.

7 MS. ANSLOW: Right.

8 MR. GARNER: But anyway, and I don't fault  
9 anybody for that, it's -- and it's a problem for the  
10 new, whoever comes in too. You know, it's not easy to  
11 have them. But I had the advantage, I was the first  
12 one, so I didn't have that problem. But we had the  
13 same thing.

14 We announced it in the paper, went through  
15 this whole same exercise you do now, the same thing.  
16 And then we would, as I said, I told you a while ago  
17 how we kinda handled them. If we could move -- move  
18 one through this, but of course, adding new areas, I  
19 don't know if we ever had -- we might have had one  
20 area at some time that we had just tested on. He  
21 might extend it so he could have a dock. But those are  
22 the only cases we did.

23 Except, '94, we were forced under this new

1 thing to do -- even then, we didn't open all the areas  
2 up. But I don't know who came up with that plan. I  
3 just think it's a terrible plan. And as long as you  
4 --

5 MR. DOWELL: Which claim are you saying?

6 MR. GARNER: Whether we have a (inaudible)  
7 Go out on the whole lake.

8 MR. DOWELL: Oh rezoning criteria?

9 MR. GARNER: Yeah, rezoning. If somebody  
10 wants a dock, what happens is you go -- all the areas  
11 are open except the restricted is what it amounts to.  
12 In one big sweep, you eliminated this whole dock area.  
13 And of course, what's gone on in the past and with the  
14 Federal Register and all these things, you know, I  
15 don't understand how that could happen.

16 But we went through the same exercise you do  
17 today as far as that questionnaire.

18 MS. ANSLOW: Okay.

19 MR. GARNER: Only we didn't do it the same  
20 as far as docks. I think I told you how we did that.

21 MS. ANSLOW: Uh-huh, yeah. And then what  
22 was the level of public involvement during that time  
23 period for shoreline reviews, '74 to --



1 when this plan originally came out, Peggy Reesy was  
2 one of them. They said, "You know, it's not the thing  
3 to do. We'll ruin it. It's not the thing to do." We  
4 agree that people come here because there's not a lot  
5 of docks. A lot of people come to Greers Ferry to  
6 tell me they looked at Taber Rod, and looked at Beaver  
7 and looked at some others, Hamilton Lake, and they  
8 said, that's the reason they came here.

9           The trouble is, as soon as you get there,  
10 they're more docks. But we've got a lot of them now  
11 that say, "I'd like to have a dock, but I don't want  
12 to ruin the lake. I would like to have one, but I'm  
13 not going to fight, because that's what will happen.  
14 I've seen these other lakes.

15           MR. DOWELL: Not a whole lot of people will  
16 go to commercial marinas, do they?

17           MR. GARNER: No, well, there's a lot of them  
18 -- they were going there until this last plan. That's  
19 where they were going.

20           MR. DOWELL: Was that part of the original  
21 lakeshore management plan, that you decided the areas  
22 for marinas? Or was that decided --

23           MR. GARNER: That was decided before the

1 project was ever started.

2 MR. DOWELL: Okay.

3 MR. GARNER: Yeah, that was done in the  
4 district office.

5 MR. DOWELL: The original master plan?

6 MR. GARNER: Yeah, right.

7 MR. DOWELL: Okay.

8 MR. GARNER: There was two additional,  
9 Fairfield Bay and Eden Isle, those two were added  
10 later because these big developers wanted one there,  
11 but they were -- and I think they maybe studied  
12 marketing and figure that between Fairfield Bay and  
13 Chotaw and the Narrows it's a pretty long ways any  
14 way. And Eden Isle was -- Thomas got that because he  
15 had two Senators through his. In fact, a funny thing  
16 happened one time. You know that little lake they got  
17 out there? You've seen it as you drive across?

18 MR. DOWELL: Sure.

19 MR. GARNER: See, that's a county road  
20 across there, and that's government land that that  
21 lake is on. The Government owns it now. And so he  
22 started raising that little public road to go to the  
23 dam and make a lake. I went out there, and the

1 contractor was doing it, all these scrapers hauling  
2 and stopped them. I said, "Stop right here.

3 Well, Mr. Thomas got the word and he called  
4 John McLennon down here, and John says, "And they've  
5 got an appointment with the district engineer." And  
6 they went in and talked to him. I figured I was being  
7 fired. But anyway. John McLennon told Mr. Thomas,  
8 "Make your application. If you get approved, you can  
9 build it. If you don't, you can't." So they made  
10 application and they didn't. It had to be left open  
11 to the public. It had to be a public lake.

12 And Mr. Thomas was really my friend all  
13 along. He was the best friend I ever had. He talked  
14 about how he liked the Corps, what they had done. He  
15 said he bought the island, and he made the statement,  
16 "I've always wanted a place where people with money  
17 could come and associate."

18 But he said, "I appreciate what the Corps  
19 has done, and what Carl has done here to protect this  
20 lake. If it hadn't been for the Corps, I wouldn't  
21 have this." So he was real nice.

22 But the bottom is essentially what you have  
23 here. Public notices all went out.

1                   MS. ANSLOW: Okay. The sixth question was,  
2 what was the decision-making process used to make  
3 changes to the vegetative modification radius or other  
4 SMP elements during your review of the SMP? And what  
5 was the level of public involvement?

6                   MR. GARNER: Well, it's the same.

7                   MS. ANSLOW: Okay.

8                   MR. GARNER: The public involvement. There  
9 wasn't as many people, I don't believe, that asked for  
10 mowing originally because in '74 -- in '94 I think we  
11 had a lot more than we had in the past. Because once  
12 they saw people were doing it, then somebody else  
13 wanted to do it.

14                   But originally, we wouldn't let any of them  
15 on government land. And then we --

16                   MR. DOWELL: Do you remember in your first  
17 plan, did it have a mowing radius?

18                   MR. GARNER: It was before the shoreline  
19 management plan came out. But we had 50 feet at that  
20 time.

21                   MR. DOWELL: 50 feet?

22                   MR. GARNER: Yeah. And I think it was some  
23 time after, three or four years earlier when -- and I

1 think it came about probably because Tabor Rock -- you  
2 know how you went through all that time. And down  
3 there, of course, you've got the district.

4           And so we decided 50 feet would be the --  
5 and of course the National Fire Protection, the  
6 National Fire Code says 35 feet is all you need on  
7 Greers Ferry and 50 feet would be the maximum, and so  
8 that's what we decided we'd do. And a lot of places,  
9 it's not much more than 50 feet to begin with. A lot  
10 of places, it's not even 50 feet between the private  
11 property on the gruff area.

12           MR. DOWELL: So the vegetative modification  
13 rating has always been the same?

14           MR. GARNER: 50 feet, it's always been 50  
15 feet. Thank goodness. If we had 100, we'd still have  
16 100. Beaver tried that.

17           MR. DOWELL: Yeah, they tried.

18           MR. GARNER: In view of that, we were just  
19 never receptive to any change in the mowing at all on  
20 any of our public areas.

21           MS. ANSLOW: Okay. So it never came up, or  
22 you know, it was just --

23           MR. GARNER: People wanted it, but we told

1    them that.  That's all we knew.  It wasn't going to  
2    change.  It was -- and people got to accept that.  I  
3    think they accepted it.  And we never had a fire that  
4    damaged any house since I've been there.

5                   MS. ANSLOW:  So most of the changes that  
6    were requested during that old time period, '74 to  
7    '93, either they became changes or put in the new  
8    revisions, I guess you had a new one in what?  '84,  
9    and then in '93?

10                   MR. GARNER:  Yeah.

11                   MS. ANSLOW:  So you had two revisions after  
12   the original, right?

13                   MR. GARNER:  I think it's just one in '92,  
14   right?

15                   MR. DOWELL:  '82 and then '93.

16                   MR. GARNER:  I don't think '82 affected this  
17   a whole lot.  Some project didn't affect much.  I  
18   think that's the one that didn't affect us much.

19                   But anyway, got a call, and I think these  
20   criteria, I don't believe they changed in '82, I think  
21   there were some minor changes or something.

22                   MS. ANSLOW:  Okay, when you started the next  
23   process in '92?

1           MR. GARNER: Yeah. But as I recall -- I  
2 remember something about '82, one of them. It really  
3 didn't involve us. It was more effective at Taber  
4 Rock, and also they had houseboat, Norfork had these  
5 houses where you lived on them and that was in there.

6           But our philosophy has never changed as far  
7 as that goes.

8           MS. ANSLOW: The seventh question is kind of  
9 an extension on that first question, when you allowed  
10 vegetative modification permit, the actual permit  
11 itself, did you do any -- how did you evaluate that  
12 request?

13          MR. GARNER: What it was, if you owned land,  
14 say the government owns here off 291, whichever one it  
15 was. If you built your house right against that line,  
16 say you built it five feet off, then you could mow --  
17 you could take a circle, 45 feet this way and 45 in  
18 the radius. So you had 45 feet on government land.

19          MS. ANSLOW: Okay.

20          MR. GARNER: Now, if your house was back  
21 here at 50 feet, you couldn't.

22          MS. ANSLOW: So you basically would always  
23 allow them if they fell within that --

1                   MR. GARNER: We said need 45 from the house,  
2 whether it's private or --

3                   MS. ANSLOW: So you didn't deny anybody  
4 that?

5                   MR. GARNER: No.

6                   MS. ANSLOW: I mean, if somebody came up --

7                   MR. GARNER: Well, some of them where they  
8 was close, they couldn't get 45 out of it. But up to  
9 45.

10                  MS. ANSLOW: Okay.

11                  MR. GARNER: I mean, up to 50 feet from the  
12 house, whatever that was. Now, some houses are  
13 closer. Some are 30 to 40 feet.

14                  MS. ANSLOW: Sure.

15                  MR. GARNER: And they did mow.

16                  MS. ANSLOW: So pretty much everybody that  
17 came and asked, as long as they needed -- they had the  
18 space there?

19                  MR. GARNER: Yeah, we didn't deny anybody.

20                  MS. ANSLOW: Okay.

21                  MR. GARNER: I say we didn't. Now, there  
22 could have been some particular case somewhere with  
23 something else.

1 MS. ANSLOW: Yeah. I guess I'm just trying  
2 to get at -- were each one evaluated individually?

3 MR. GARNER: Oh yeah. We went out and  
4 marked it on the ground.

5 MS. ANSLOW: Told them where it was?

6 MR. GARNER: Yes. And some of them mowed  
7 more and got a citation.

8 MS. ANSLOW: Okay. That happens too,  
9 doesn't it?

10 MR. GARNER: Sure.

11 MS. ANSLOW: Let's take a break.

12 (Break taken.)

13 MS. ANSLOW: We will continue with the --

14 MR. DOWELL: Question 7, about the  
15 vegetative qualification permits, I believe.

16 MS. ANSLOW: Yeah. The last part of that  
17 question is, was there any need in determination of  
18 environmental impact?

19 MR. GARNER: Yes, it was. Any time you mow,  
20 most of the land slopes to where the lake is, some are  
21 steep. Any time you mow, your run off, pollutants or  
22 whatever comes along, go much faster into the lake  
23 than you do at the end of this natural vegetation

1 built up out here, natural vegetation stream. Behind  
2 houses, pine needles, two inches thick, leaves and  
3 everything through here.

4 My septic tank started leaking. I went out  
5 there and it was running down towards the lake. I  
6 went down and looked -- and I'm only about 75 feet  
7 from -- 55 feet from the cleared line, and down to the  
8 water another 75. I went down there and started to  
9 find out where this was going, and it went about 10  
10 feet in there and no farther. It had been absorbed by  
11 all the (TAPE SIDE A END.)

12 MR. GARNER: Normally, you have to have a  
13 justification for doing something, as far as private  
14 interest. There is no justification -- the only  
15 justification is, I would find in all the things that  
16 I read, mowing permitted for fire protection. And the  
17 justification for that is, fire protection. And how  
18 you can ever get more of that without just saying, we  
19 would ignore the regulations, and we're going to give  
20 it because somebody wants it. And it also has,  
21 anything you mow out there, to the person walking down  
22 the shoreline, it has the appearance of being private  
23 property.

1                   Because a lot of them don't know what the  
2 red line, or white line is. They have no conception  
3 of what that is. So if you see it mowed, and some  
4 people will tell them to get off of those areas.  
5 We've had people that do that, and they get out there  
6 saying it's their front yard.

7                   Another thing, you were letting the people  
8 have a private front yard on government property. And  
9 if you build -- my house is only about a foot -- my  
10 deck comes out within a foot of that white line. And  
11 I don't mow anything on government property, never  
12 have. I don't want to, because I don't want the  
13 people down in that bluff, and they're there all the  
14 time, during the weekend, picnic and everything, and  
15 sometimes I walk down there to visit with them, and  
16 tell them about their clean up. And they say, "Where  
17 do you live?" And I say, "Right up there." And they  
18 say, "we didn't even see your house." And there's  
19 almost 55 feet of trees between there.

20                   But there's all those things that we  
21 considered. Of course, new justification, erosion,  
22 pollution. I guess in a septic sense, we're not --  
23 the Corps of Engineers had nothing to do with septic

1 tanks. But by the same token, I've always maintained  
2 that we need to do whatever we can to keep that stuff  
3 from getting in the lake. It's our job to take  
4 control. And I don't know why we would not say that  
5 -- if you remove all of this, then you're contributing  
6 to that as far as I'm concerned.

7 MR. DOWELL: Well, we looked at a 50 foot  
8 mowing radius though, do we try to keep a buffer?  
9 You're talking about the humus and the --

10 MR. GARNER: We tried to. Normally, we  
11 hadn't had many -- on bluffs now, there was not many  
12 trees anyway, some brush is generally all it is. But  
13 the buffer, you're not going to get a buffer when  
14 there's only 30 feet. And you can try to maintain a  
15 buffer, but our experience has been, the more you let  
16 them do, the more they're going to do. In other  
17 words, if you try to leave a 50 foot buffer here. And  
18 the fellow over here, the line went like this, and  
19 here's the water, and he's mowing the water, do you  
20 think those guys ought to maintain that buffer? There  
21 is no where in this world he's going to do it,  
22 absolutely no way. We've had that happen many times.

23 In fact, one fellow, I recall, we went out

1 there and we kept calling -- missing trees, and  
2 missing trees, we said, "Have you been cutting any  
3 trees?" He said, "No, I haven't been cutting any."  
4 We looked down there and he cut, we found out where he  
5 had cut the stumps down low and covered them in  
6 leaves. We found a whole bunch, he covered them all  
7 up.

8           If you just looked at it, you say, he hadn't  
9 cut any trees. But they will find a way to cut them.  
10 And Tommy will tell you now how many are gone, but a  
11 bunch of them. And more -- the closer you let them  
12 get to the lake, the more of that you're going to  
13 have.

14           If we had like Norfork, because Norfork and  
15 some places a quarter mile back. Most of them a  
16 quarter mile, some places half a mile. But I can  
17 remember in Norfork a land owner said, "If you go to  
18 buying my bottom land that far, you've got to get the  
19 hill in it, because I can't make a living, so they  
20 bought way back. And they didn't realize what they  
21 had done.

22           And by the time they built Taber Rock,  
23 people realized this is worth something. So we bought

1 -- I don't think we got -- but we got closer. Let the  
2 people closer, let them have it. So in the Eisenhower  
3 plan, that's what we had, we called it the Eisenhower  
4 plan, where you buy up to the flood area, and now I  
5 understand they're about three feet back of the flood  
6 zone, which is what you should own.

7           Septic tanks that close to the lake is just  
8 -- one of these days, sometime in the future, all  
9 these septic tanks are going to be a problem because  
10 that ground gets saturated and it's all going towards  
11 the lake. And the rock is very impervious. You get  
12 to the top of that rock, it's not going to go down.  
13 It follows it right on down to where the water is.

14           And, of course, you've got something -- a  
15 study or something else?

16           MS. ANSLOW: Yeah. And I think you probably  
17 already answered this question. But what was your  
18 management philosophy on shoreline zoning during your  
19 time as resident manager? I think you've already --

20           MR. GARNER: I think you got that pretty  
21 well.

22           MS. ANSLOW: Yeah, you talked about that.  
23 So then, the next question would be, what is your

1 knowledge of past environmental studies?

2 MR. GARNER: The main one that I know of is  
3 when Bill Alexander got \$750,000 for this  
4 environmental study. They didn't call it an  
5 environmental impact statement, just environmental  
6 study.

7 It was, I guess it was -- there wasn't that  
8 many docks on there then, so I don't think a lot of  
9 attention was given to docks. It was mainly pollution  
10 type things, septic tanks and drainage. But that  
11 study in 1981, all you had to do to look at it, you've  
12 got to be concerned with what they found as far as  
13 septic tanks are concerned.

14 MS. ANSLOW: Yeah, we do have a copy of  
15 that, there's four volumes, and it's extensive.

16 MR. GARNER: There's some things in there  
17 you cannot ignore, unless you want to go back and  
18 disprove them. Because one thing it said was, one of  
19 the things it said it was -- the soil was not  
20 conducive to septic tanks in the first place.  
21 Absorption tests were not good. And in a lot of  
22 places, they just barely passed when you tested them.  
23 In the summertime, they're dry. If you tested in the

1 wintertime, they wouldn't pass, they wouldn't test the  
2 perk test.

3           And also, they found some places, I think  
4 I've got a map here. Let me take a look at that. But  
5 I've spent a whole lot of time looking at all this  
6 stuff, trying to find -- and I went out there. I  
7 thought they were making me pay for all this stuff,  
8 but they didn't. I told them I was coming down here  
9 to talk to you all, so they didn't charge me for it.

10           MS. ANSLOW: That's good.

11           MR. GARNER: These are the drawings, I'm  
12 going to you some of the sketches I made.

13           MS. ANSLOW: Okay.

14           MR. GARNER: But I can't find this map --

15           MS. ANSLOW: Is it the one that shows some  
16 of the bad areas?

17           MR. GARNER: Yeah. You all have seen it, I  
18 know.

19           MS. ANSLOW: Yeah, we've got that one.

20           MR. GARNER: Anyway, it shows some areas  
21 where they're already -- probably developing. And of  
22 course, that was the time -- that was 1981. Of course  
23 the developer, Hal Lake, has tripled across since that

1 time.

2 But one of the things that they recommended  
3 was maintain the vegetative cover like it is.

4 MS. ANSLOW: Okay.

5 MR. GARNER: And to me, that's enough there  
6 to say they don't do any more mowing. Just because  
7 you've got a warning -- and I've seen more than one  
8 septic tank -- one of the biggest problems is on a  
9 bluff area. I saw them put a septic tank in out there  
10 on the bluff area that had crevices down like this.  
11 And they shot the rock out and dug the trench, and  
12 shot it out and put this field line in this rock. So  
13 know every bit of it's going in the lake.

14 MS. ANSLOW: Wow.

15 MR. GARNER: And I've been fishing in the  
16 wintertime out there, and I'd see water coming out of  
17 the rock, and it kind of stains the rock, turns it  
18 like sewage does. You could tell that's what it was.

19 So I think they went out there and did  
20 boring. It took two years to get this thing done.  
21 And they actually made a thorough investigation. So I  
22 don't think anybody should ignore or disprove that. I  
23 mean you have to accept it, unless you disprove it. I

1 think it has to be accepted. And to me, even though  
2 we don't have control of these tanks out here, in the  
3 first place, we didn't buy enough land, they're too  
4 close to the water, too close.

5           And the second place is, it's our job -- if  
6 the lake gets polluted, and most people realize this  
7 now, that if it gets polluted, the recreation is over  
8 with. And there periods in this industry have gone to  
9 pot as far as goes. For the benefit of the using  
10 public, we need to take every precaution we can to see  
11 that doesn't happen.

12           In fact, we reported to the -- when we found  
13 something like that, we would report it to the Health  
14 Department.

15           MS. ANSLOW: Sure.

16           MR. GARNER: But they go out there and they  
17 would then make them fix it, but then you find one of  
18 those out there, and 300 others, and it's just going  
19 to keep on -- they're putting them in every day around  
20 the lake now.

21           You know, Wilbur Mills, back when he was a  
22 congressman, he would -- he met with me several times  
23 talking about this same thing. So he was going to --

1 his plans were to have a central sewer system around  
2 the whole lake as a pilot project. Of course, he got  
3 in trouble with Sandy Faulkner and it never happened.

4 But I think he would have gotten that done  
5 because he was the Ways and Means, chairman of the  
6 Ways and Means Committee. So they could put it  
7 wherever they wanted. And they had money then. It  
8 wasn't like it's been in the last several years.  
9 There was money to do whatever they wanted.

10 But they wanted to work up a detailed plan  
11 first, and not do it all at one time, but do it in  
12 segments. Not to put the big line in -- it was going  
13 to dump the sewage in down below the dam, it was all  
14 going to come in the river.

15 MS. ANSLOW: Now, you had said earlier you  
16 did look at impact for things like mowing, excuse me,  
17 environmental impact for things like mowing. Did you  
18 guys do on the shoreline management plan, actual  
19 environment studies, EAs or anything like that?

20 MR. GARNER: No.

21 MS. ANSLOW: So it's just through your  
22 knowledge of -- your concern, I should say.

23 MR. GARNER: I got a copy of these from the

1 Soil Conservation District down here, maps of  
2 (inaudible) county and then Marion County. They  
3 indicated top soil, so they knew what the soil was.

4 MS. ANSLOW: Right.

5 MR. GARNER: Which they classify. But this  
6 study I'm talking about, they went out there and  
7 actually did borings to prove all this.

8 MS. ANSLOW: Yes. And like I said, we've  
9 got copies of all that, and we looked at that  
10 extensively, because it's good information in there.

11 Okay, the next question was kind of an  
12 open-ended question, and you probably have addressed  
13 most of them. Were there any documents or records  
14 that addressed the past natural resource policies?

15 MR. GARNER: I don't know if this record  
16 addressed the past natural resource policies.

17 MS. ANSLOW: We just don't have copies -- to  
18 your knowledge, I guess I should say.

19 MR. GARNER: No, I don't know of any.

20 MS. ANSLOW: Everything was either there or  
21 here, I guess. And then, again, this was just another  
22 pretty open-ended question. Is there any other  
23 historic date or information we should know about to

1 increase our understanding?

2 MR. GARNER: Any other historic data. I  
3 think we've pretty well talked about everything.

4 And the historic data to me is from the very  
5 beginning up here, the chief's office and the  
6 Congress, and everybody, I think, supported minimum  
7 docks on lakes, and then the destruction of the  
8 vegetation and the whole -- that was their idea when  
9 we did this original shoreline management plan.

10 But one thing I would say too, during our  
11 prior reviews, the previous fish and wildlife, the  
12 Game and Fish Commission, the Health Department, Soil  
13 Conservation, all of them supported what we were  
14 doing, not increasing docks. But they've got some new  
15 people in there now, and sure enough, some of them  
16 changed it.

17 Their engineering people, right now, the  
18 Health Department would say we don't want it, we don't  
19 want any more mowing, we don't want boat docks. And  
20 we got a letter from them first, when they sent out on  
21 this last one. But then when Boseman, whatever his  
22 name is, got in there, and so people got to him and  
23 got it changed.

1                   But their engineering people still maintain  
2 that this is not the thing to do. In fact, they  
3 approved the last plan with some division. I forgot  
4 what it was now, you remember that? It was number 4,  
5 or something like that. From the engineering division  
6 and Health Department. If you remember, if you go  
7 back and look at that.

8                   MR. DOWELL: Oh, for the one in '94?

9                   MR. GARNER: No, 2000. You got a letter  
10 first from them saying that --

11                  MR. DOWELL: Yeah, I think we had two  
12 letters.

13                  MR. GARNER: Yeah, you got one from the  
14 engineering people, who had made a study and previous  
15 years knew about it.

16                  MR. DOWELL: Right.

17                  MR. GARNER: Then Mr. Boseman got in there,  
18 and some people got him to change it, some of the  
19 people in real estate, somebody got him -- I assume  
20 that's what happened anyway.

21                  MR. DOWELL: But you had the same agency  
22 with maybe two --

23                  MR. GARNER: Right. One of them from the

1 director and the other one from the engineering  
2 people.

3 MR. DOWELL: Okay.

4 MR. GARNER: And I know the engineering  
5 people. I know them personally, and I know how they  
6 felt about it.

7 MS. ANSLOW: Okay. Carl, that's all we  
8 have.

9 MR. GARNER: That's all you have.

10 MS. ANSLOW: Is there anything else you  
11 wanted to --

12 MR. GARNER: I don't think I have -- I think  
13 I've told you everything I wanted to tell you.

14 Let's see, I wanted to go over and show you  
15 some drawings here that I did.

16 MS. ANSLOW: Okay.

17 MR. GARNER: Let me find those sketches.

18 Here they are. This lakeshore, the way this land was  
19 bought shouldn't have a major bearing on what the  
20 shoreline management plan is on this lake, because  
21 it's totally different from Norfolk or Bull Shoals  
22 because people already owned so much of the land down  
23 by the water and because a big mistake was made in

1 buying it. That's the major thing. Now, if they had  
2 bought it like they intended to buy it, I've got a  
3 drawing right here that's in front of my house.

4 Let's see, this is the lake, here is my  
5 house, here's the -- this is the line right. 491  
6 here, see they even missed the draw, and that happened  
7 frequently. This point here should be up in here. So  
8 as a result of that, they went over here and bought  
9 some above 91. But that's all of the lake back there.

10 Now, there's 60 feet down here to the tree  
11 line, and that's what we talked about, leaving a  
12 buffer zone. So we would have 12 feet of fire  
13 protection here is all I'd have. And that's going to  
14 be a thing that will come up when you say this. You  
15 got to have your buffer, you have to have -- you're  
16 not letting me have the 10 feet or more here for fire  
17 protection, which I'm going to want 50 feet. That  
18 leaves 10 feet here of trees, which is essentially  
19 none.

20 MR. DOWELL: So this is water?

21 MR. GARNER: Water is here. But what you've  
22 got to talk about is 50 feet of buffer is trees.

23 MR. DOWELL: Where is 461?

1 MR. GARNER: 461 is right here.

2 MR. DOWELL: Okay. And you said who was  
3 talking about a buffer?

4 MR. GARNER: Well, in your plan, you say you  
5 keep a 50 foot buffer. You have to give them 100  
6 feet, and maintain a 50 foot buffer.

7 MR. DOWELL: Yeah, the 50-foot buffer, if  
8 I'm not mistaken, would go from 461 back.

9 MR. GARNER: Change it to the tree line.

10 MR. DOWELL: To what?

11 MR. GARNER: Change it to the tree line.  
12 See, that was brought up early, and it was changed to  
13 one of the 50-foot buffers to give some protection,  
14 some screening from these houses here. So if you take  
15 here, then this 70 feet -- where it says bank, that's  
16 when the trees got killed in 1973 and all this is bare  
17 bank through here.

18 MS. ANSLOW: In front of your house, it is?  
19 Like if you put a line in the water with 461 and go  
20 back, it's just --

21 MR. GARNER: That's where the trees start.

22 MS. ANSLOW: But there's no vegetation in  
23 here?

1 MR. GARNER: Some little stuff.

2 MS. ANSLOW: Just some little stuff.

3 MR. GARNER: But the high water will kill  
4 that if it comes up again. Just some brush and stuff  
5 like that, but it's not any screening at all. It's  
6 low stuff and it's not going to be trees.

7 MS. ANSLOW: So your concern was that the  
8 50-foot buffer didn't start here, did it?

9 MR. GARNER: Well, I don't think it should  
10 start there, because if you do, you're going to have  
11 people mow all the way from their tree line, then  
12 you're wide open.

13 MS. ANSLOW: I see.

14 MR. GARNER: And you'll also destroy all  
15 your vegetative screening stuff here too. Because see  
16 here, these are cases that are going to be happening  
17 all the way around the lake.

18 Now, over here, it's a little bit different.  
19 It would probably be 100 feet to the tree line here.  
20 But see, they bought maybe 20 or 30 feet above the 491  
21 over here. But see, the line should have been right  
22 down in here, something like this. It won't be a  
23 straight line. But here's the 76, so all they wanted

1 to buy was the butt of that, and you would have much  
2 more ease. Here is some land you don't need right  
3 here. No need for it at all. And that's happened all  
4 over the lake.

5           Look at another case here. There's two of  
6 them I wanted to show you. If they build it like the  
7 plan shows, like they should have, we would divide  
8 these -- these are 40 acres right here, divides up 2  
9 1/2 acre blocks, and they go angling across this way  
10 near the 476. So they lie like this. And then the  
11 same way here, and come over here and go back over  
12 here like this. This is the way you buy it.

13           See, it was actually bought like this.  
14 What's happened, there's the 476. Here, they bought  
15 above it, they dropped down here right against the  
16 water, and they came up here and they went back  
17 against the water here and come on around, and here on  
18 the bluff, they didn't even put a line, it's just the  
19 top of the bluff. The bluff is like this. There is  
20 no way in the world you can define where a line is.  
21 People ask where is the line? We don't know. And we  
22 try to get real estate to come out there and establish  
23 a line, and it never gets done.

1                   But you see, what happened here, this person  
2 here can mow to the water right here, but this one  
3 over here, this house here, this one can mow almost to  
4 the water, and this one can't and this one here can't.  
5 So the first thing he's going to do, when this guy  
6 mows, he's going to go down and cut these trees one  
7 way or another. You're not going to keep him from  
8 doing it, because he says, if he can do it, I'm going  
9 to do it. He'll keep thinning them out and cutting  
10 them, and that's when you got to approach them.

11                   Now, if it had been bought like it should  
12 have been, you wouldn't have all that. You wouldn't  
13 have anybody close to the water. The property line  
14 would be here. There wouldn't be anybody down on the  
15 water.

16                   MS. ANSLOW: Now, you were down on the lake  
17 when they purchased land, or was that before you got  
18 there?

19                   MR. GARNER: No, we did that before we got  
20 real estate.

21                   MS. ANSLOW: Did they give you an  
22 explanation as to why they did it this way and not  
23 this way?

1                   MR. GARNER: Well, the reason was, they had  
2 an old 1939 contoured map, maybe a plane table, and  
3 I've done a lot of plane table work, and when you're  
4 in rough country, you shoot the top of the hill, and  
5 the bottom of the hill, the contours end, assuming  
6 it's a straight line. But if you go like this, then  
7 you've missed that whole lot.

8                   And some places, they're 200 feet off  
9 horizontally and 30, 40 feet off vertically. And when  
10 they staked it -- they brought the deed based on that  
11 paper survey, went out there and laid it out, said  
12 this is what they found, instead of --

13                  MS. ANSLOW: I see.

14                  MR. GARNER: So it complicates the thing so  
15 much, that the closer you let people go -- see, this  
16 fellow, for instance, here, he can -- this guy here --  
17 here's the 491 and -- but see, if his house were --  
18 this house here is right on the line. He can mow 50  
19 feet over here. This one here may be back 50 feet,  
20 and he can't mow anything. Well, they don't like that  
21 either, because this man has got a yard on government  
22 property, and this one doesn't have it. So the first  
23 thing he's going to do is get a mower. So there's

1 just so many problems that you can't -- and all these  
2 septic tanks, see all these septic tanks around here?  
3 See here, it would be this far back. But on this one  
4 you can see how close they are here, because they  
5 bought down here instead of where they should have.

6           That puts your tanks generally a lot closer  
7 to the sewer line than what they would normally be.  
8 For that very reason alone, the mowing should not get  
9 any closer to the shoreline. It's almost destroyed.  
10 And if you do this, the more you let people do it,  
11 they more they want to do it, and they more they're  
12 going to go to their congressman. And one guys going  
13 more than 100 feet, and this guy can't do anything.

14           The first thing he's going to do is write  
15 his congressman and say, how can this guy have a yard  
16 on public land, and I can't mow? Now, he doesn't care  
17 how much he owns back here, he still wants the same  
18 privileges this man has, and he may be entitled to it.  
19 The congressman might say discrimination, you can't do  
20 it, and the court might say it's discrimination if you  
21 went to court. So all these things have a real  
22 bearing on what should be done with this whole plan.

23           Now, here is another instance right here on

1 this one. This is one where -- you see these all over  
2 the lake. This is typical.

3           Generally, they never get these in the right  
4 place. Here's the line they bought. They should  
5 brought it around like this. The same way here. See,  
6 it all got shifted, 200 feet in, 100 feet. So this  
7 guy here, he owns to the water, and he's mowing down  
8 there now, all the way to the water. But here is his  
9 neighbor, he can't mow down there. He has to stop --  
10 because his easement -- so he's got his 100, more than  
11 50 feet, so all he can mow to is this line, the same  
12 way with these people here. I guarantee you, the  
13 first thing they're going to do is clean this out down  
14 here.

15           They want the same privilege as this man's  
16 got. And this is about 150 feet. So he's doesn't  
17 need to mow any on easement land, they mow that  
18 anyway. They cut all the trees on this land here. He  
19 cut all the trees right here and mows on easement  
20 land. See here's what they can do, they can cut  
21 trees, they can mow, and all these things. They can  
22 even fence along this line. Theoretically, I guess if  
23 they wanted to. It's their property. Nothing that

1 says they can't fence it.

2           So we've had some cases -- I know of one in  
3 particular, and I know there's some more. What I  
4 know, there was a road that went down here and we let  
5 them put a launching ramp in along here, and they'd  
6 come and tie up their boats here, and they guy would  
7 cut them lose, and they would come back and they'd be  
8 floating down the water, because he said that's his  
9 land, and he was right.

10           He could keep anybody off of this land here,  
11 you can't get on it. That's another reason it's going  
12 to maintain some undisturbed public land all around  
13 these shorelines because the public should be able to  
14 pull up to the shoreline and walk along that shoreline  
15 if it's government land. But if you let them mow it,  
16 it has the appearance of being private property, and  
17 they won't get on it. I wouldn't get on it either.

18           So there's all kinds of reasons not to --  
19 and that's the thing we had to look at. But it's  
20 impossible to manage a thing like this now under the  
21 existing conditions. It's going to be more so if you  
22 change anything, if you increase any of these things.

23           But all these septic tanks, right on the 491

1 along here, you see here they bought above the line,  
2 the red line comes in here. They bought above it.  
3 For some reason, I have two drawings on this one.  
4 Looks like they're the same. Oh, this one is where  
5 they should have bought. So you wouldn't have anybody  
6 down -- this would have all been government property,  
7 the same way over here and right in here, that would  
8 have all been government property.

9 I bet there's not 10 percent of the line out  
10 there where it should be. 90 percent of it is either  
11 above, too high, or too low.

12 Do you want to keep these drawings?

13 MS. ANSLOW: That's fine. In fact, we can  
14 make copies now if you want to wait.

15 MR. GARNER: Okay, if you want to.

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# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

1500 Museum Road, Suite 105

Conway, Arkansas 72032

Tel.: 501/513-4470 Fax: 501/513-4480

January 31, 2001

IN REPLY REFER TO:

J. Michael Bettaker  
Tetra Tech, Inc.  
10306 Eaton Place, Suite 340  
Fairfax, Virginia 22030

Dear Mr. Bettaker:

The U. S. Fish and Wildlife Service (Service) has reviewed your letter dated January 25, 2001, regarding the preparation of an Environmental Impact Statement (EIS) for the revision of the Shoreline Management Plan (SMP) for Greers Ferry Lake in Van Buren, Cleburne, Searcy, and Stone Counties, Arkansas. The following elements should be considered when preparing the EIS.

The threatened bald eagle (*Haliaeetus leucocephalus*) occurs in the vicinity of Greers Ferry Lake. Activities such as residential or commercial development within 1,500 feet of eagle nests are likely to have detrimental impacts on nesting. Toxic chemicals such as herbicides or pesticides, which are often associated with development, can also detrimentally impact bald eagles. In addition, the endangered gray bat (*Myotis grisescens*) occurs in Van Buren County and feeds in riparian areas. Reduction in lakeside vegetation may decrease available feeding areas.

Several primary forks of the Little Red River upstream of Greers Ferry Lake, including the Middle Fork, Archey Fork, and Turkey Fork, provide habitat for the endangered speckled pocketbook (*Lampsilis streckeri*) and the yellowcheek darter (*Etheostoma moorei*), a species likely to be listed as a candidate in the near future. Populations of both of these species have been fragmented by Greers Ferry Dam, as both are intolerant of lentic conditions. Any activities that would increase turbidity or runoff upstream would likely negatively impact these species.

Thank you for the opportunity to provide information regarding the revision of the SMP for Greers Ferry Lake. Please keep us up to date during the preparation of this EIS. If you have any questions, please contact Susan Rogers at (501) 513-4481.

Sincerely,

Melvin Tobin  
Acting Field Supervisor

Mike Bettiker  
10306 Eaton Place, Suite 340  
Fairfax, VA 22030

Subject: Greers Ferry Lake EIS

Dear Mike,

I am enclosing some of the information you requested on your visit to my office. Sorry I was not there to meet with you. I do not have all the info you are needing, but I do have some other sources which may be helpful to you.

I contacted Roy Crutchfield, NRCS geologist, with your request. He has the geological and seismicity information you requested. He will send it directly to you.

I have contacted Bob Bradley, NRCS agronomist, to see if he could assist in getting plant lists and community types for the area. He has not yet returned my call, but I have high hopes.

I am enclosing the information I have on threatened and endangered species. This is 1995 information which may have changed. Contact the Arkansas Natural Heritage Commission for updated info. They have it for the whole state.

For forestry information, you will need to contact the Arkansas Forestry Commission for information. The local number is 501-362-2463. The AFC state office has copies of Arkansas' Forest Statistics published by the Forest Service. They can be contacted at 501-296-1940. A severance tax is paid by the ton on all timber removed from a county, therefore, you may be able to contact the county collector's office to get information on the counties you are working with. Cleburne County collector's number is 501-362-8145.

A list of conservation practices is attached, with practices that local landowners use being underlined.

I do not know about any fauna studies in the area, nor do I know who to contact for that information. I also do not know of any studies of soil erosion rates from various land uses. Some information may be gathered on this from the Natural Resource Inventory, which tracks changes in landuse, etc.

Hope this information is helpful. I will forward more information, if I get it. Good Luck on your project.

Sincerely,



LeVonna Uekman  
District Conservationist

**CLEBURNE COUNTY  
SPECIES SUMMARY  
(Endangered & Threatened Species only)**

**There are at present no Endangered or Threatened Species  
known to occur in Cleburne County.**

(January, 1995)

Contact: ARKANSAS NATURAL HERITAGE COMMISSION  
CINDY OSBORNE, DATA MANAGER  
501-324-9762

Index of Conservation Practices

Field Office Technical G  
Section IV

<u>Code</u>	<u>*Date</u>	<u>Review Date</u>	<u>Name</u>
560	1-92		Access Road
314	1-86		<u>Brush Management</u>
324	3-80		<u>Chiseling and Subsoiling</u>
326	4-96		<u>Clearing and Snagging</u>
397	11-88		<u>Commercial Fish Ponds</u>
317	8-90		<u>Composting</u>
327	8-88		<u>Conservation Cover</u>
328	12-95		<u>Conservation Crop Rotation</u>
330	3-80		<u>Contour Farming</u>
331	3-80		<u>Contour Orchard and Other Fruit</u>
340	3-80		<u>Cover and Green Manure Crop</u>
342	1-84	6-87	<u>Critical Area Planting</u>
402	10-77		Dam, Floodwater Retarding (AR Sup. dated 5-83)
349	10-78	6-87	Dam, Multiple Purpose (AR Sup. dated 5-83)
356	10-80		Dike (AR Sup. dated 5-83)
362	10-92		Diversion (AR Sup. dated 5-83)
382	6-97		<u>Fence</u>
386	12-84		<u>Field Border</u>
393	11-92		<u>Filter Strip</u>
394	5-90		<u>Firebreak</u>
399	12-84		<u>Fishpond Management</u>
395	6-97		<u>Fish Stream Improvement</u>
490	6-97		<u>Forest Site Preparation</u>
666	6-97		<u>Forest Stand Improvement</u>
511	9-98		<u>Frage Harvest Mgt.</u>
410	12-93		<u>Grade Stabilization Structure</u>
412	1-85		<u>Grassed Waterway or Outlet</u>
561	10-77		<u>Heavy Use Area Protection</u>
422	12-84		<u>Hedgerow - for Wildlife</u>
320	7-64		Irrigation Canal or Lateral
388	5-69		Irrigation Field Ditch
464	4-96		Irrigation Land Leveling
552-A	9-66		Irrigation Pit or Regulating Reservoir (Irrigation Pits)

IV - J  
640F

Conservation Practices underlined are used by local landowners. Some are used intensively while others are rarely used.

Index of Conservation Practices

Field Office Technical G  
Section IV

Code	*Date	Review Date	Name
552-B	1-71		Irrigation Pit or Regulating Reservoir (Regulating Reservoir)
436	5-69		Irrigation Storage Reservoir
443	7-64		<u>Irrigation System, Sprinkler - DAIRY</u>
440-C	2-64	442-DAIRY	Irrigation System, Surface and Subsurface
447	10-67		Irrigation System, Tailwater Recovery
430-AA	10-78		Irrigation Water Conveyance Aluminum Tubing
430-CC	6-84		Irrigation Water Conveyance Nonreinforced Concrete (AR Sup. dated 1-85)
430-DD	4-82		Irrigation Water Conveyance High Pressure Underground Plastic (AR Sup. dated 6-83)
430-EE	4-82		Irrigation Water Conveyance Low Pressure Underground Plastic (AR Sup. dated 1-85)
430-FF	10-92		Irrigation Water Conveyance Steel
430-GG	4-82		Irrigation Water Conveyance Reinforced Plastic Mortar (AR Sup. dated 1-85)
449	10-77		Irrigation Water Management
460	12-93		<u>Land Clearing</u>
451	6-84		Land Reclamation - Fire Control
456	6-84		Land Reclamation - Highwall Treatment
453	6-84		Land Reclamation - Landslide Treatment
452	6-84		Land Reclamation - Shaft and Adit Closing
454	6-84		Land Reclamation - Subsidence Treatment
455	6-84		Land Reclamation - Toxic Discharge Control
543	6-84		Land Reconstruction - Abandoned Mined Land
544	6-84		Land Reconstruction - Currently Mined Land
466	12-93		<u>Land Smoothing</u>
484	3-80		<u>Mulching</u>
590	1-92		<u>Nutrient Management</u>
582	4-76		Open Channel)
510	3-80	6-87	<u>Pasture and Hayland Management</u>
512	5-90		<u>Pasture and Hayland Planting</u>
595 A	1-90		<u>Pest Management</u>
516	1-92		<u>Pipeline</u>

Index of Conservation Practices

<u>Code</u>	<u>*Date</u>	<u>Review Date</u>	<u>Name</u>
378	10-92		<u>Pond</u>
521-A	6-84		<u>Pond Sealing or Lining, Flexible Membrane</u>
521-B	10-77		<u>Pond Sealing or Lining, Soil Dispersant</u>
521-C	10-77		<u>Pond Sealing or Lining, Bentonite Sealant (AR Sup. dated 5-83)</u>
521-D	10-77		<u>Pond Sealing or Lining, Cationic Emulsion-Waterborne Sealant</u>
521-E	10-77		<u>Pond Sealing or Lining, Asphalt-Sealed Fabric Liner</u>
338	1-83		<u>Prescribed Burning</u>
462	12-93		<u>Precision Land Forming</u>
528-A	6-97		<u>Prescribed Grazing</u>
533	10-77		<u>Pumping Plant for Water Control</u>
550	6-74	6-87	<u>Range Seeding</u>
558	5-77		<u>Reclamation of Surface Mined Land</u>
991			<u>Recordkeeping Guidelines, Interim Standard (Expiration Date August 31, 2000)</u>
562	10-86		<u>Recreation Area Improvement</u>
564	5-90		<u>Recreation Area Pruning and Thinning</u>
566	5-65		<u>Recreation Land Grading and Shaping</u>
568	5-65		<u>Recreation Trail and Walkway</u>
329-A	7-94		<u>Residue Management, No Till and Strip Till</u>
329-B	7-94		<u>Residue Management, Mulch Till</u>
329-C	7-94		<u>Residue Management, Ridge Till</u>
344	7-94		<u>Residue Management, Seasonal</u>
392	9-95		<u>Riparian Forest Buffer</u>
558	6-84		<u>Roof Runoff Management -DAIRY</u>
557	10-67		<u>Row Arrangement</u>
350	12-93		<u>Sediment Basin</u>
572	11-76		<u>Spoilbank Spreading</u>
574	12-93		<u>Spring Development</u>
580	6-97		<u>Streambank &amp; Shoreline Protection</u>
584	12-93		<u>Stream Channel Stabilization</u>
585	12-83		<u>Stripcropping - Contour</u>
586	2-85		<u>Stripcropping - Field</u>
589	12-82		<u>Stripcropping - Wind</u>
587	12-93		<u>Structure for Water Control</u>
606	10-80		<u>Subsurface Drain</u>
607	4-96		<u>Surface Drainage, Field Ditch</u>
608	4-96		<u>Surface Drainage, Main or Lateral</u>

Index of Conservation Practices

Field Office Technical Guide  
Section IV

Code	*Date	Review Date	Name
600	4-82		<u>Terrace</u>
612	1-81		<u>Tree Planting</u>
614	4-96		<u>Trough or Tank</u>
620	10-78		Underground Outlet (AR Sup. dated 12-83)
472	5-90		<u>Use Exclusion</u>
312	12-77		<u>Waste Management System</u>
425	1-78		<u>Waste Storage Pond</u>
313	9-77		<u>Waste Storage Structure</u>
359	12-77		Waste Treatment Lagoon
633	2-84	6-87	<u>Waste Utilization</u>
638	4-96		Water and Sediment Control Basin
999	3-95		Well Testing Guidelines (Interim Standard)
351	12-93		Well Decommissioning
642	3-64		<u>Wells</u>
657	7-94		Wetland Restoration
645	11-84		<u>Wildlife Upland Habitat Management</u>
648	1-74		<u>Wildlife Watering Facility</u>
644	9-72		<u>Wildlife Wetland Habitat Management</u>
654	8-83		Woodland Improved Harvesting
666	9-83		<u>Woodland Improvement</u>
660	5-90		Woodland Pruning



# The Department of Arkansas Heritage

Mike Huckabee, Governor  
Cathie Mathews, Director

Arkansas Arts Council

Arkansas Historic  
Preservation Program

Arkansas Territorial Restoration

Delta Cultural Center

Old State House Museum



## Arkansas Natural Heritage Commission

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(501) 324-9619  
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<http://naturalheritage.com>

An Equal Opportunity Employer



Date: April 4, 2001  
Subject: Elements of Special Concern  
Greers Ferry Lake Shoreline  
ANHC No.: P-CF..-01-024

Mr. John Beckman  
Tetra Tech, Inc.  
10306 Eaton Pl., Suite 340  
Fairfax, VA 22030

Dear Mr. Beckman:

Staff members of the Arkansas Natural Heritage Commission (ANHC) have reviewed our files for records indicating the occurrence of rare plants and animals, outstanding natural communities, natural or scenic rivers, or other elements of special concern within a 1-mile buffered area around Greer's Ferry Lake in Cleburne and Van Buren Counties, Arkansas. The results of this review have been provided to you via e-mail as an electronic data table (dBase III format). It is our understanding that this data is to be used to prepare the Environmental Impact Statement for a revised shoreline management plan for Greers Ferry Lake for the Army Corps of Engineers, Little Rock District.

The ANHC gathers information a variety of species considered to be of special concern. The conservation status of these species varies from those listed as Endangered or Threatened by the U.S. Fish and Wildlife Service, to species on the periphery of their range in Arkansas. Status information is included in the data table, and explained in detail in the documentation sent with the data.

Additionally, the accuracy of mapped locations varies. All mappable occurrence data entered into the ANHC database are mapped on topographic quadrangles and assigned a township, range and section, as well as latitude and longitude coordinates. In some cases the actual mapped location represents a "best guess" based on the information available. Careful attention should be paid to the precision code assignments to distinguish these "best guesses" from confirmed locations. The location given represents the centrum of the occurrence.

Cleburne and Van Buren County Element Lists are included for your reference. Represented on these lists are elements for which we have records in these counties. A legend is provided to help you interpret the codes used on these lists.

Please keep in mind that the project area may contain important natural features of which we are unaware. Staff members of the Arkansas Natural Heritage Commission have not conducted a field survey of the project site. Our review is based on data available to the program at the time of the request. It should not be regarded as a final statement on the elements or areas under consideration, nor should it be substituted for on-site surveys required for environmental assessments. Because our files are updated constantly, you may want to check with us again at a later time.

Thank you for consulting us. It has been a pleasure to work with you on this study.

Sincerely,

A handwritten signature in cursive script that reads "Cindy Osborne".

Cindy Osborne  
Data Manager

Enclosures: Documentation  
Cleburne and Van Buren County Element Lists & legend  
Invoice

4/4/2001

**Arkansas Natural Heritage Commission  
Department of Arkansas Heritage  
Inventory Research Program  
Documentation for Element Occurrence Record Data File**

**General Information on Data**

Occurrence data entered into the Natural Diversity Database represent known locations of elements which the Arkansas Natural Heritage Commission (ANHC) currently tracks. These elements include species considered either endangered, threatened, rare, peripheral or status undetermined as well as outstanding examples of natural communities (terrestrial, palustrine and aquatic), geologic features, and colonial bird nesting sites. Generally speaking, the basic requirement for entering an occurrence into the natural diversity database is that the place marked as an occurrence must contribute to the survival of the element. The specific criterion used for each type of element depends on the basic biology of the element. Data entered into the database have been collected from literature sources, herbaria, museums, universities and field surveys by staff biologists.

**Descriptions of Fields**

**ANHCNO (3)**

Arkansas Natural Heritage Occurrence Number. This number identifies the particular occurrence of a given species at a given location. This number should be used when requesting or supplying data on an occurrence to the Arkansas Natural Heritage Commission.

**ELCODE (10)**

Element Code. This is a unique code identifying the element. It is useful to the Arkansas Natural Heritage Commission when requesting or supplying data on a given occurrence.

**SNAME (60)**

Scientific Name.

**SCOMNAME (60)**

Common Name.

**GRANK (8)**

Global Rank. This is a conservation rank used by State Heritage Programs and The Nature Conservancy. The rank indicates the relative rarity of an element throughout its range. The following codes are used:

- G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.
- G2 = Imperiled globally because of rarity (6-20 occurrences or few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.
- G3 = Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 - 100.

- G4 = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- GH = Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered (e.g., Bachman's Warbler).
- GU = Possibly in peril range-wide but status uncertain; more information needed.
- GX = Believed to be extinct throughout range (e.g., Passenger Pigeon) with virtually no likelihood that it will be rediscovered.

T-RANKS= T subranks are given to global ranks when a subspecies, variety, or race is considered at the state level. The subrank is made up of a "T" plus a number or letter (1, 2, 3, 4, 5, H, U, X) with the same ranking rules as a full species.

**SRANK (8)**

State Rank. This is a conservation rank used by State Heritage Programs and The Nature Conservancy. The rank indicates the relative rarity of an element throughout Arkansas. The following codes are used:

- S1 = Extremely rare. Typically 5 or fewer estimated occurrences in the state, or only a few remaining individuals, may be especially vulnerable to extirpation.
- S2 = Very rare. Typically between 5 and 20 estimated occurrences or with many individuals in fewer occurrences, often susceptible to becoming extirpated.
- S3 = Rare to uncommon. Typically between 20 and 100 estimated occurrences, may have fewer occurrences but with large number of individuals in some populations, may be susceptible to large-scale disturbances.
- S4 = Common, apparently secure under present conditions. Typically 100 or more estimated occurrences, but may be fewer with many large populations, may be restricted to only a portion of the state, usually not susceptible to immediate threats.
- S5 = Demonstrably widespread, common, and secure in the state and essentially inerradicable under present conditions.
- SA = Accidental.
- SH = Historically known from the state, but not verified for an extended period, usually 15 years.
- SU = Possibly in peril in the state, but status uncertain, more information is needed.
- SX = Apparently extirpated from state.
- SZ = Zero occurrences. Not of practical conservation concern in the state because there are no definable occurrences, although the taxa is native and appears regularly in the state.

Q = A "Q" in the global rank indicates the element's taxonomic classification as a species is a matter of conjecture among scientists.

RANGES= Ranges are used temporarily until a final rank decision can be made.

? = A question mark is used temporarily when there is some indecision regarding the rank assignment or when an element has not been ranked.

B = Breeding status

N =Non-breeding status

#### USES A (6)

U.S. Endangered Species Act status. This field provides information on whether the species is listed as Endangered or Threatened by the U.S. Fish and Wildlife Service. The following codes are used:

C = Candidate species. The U.S. Fish and Wildlife Service has enough scientific information to warrant proposing these species for listing as endangered or threatened under the Endangered Species Act.

LE = Listed Endangered; the U.S. Fish and Wildlife Service has listed these species as endangered under the Endangered Species Act.

LT = Listed Threatened; the U.S. Fish and Wildlife Service has listed these species as threatened under the Endangered Species Act.

PE = Proposed Endangered; the U.S. Fish and Wildlife Service has proposed these species for listing as endangered.

PT = Proposed Threatened; the U.S. Fish and Wildlife Service has proposed these species for listing as threatened.

T/SA = Threatened (or Endangered) because of similarity of appearance.

E/SA

#### STATESTAT (10)

State Status Code. At present, Arkansas does not have a law providing special state protection to species considered endangered or threatened in Arkansas. However, lists of species of special concern have been developed by this program in cooperation with other government agencies, and professionals. Species appearing on these lists are believed to be rare in the state and are presently being inventoried by this agency. The following codes have been used in this field:

INV = Inventory Element; The Arkansas Natural Heritage Commission is currently conducting active inventory work on these elements. Available data suggests these elements are of conservation concern. These elements may include outstanding examples of Natural Communities, colonial bird nesting sites, outstanding scenic and geologic features as well as plants and animals which, according to current information, may be rare, peripheral, or of an undetermined status in the state. The ANHC is gathering detailed location information on these elements.

SE = State Endangered; The Arkansas Natural Heritage Commission applies this term to native plant taxa which are in danger of being extirpated from the state.

ST = State Threatened; The Arkansas Natural Heritage Commission applies this term to native plant taxa which are believed likely to become endangered in Arkansas in the foreseeable future, based on current inventory information.

#### LASTOBS (10)

Last Observed Date. The date that the occurrence was last observed and recorded as extant in Arkansas Natural Heritage Commission files.

#### COUNTYCODE (28)

County Code. A four digit code for the county(s) in which the occurrence falls. The code is in the following format:

Example: 1st 4 letters of county name  
GARL = Garland County

#### PRECISION (2)

Precision of mapped location. All mappable occurrence data entered into the natural diversity database are mapped on topographic quadrangles and are assigned a township, range and section as well as latitude and longitude coordinates. In some cases the actual mapped location represents a "best guess" based on the information available. Careful attention should be paid to the precision code assignments to distinguish these "best guesses" from confirmed locations. The location given represents the centrum of the occurrence. The following codes are used:

S = Element is specifically mapped (within a three second radius).

M = Element mapped to within one minute radius (1.5 mile).

G = Element is mapped to a general region identified by a geographic name on a U.S.G.S. quadrangle.

#### QUADNAME (40)

Quadrangle Name. The name of the 7.5' topographic quadrangle(s) on which the occurrence falls.

#### QUADCODE (32)

Quadrangle Code. The USGS code assigned to the topographic quadrangle. This code is derived from the latitude and longitude coordinated of the lower right corner of the quadrangle. This code is helpful when adding digital quads to an ArcView project.

#### TOWNRANGE (8)

Township and Range. The township and range of the occurrence location in the following format:

003S018W = Township 3 south, Range 18 west

#### SECTION (2)

Section. The section(s) in which the occurrence falls.

**TRSCOMM (20)**

Township/Range/Section comments. Quarter/Quarter section or other descriptive information is entered in this field. Quarter/Quarter sections are usually entered in the following format:

NW4NW4 = the northwest quarter of the northwest quarter

**LATITUDE (9)**

Latitude. The latitude of the centrum of the occurrence in decimal degrees.

**LONGITUDE (10)**

Longitude. The longitude of the centrum of the occurrence in decimal degrees.

**DIRECTIONS (180)**

Directions to occurrence location.

**GENDESC (180)**

General Description of the occurrence location.

**EODATA (240)**

Element Occurrence Data (size, number of individuals, vigor, etc...).

**BESTSOURCE (120)**

Best Source of information used for the database record.

10/12/2000

ARKANSAS NATURAL HERITAGE COMMISSION  
DEPARTMENT OF ARKANSAS HERITAGE  
INVENTORY RESEARCH PROGRAM  
ELEMENTS OF SPECIAL CONCERN  
VAN BUREN COUNTY

ELEMENT NAME	FEDERAL STATUS	STATE STATUS	GLOBAL RANK	STATE RANK
** ANIMALS				
* INVERTEBRATES				
<u>CYPROGENIA ABERTI</u> , WESTERN FANSHELL	-	INV	G2	S2?
<u>LAMPSILIS STRECKERI</u> , SPECKLED POCKETBOOK	LE	INV	G1Q	S1
<u>QUADRULA CYLINDRICA CYLINDRICA</u> , RABBITSFOOT	-	INV	G3T3	S?
<u>SIMPSONAIAS AMBIGUA</u> , SALAMANDER MUSSEL	-	INV	G3	S1?
* VERTEBRATES				
<u>AIMOPHILA AESTIVALIS</u> , BACHMAN'S SPARROW	-	WAT	G3	S3B
<u>AMBYSTOMA ANNULATUM</u> , RINGED SALAMANDER	-	INV	G4	S4
<u>CYPRINELLA SPILOPTERA</u> , SPOTFIN SHINER	-	INV	G5	S1
<u>ETHEOSTOMA MOOREI</u> , YELLOWCHEEK DARTER	-	INV	G1	S1
<u>HALIAEETUS LEUCOCEPHALUS</u> , BALD EAGLE	LT-PD	INV	G4	S2B, S4N
<u>MYOTIS GRISESCENS</u> , GRAY MYOTIS	LE	INV	G3	S2
<u>PERCINA NASUTA</u> , LONGNOSE DARTER	-	INV	G3	S2
<u>REGINA SEPTEMVITTATA</u> , QUEEN SNAKE	-	INV	G5	S1?
** PLANTS				
* VASCULAR PLANTS				
<u>ARABIS SHORTII</u> VAR. <u>SHORTII</u> , SHORT'S ROCK-CRESS	-	INV	G5T5	S1
<u>ASPLENIUM PINNATIFIDUM</u> , LOBED SPLEENWORT	-	INV	G4	S3
<u>ASTER SERICEUS</u> , SILKY ASTER	-	INV	G5	S2
<u>CALLIRHOE BUSHII</u> , A POPPY-MALLOW	-	INV	G3	S3
<u>CAREX CAREYANA</u> , CAREY'S SEDGE	-	INV	G5	S2
<u>CAREX LAXICULMIS</u> , A SEDGE	-	INV	G5	S1
<u>CAREX SPARGANIOIDES</u> , A SEDGE	-	INV	G5	S3
<u>CASTANEA PUMILA</u> VAR. <u>OZARKENSIS</u> , OZARK CHINQUAPIN	-	INV	G5T3	S3S4
<u>CAULOPHYLLUM THALICTROIDES</u> , BLUE COHOSH	-	INV	G5	S2
<u>CLAYTONIA CAROLINIANA</u> , CAROLINA SPRING-BEAUTY	-	INV	G5	S2S3
<u>CUSCUTA CORYLI</u> , HAZEL DODDER	-	INV	G5	SU
<u>DELPHINIUM NEWTONIANUM</u> , MOORE'S LARKSPUR	-	INV	G3	S3
<u>DRYOPTERIS X LEEDSII</u> , LEED'S WOOD FERN	-	INV	HYB	S1
<u>ERIOCAULON KORNICKIANUM</u> , SMALL-HEADED PIPEWORT	-	INV	G2	S2
<u>HEUCHERA PARVIFLORA</u> VAR. <u>PUBERULA</u> , LITTLE-LEAVED ALUMROOT	-	INV	G4T3T4	S3
<u>PODOSTEMUM CERATOPHYLLUM</u> , THREADFOOT	-	INV	G5	S3
<u>SILENE OVATA</u> , OVATE-LEAF CATCHFLY	-	INV	G2G3	S3
<u>SOLIDAGO PTARMICOIDES</u> , PRAIRIE GOLDENROD	-	INV	G5	S1S2
<u>VALERIANELLA OZARKANA</u> , A CORN-SALAD	-	INV	G3	S3
<u>VIOLA CANADENSIS</u> , CANADA VIOLET	-	INV	G5	S2
** NATURAL COMMUNITIES				
UPLAND STREAM-OZARK MOUNTAINS	-	INV	-	-

PAGE NO. 2  
VAN BUREN COUNTY (CONT.)

ELEMENT NAME	FEDERAL STATUS	STATE STATUS	GLOBAL RANK	STATE RANK
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\*\* OTHER  
GEOLOGICAL FEATURE

-	INV	-	-
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10/6/2000

ARKANSAS NATURAL HERITAGE COMMISSION  
 DEPARTMENT OF ARKANSAS HERITAGE  
 INVENTORY RESEARCH PROGRAM  
 ELEMENTS OF SPECIAL CONCERN  
 CLEBURNE COUNTY

ELEMENT NAME	FEDERAL STATUS	STATE STATUS	GLOBAL RANK	STATE RANK
** ANIMALS				
* VERTEBRATES				
<u>ETHEOSTOMA MOOREI</u> , YELLOWCHEEK DARTER	-	INV	G1	S1
<u>HEMIDACTYLUM SCUTUTUM</u> , FOUR-TOED SALAMANDER	-	INV	G5	S2
<u>PERCINA NASUTA</u> , LONGNOSE DARTER	-	INV	G3	S2
** PLANTS				
* VASCULAR PLANTS				
<u>ASPLENIUM PINNATIFIDUM</u> , LOBED SPLEENWORT	-	INV	G4	S3
<u>CAREX PROJECTA</u> , NECKLACE SEDGE	-	INV	G5	S2
<u>CAREX TENERA</u> , SLENDER SEDGE	-	INV	G5	S1
<u>CASTANEA PUMILA</u> VAR. <u>OZARKENSIS</u> , OZARK CHINQUAPIN	-	INV	G5T3	S3S4
<u>CLAYTONIA CAROLINIANA</u> , CAROLINA SPRING-BEAUTY	-	INV	G5	S2S3
<u>DESMODIUM ILLINOENSE</u> , ILLINOIS TICK-TREEFOIL	-	INV	G5	S2
<u>DRABA APRICA</u> , OPEN-GROUND WHITLOW-GRASS	-	INV	G3	S2
<u>DRYOPTERIS X LEEDSII</u> , LEED'S WOOD FERN	-	INV	HYB	S1
<u>GENTIANA SAPONARIA</u> , SOAPWORT GENTIAN	-	INV	G5	S3
<u>HEUCHERA PARVIFLORA</u> VAR. <u>PUBERULA</u> , LITTLE-LEAVED ALUMROOT	-	INV	G4T3T4	S3
<u>HEUCHERA VILLOSA</u> VAR. <u>ARKANSANA</u> , ARKANSAS ALUMROOT	-	INV	G5T3Q	S3
<u>ISOETES ENGELMANNII</u> , APPALACHIAN QUILLWORT	-	INV	G4	S1
<u>LEITNERIA FLORIDANA</u> , CORKWOOD	-	INV	G3	S3
<u>MIMULUS FLORIBUNDUS</u> , FLORIFEROUS MONKEYFLOWER	-	INV	G5	S2S3
<u>NEMASTYLIS GEMINIFLORA</u> , CELESTIAL LILY	-	INV	G4	S3
<u>PHILADELPHUS HIRSUTUS</u> , A MOCK ORANGE	-	INV	G5	S2S3
<u>PODOSTEMUM CERATOPHYLLUM</u> , THREADFOOT	-	INV	G5	S3
<u>QUERCUS COCCINEA</u> , SCARLET OAK	-	INV	G5	S2S3
<u>QUERCUS LAURIFOLIA</u> , LAUREL OAK	-	INV	G5	S2S3
<u>SAXIFRAGA VIRGINIENSIS</u> , VIRGINIA SAXIFRAGE	-	INV	G5	S3
<u>SILENE OVATA</u> , OVATE-LEAF CATCHFLY	-	INV	G2G3	S3
<u>SIUM SUAVE</u> , HEMLOCK WATER-PARSNIP	-	INV	G5	S1S3
<u>SMILAX ECIRRATA</u> , CARRION-FLOWER	-	INV	G5?	S2
<u>SOLIDAGO PTARMICOIDES</u> , PRAIRIE GOLDENROD	-	INV	G5	S1S2
<u>THELYPTERIS NOVEBORACENSIS</u> , NEW YORK FERN	-	INV	G5	S3
<u>TRICHOMANES BOSCHIANUM</u> , BRISTLE-FERN	-	INV	G4	S2S3
** NATURAL COMMUNITIES				
RIVER BIRCH-SYCAMORE RIVERFRONT FOREST	-	-	-	-
WILLOW OAK FOREST	-	INV	-	S2
** OTHER				
GEOLOGICAL FEATURE	-	INV	-	-

## LEGEND

### STATUS CODES

#### FEDERAL STATUS CODES

- C** = Candidate species. The U.S. Fish and Wildlife Service has enough scientific information to warrant proposing these species for listing as endangered or threatened under the Endangered Species Act.
- LE** = Listed Endangered; the U.S. Fish and Wildlife Service has listed these species as endangered under the Endangered Species Act.
- LT** = Listed Threatened; the U.S. Fish and Wildlife Service has listed these species as threatened under the Endangered Species Act.
- LELT** = Listed Endangered and Threatened; the U.S. Fish and Wildlife Services has listed these species as endangered and threatened in different parts of the breeding range.
- PD** = Proposed for Delisting; the U.S. Fish and Wildlife Service has proposed that this species be removed from the list of Endangered or Threatened Species.
- PE** = Proposed Endangered; the U.S. Fish and Wildlife Service has proposed these species for listing as endangered.
- PT** = Proposed Threatened; the U.S. Fish and Wildlife Service has proposed these species for listing as threatened.
- T/SA  
E/SA** = Threatened (or Endangered) because of similarity of appearance.

#### STATE STATUS CODES

- INV** = Inventory Element; The Arkansas Natural Heritage Commission is currently conducting active inventory work on these elements. Available data suggests these elements are of conservation concern. These elements may include outstanding examples of Natural Communities, colonial bird nesting sites, outstanding scenic and geologic features as well as plants and animals which, according to current information, may be rare, peripheral, or of an undetermined status in the state. The ANHC is gathering detailed location information on these elements.
- MON** = Monitored Species; The Arkansas Natural Heritage Commission is currently monitoring information on these species. These species do not have conservation concerns at present. They may be new species to the state, or species on which additional information is needed. The ANHC is gathering detailed location information on these elements.
- WAT** = Watch List Species; The Arkansas Natural Heritage Commission is not conducting active inventory work on these species, however, available information suggests they may be of conservation concern. The ANHC is gathering general information on status and trends of these elements. An "\*" indicates the status of the species will be changed to "INV" if the species is verified as occurring in the state (this typically means the agency has received a verified breeding record for the species).
- SE** = State Endangered; The Arkansas Natural Heritage Commission applies this term to native plant taxa which are in danger of being extirpated from the state.
- ST** = State Threatened; The Arkansas Natural Heritage Commission applies this term to native plant taxa which are believed likely to become endangered in Arkansas in the foreseeable future, based on current inventory information.

### DEFINITION OF RANKS

#### Global Ranks

- G1** = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.
- G2** = Imperiled globally because of rarity (6-20 occurrences or few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

- G3** = Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 - 100.
- G4** = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- G5** = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- GH** = Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered (e.g., Bachman's Warbler).
- GU** = Possibly in peril range-wide but status uncertain; more information needed.
- GX** = Believed to be extinct throughout range (e.g., Passenger Pigeon) with virtually no likelihood that it will be rediscovered.
- T-RANKS** = T subranks are given to global ranks when a subspecies, variety, or race is considered at the state level. The subrank is made up of a "T" plus a number or letter (1, 2, 3, 4, 5, H, U, X) with the same ranking rules as a full species.

#### State Ranks

- S1** = Extremely rare. Typically 5 or fewer estimated occurrences in the state, or only a few remaining individuals, may be especially vulnerable to extirpation.
- S2** = Very rare. Typically between 5 and 20 estimated occurrences or with many individuals in fewer occurrences, often susceptible to becoming extirpated.
- S3** = Rare to uncommon. Typically between 20 and 100 estimated occurrences, may have fewer occurrences but with large number of individuals in some populations, may be susceptible to large-scale disturbances.
- S4** = Common, apparently secure under present conditions. Typically 100 or more estimated occurrences, but may be fewer with many large populations, may be restricted to only a portion of the state, usually not susceptible to immediate threats.
- S5** = Demonstrably widespread, common, and secure in the state and essentially inerradicable under present conditions.
- SA** = Accidental.
- SH** = Historically known from the state, but not verified for an extended period, usually 15 years.
- SU** = Possibly in peril in the state, but status uncertain, more information is needed.
- SX** = Apparently extirpated from state.
- SZ** = Zero occurrences. Not of practical conservation concern in the state because there are no definable occurrences, although the taxa is native and appears regularly in the state.

#### General Ranking Notes

- Q** = A "Q" in the global rank indicates the element's taxonomic classification as a species is a matter of conjecture among scientists.
- RANGES** = Ranges are used temporarily until a final rank decision can be made.
- ?** = A question mark is used temporarily when there is some indecision regarding the rank assignment or when an element has not been ranked.
- B** = Breeding status
- N** = Non-breeding status

Arkansas Game & Fish Commission  
2 Natural Resources Drive Little Rock, Arkansas 72205

Scott Henderson  
Assistant Director



Scott Yaich  
Assistant Director

Hugh C. Durham, IV  
Director

May 21, 2001

Patricia Anslow  
USCE – Little Rock District  
P. O. Box 867  
Little Rock, AR 72203-0867

**Re: Greers Ferry Lake Shoreline Management Plan EIS Information**

Dear Ms. Anslow:

Our agency is in receipt of your letter dated January 25, 2001, which pertains to the above-mentioned subject. Biologists from our agency have evaluated the information in the EIS and have recommendations on one specific aspect of the proposal.

The proposed Wildlife Enhancement Permits are a good idea, if they can be regulated in such a manner, which would not require an excessive workload on our personnel. We would suggest having these permit guidelines written as they were in the original proposal. The proposal is written as follows:

- 8-04. Wildlife Enhancement. With the exception of Recreation and Buffer areas, the government property along the shoreline is leased to the Arkansas Game and fish Commission (AGFC) for wildlife management purposes. Persons interested in vegetation modification for the improvement of natural resources/wildlife habitat along the shoreline must have a plan prepared by a registered professional forester, a certified landscape architect, or wildlife biologist. This plan must be approved by the AGFC biologist stationed at the Greers Ferry Project Office. The AGFC will route the request through the Operations Manager for concurrence. Once concurrence is coordinated with the Operations Manager, the request will be returned to the AGFC for coordination with the applicant. The plan will provide for better management of the area for enhancement of wildlife propagation, conservation of area aesthetics and the prevention of erosion. This is not to be interpreted as authorization to limb trees for a view, create mowed areas, etc. This will be implemented on a one-year trial basis. The Operations Manager will review this activity and may revoke the authority if it becomes a controversial issue.

We appreciate the opportunity to comment on this project and if we can be of further assistance, please do not hesitate to contact our agency.

Sincerely,



Robert K. Leonard, Biologist  
River Basins Division

RKL/jah

Cc: USFWS, Conway  
David Henley, AGFC  
Carl Perrin, AGFC  
Mike Gibson, AGFC  
Mike Armstrong, AGFC



# The Department of Arkansas Heritage

Mike Huckabee, Governor  
Cathie Matthews, Director

Arkansas Arts Council

Arkansas Natural Heritage  
Commission

Historic Arkansas Museum

Delta Cultural Center

Old State House Museum



## Arkansas Historic Preservation Program

1500 Tower Building

323 Center Street

Little Rock, AR 72201

(501)324-9880

fax: (501)324-9184

tdd: (501)324-9811

e-mail:

[info@arkansaspreservation.org](mailto:info@arkansaspreservation.org)

website:

[www.arkansaspreservation.org](http://www.arkansaspreservation.org)

An Equal Opportunity Employer



June 15, 2001

Dr. Paula Bienenfeld  
Principal Archeologist  
Tetra Tech, Inc.  
10306 Eaton Pl., Suite 340  
Fairfax, Virginia 22030

RE: Multi-County – General  
Section 106 Review – COE  
Proposed Environmental Assessment/Shoreline Management Plan  
for Greers Ferry Lake  
AHPP Tracking No. 42476

Dear Dr. Bienenfeld:

Thank you for the additional information that you supplied to us. It has enabled us to complete a review of the known cultural resources in the Greers Ferry Lake area. Our records show that 134 archeological sites and 20 historic structures are on record for the Greers Ferry Lake area.

Fifty-one archeological sites are permanently inundated by the lake and another 69 are situated along the shoreline where they are subject to periodic inundation and shoreline erosion. None have been assessed for National Register of Historic Places eligibility.

All 20 historic structures are potentially eligible for inclusion in the National Register of Historic Places. These structures are generally located in towns surrounding the lake. Exceptions to this are the St. Albert Statue (CE0052S), the Christ in the Garden of Gesthemene Statue (CE0053S), the Wilbur D. Mills Statue (CE0058S), the John F. Kennedy Memorial (CE0059S), the Rainwater House (VB0002), the Stobaugh Place (VB0003) and the Evins-Huie House (VB0004). Of these, the Wilbur D. Mills Statue, the John F. Kennedy Memorial and the Evins-Huie House are actually adjacent to the lake.

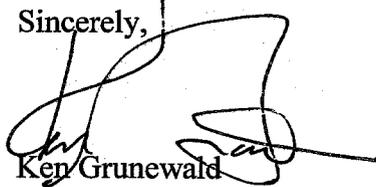
We recommend that the National Register eligibility of the archeological sites not permanently inundated by the lake be determined so that those deemed significant can be taken into account in future shoreline management decisions. Of course, the historic structures should be routinely considered. We look forward to commenting on the draft EIS.

Pursuant to Advisory Council on Historic Preservation regulations (36 CFR 800.4(a)(4)), the Little Rock District is required to consult with the appropriate Federally recognized Indian tribe(s) to determine if any properties of religious or cultural significance to them are present.



Thank you for your interest and concern for the cultural heritage of Arkansas. If you have any questions, please contact Steve Imhoff of my staff at (501) 324-9880.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ken Grunewald', written over a horizontal line.

Ken Grunewald  
Deputy State Historic Preservation Officer

cc: U.S. Army Corps of Engineers, Little Rock District  
Quapaw Tribe of Oklahoma  
Osage Nation  
Arkansas Archeological Survey



# Arkansas Soil and Water Conservation Commission

J. Randy Young, P.E.  
Executive Director

101 EAST CAPITOL  
SUITE 350  
LITTLE ROCK, ARKANSAS 72201

PHONE 501-682-1611  
FAX 501-682-3991

April 2, 2001

J. Michael Betteker  
Tetra Tech, Inc.  
10306 Eaton Place, Suite 340  
Fairfax, Virginia 22030

Re: EIS for Implementation of any Revised SMP for Greers Ferry Lake

Dear Mr. Betteker:

Thank you for the opportunity to provide input for the Environmental Impact Statement (EIS) regarding implementation of any revised Shoreline Management Plan (SMP) for Greers Ferry Lake in Van Buren and Cleburne Counties, Arkansas. My staff reviewed the request, and identified no significant environmental concerns that have not already been mentioned in your previous correspondence.

If you need further assistance, please contact Kenneth Colbert of my staff at 501-682-1608.

Again, thank you for the opportunity to be a part of the EIS process.

Sincerely,

  
Kenneth W. Brazil, P.E.  
Engineer Supervisor

KWB/kc

Cc: Earl T. Smith, Jr., P.E.



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
LITTLE ROCK DISTRICT, CORPS OF ENGINEERS  
POST OFFICE BOX 867  
LITTLE ROCK, ARKANSAS 72203-0867

August 2, 2001

Planning, Environmental, and Regulatory Division  
Planning Branch

Ms. La Rue Parker  
Chairperson  
Caddo Indian Tribe of Oklahoma  
P.O. Box 487  
Binger, OK 73009

Dear Ms. Parker:

The U.S. Army Corps of Engineers, Little Rock District, is preparing an Environmental Impact Statement (EIS) regarding implementation of the Greers Ferry Lake Shoreline Management Plan (SMP). The objective of this effort is to provide an EIS, which is a complete, objective appraisal of the positive and negative impacts associated with the implementation of the future SMP for Greers Ferry Lake. An SMP is required for each Corps project where private shoreline use is allowed, in accordance with 36 CFR 327 Rules and Regulations Governing Public Use of Water Resource Development Projects Administered by the Chief of Engineers. The project also includes a separate Recreational Carrying Capacity Study for Greers Ferry Lake. The purpose of this additional study is to gather information, using scientific methods, about recreational boating use on Greers Ferry Lake and the perceptions and preferences of boaters concerning the natural, social, and managerial environment within the areas of the lake that they frequent; determine the impact current lake usage has on the quality of recreation, safety, and the environment; determine the effect that marinas, boat ramps, and commercial activities have on the carrying capacity and distribution of users on the lake; determine the effect that private boat docks and shoreline vegetative modification is having on visitor perception of the lake; and determine the boater's perception of the resource, social, and managerial condition of the lake.

The EIS itself will examine four alternatives for revision of the SMP: 1. No growth, which is the most restrictive of the alternatives, would seek to maintain the Corps land around the lake as it currently exists at least until the next 5-year review of the SMP; rezoning applications would not be accepted, no new permits would be issued, and no new marinas would be allowed; 2. Modified SMP, which would be based on the Little Rock District's vision for the lake and the input received from public comments; no future rezoning request would be accepted; the 93 approved reallocations under the 1994 SMP would be allowed; a minimum 50-foot buffer would be established where mowing would be prohibited from the vegetated edge of the shoreline for 50 feet, and

authorization for mowing from habitable structures would be increased from 50 to 100 feet, except where conflicting with the vegetated buffer; 3. Maximum Modification, which would allow the maximum rezoning based on physical screening criteria from protected to limited development, and 4. the no action alternative, as required by CEQ regulations. Under this alternative, the Little Rock District would make no changes to the existing 1994 Greers Ferry Lake SMP; no management elements would be adopted, and no existing management elements would be modified.

The EIS will identify, evaluate, and document the environmental, cultural, and socioeconomic effects of implementing a revised SMP for Greers Ferry Lake, including a discussion of cultural resources within the project area and an evaluation of the potential effects to cultural resources within the project area.

The project area includes the lake and surrounding lakeshore in two counties, Van Buren, and Cleburne Counties. A map (Figure 1) is attached that shows the project area.

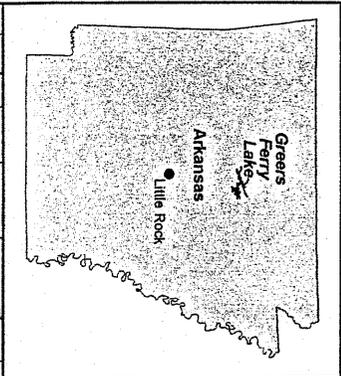
The purpose of this correspondence is to formally request a list of any Native American properties or sacred sites, or other issues of concern that are known to occur, or could potentially occur within the project area.

I would also like to know whether there are any other sensitive natural resources that should be considered during the development of the EIS.

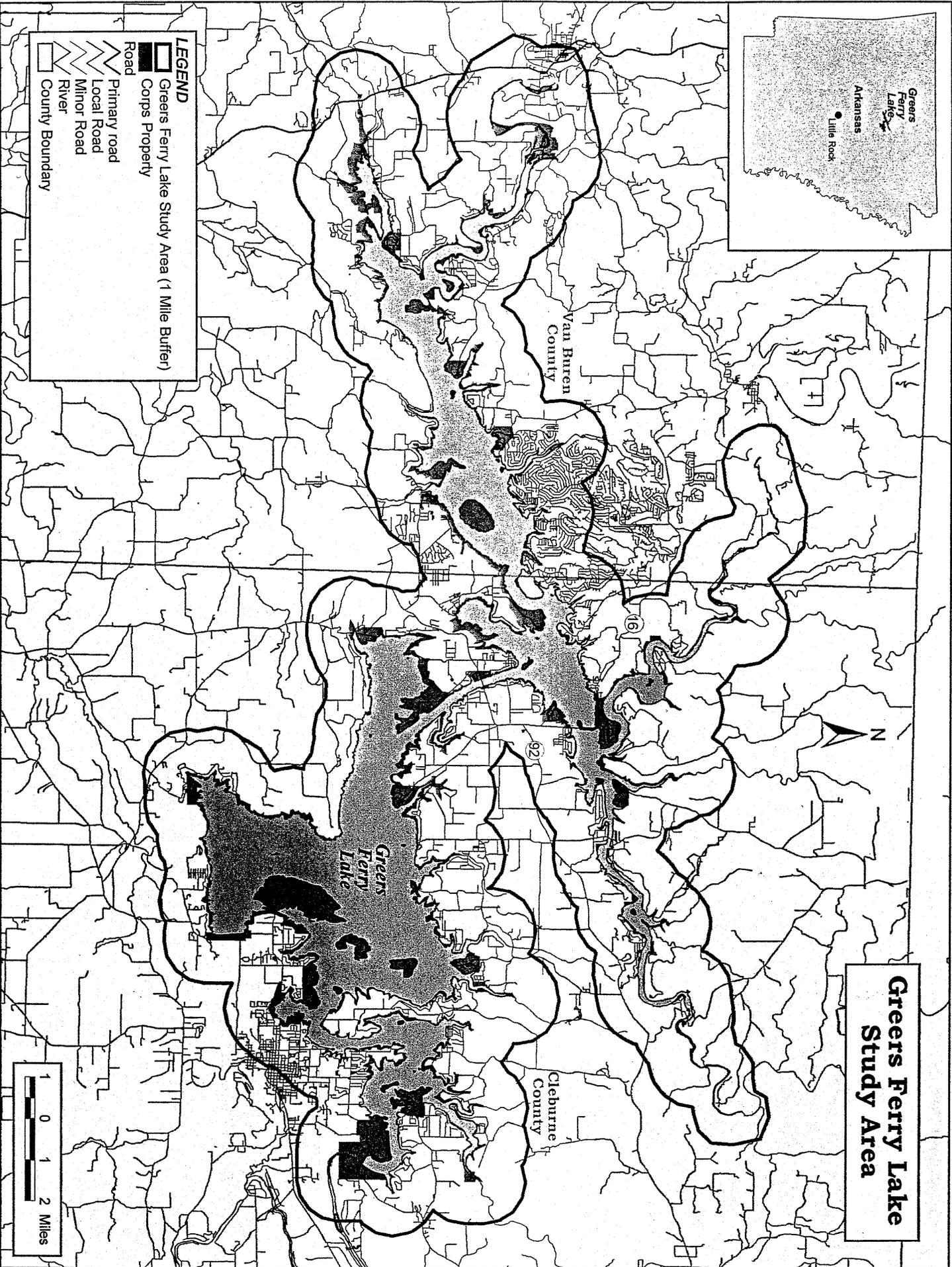
Sincerely,

Roger C. Hicklin, P.E.  
Chief, Planning Section

Enclosure  
(as)

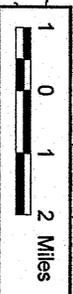


# Greers Ferry Lake Study Area



**LEGEND**

- Greers Ferry Lake Study Area (1 Mile Buffer)
- Corps Property
- Road
  - Primary road
  - Local Road
  - Minor Road
- River
- County Boundary





REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
LITTLE ROCK DISTRICT, CORPS OF ENGINEERS  
POST OFFICE BOX 867  
LITTLE ROCK, ARKANSAS 72203-0867

August 2, 2001

Planning, Environmental, and Regulatory Division  
Planning Branch

Mr. Ed Rodgers  
Chairperson  
Quapaw Tribal Business Committee  
P.O. Box 765  
Quapaw, OK 74363

Dear Mr. Rodgers:

The U.S. Army Corps of Engineers, Little Rock District, is preparing an Environmental Impact Statement (EIS) regarding implementation of the Greers Ferry Lake Shoreline Management Plan (SMP). The objective of this effort is to provide an EIS, which is a complete, objective appraisal of the positive and negative impacts associated with the implementation of the future SMP for Greers Ferry Lake. An SMP is required for each Corps project where private shoreline use is allowed, in accordance with 36 CFR 327 Rules and Regulations Governing Public Use of Water Resource Development Projects Administered by the Chief of Engineers. The project also includes a separate Recreational Carrying Capacity Study for Greers Ferry Lake. The purpose of this additional study is to gather information, using scientific methods, about recreational boating use on Greers Ferry Lake and the perceptions and preferences of boaters concerning the natural, social, and managerial environment within the areas of the lake that they frequent; determine the impact current lake usage has on the quality of recreation, safety, and the environment; determine the effect that marinas, boat ramps, and commercial activities have on the carrying capacity and distribution of users on the lake; determine the effect that private boat docks and shoreline vegetative modification is having on visitor perception of the lake; and determine the boater's perception of the resource, social, and managerial condition of the lake.

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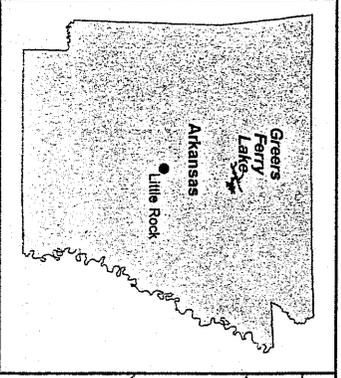
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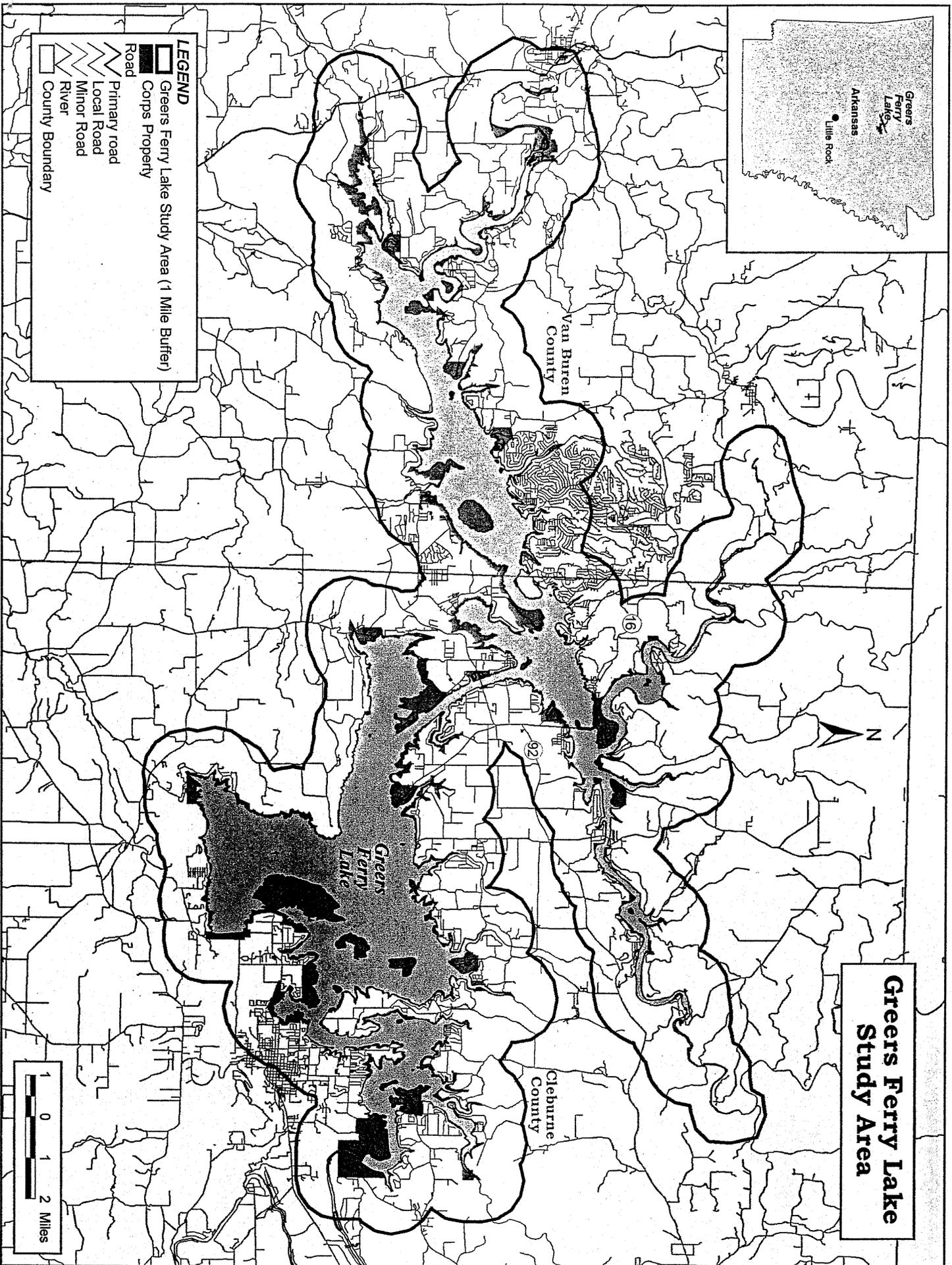
Sincerely,

Roger C. Hicklin, P.E.  
Chief, Planning Section

Enclosure  
(as)

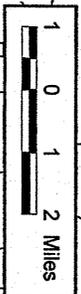


# Greers Ferry Lake Study Area



**LEGEND**

- Greers Ferry Lake Study Area (1 Mile Buffer)
- Corps Property
- Road
  - Primary road
  - Local Road
  - Minor Road
- River
- County Boundary





REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
LITTLE ROCK DISTRICT, CORPS OF ENGINEERS  
POST OFFICE BOX 867  
LITTLE ROCK, ARKANSAS 72203-0867

August 2, 2001

Planning, Environmental, and Regulatory Division  
Planning Branch

Mr. Charles O. Tillman, Jr.  
Principal Chief  
Osage Nation  
627 Grandview Avenue  
Pawhuska, OK 74056

Dear Mr. Tillman:

The U.S. Army Corps of Engineers, Little Rock District, is preparing an Environmental Impact Statement (EIS) regarding implementation of the Greers Ferry Lake Shoreline Management Plan (SMP). The objective of this effort is to provide an EIS, which is a complete, objective appraisal of the positive and negative impacts associated with the implementation of the future SMP for Greers Ferry Lake. An SMP is required for each Corps project where private shoreline use is allowed, in accordance with 36 CFR 327 Rules and Regulations Governing Public Use of Water Resource Development Projects Administered by the Chief of Engineers. The project also includes a separate Recreational Carrying Capacity Study for Greers Ferry Lake. The purpose of this additional study is to gather information, using scientific methods, about recreational boating use on Greers Ferry Lake and the perceptions and preferences of boaters concerning the natural, social, and managerial environment within the areas of the lake that they frequent; determine the impact current lake usage has on the quality of recreation, safety, and the environment; determine the effect that marinas, boat ramps, and commercial activities have on the carrying capacity and distribution of users on the lake; determine the effect that private boat docks and shoreline vegetative modification is having on visitor perception of the lake; and determine the boater's perception of the resource, social, and managerial condition of the lake.

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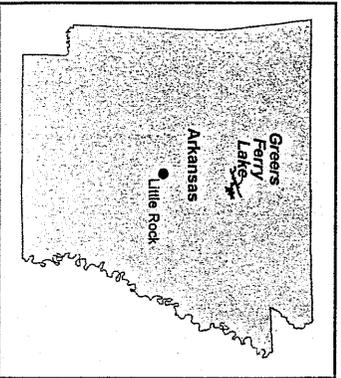
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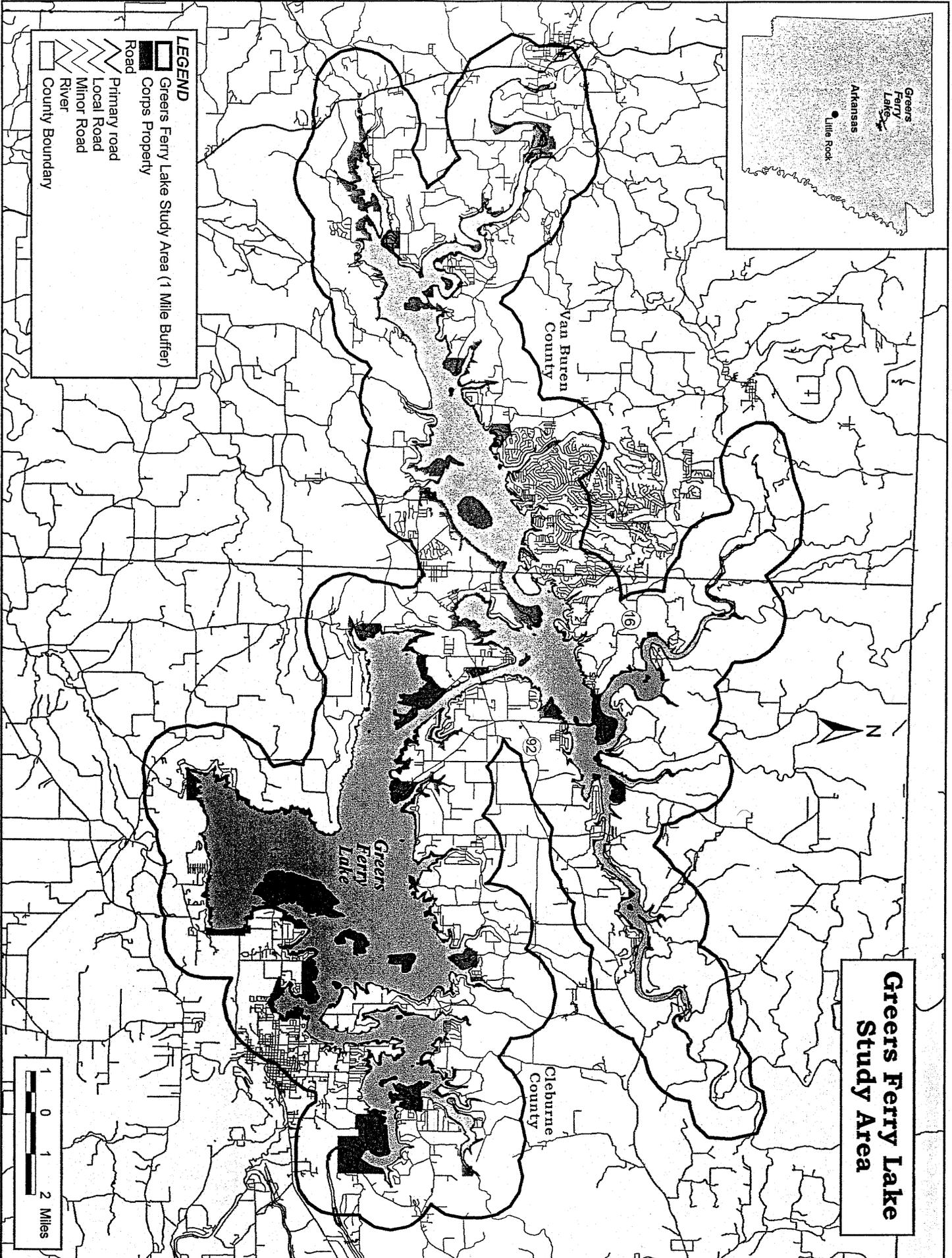
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Roger C. Hicklin, P.E.  
Chief, Planning Section

Enclosure  
(as)

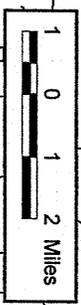


# Greers Ferry Lake Study Area



**LEGEND**

- Greers Ferry Lake Study Area (1 Mile Buffer)
- Coops Property
- Road
  - Primary road
  - Local Road
  - Minor Road
- River
- County Boundary





REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
LITTLE ROCK DISTRICT, CORPS OF ENGINEERS  
POST OFFICE BOX 867  
LITTLE ROCK, ARKANSAS 72203-0867

August 2, 2001

Planning, Environmental, and Regulatory Division  
Planning Branch

Mr. Leonard Maker  
NAGPRA Contact  
Osage Nation  
627 Grandview Ave.  
Pawhuska, OK 74056

Dear Mr. Maker:

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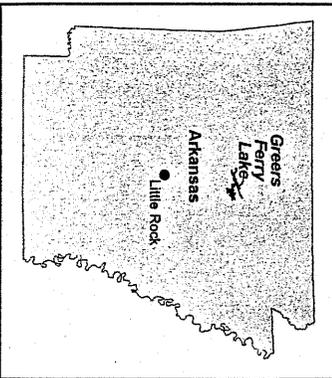
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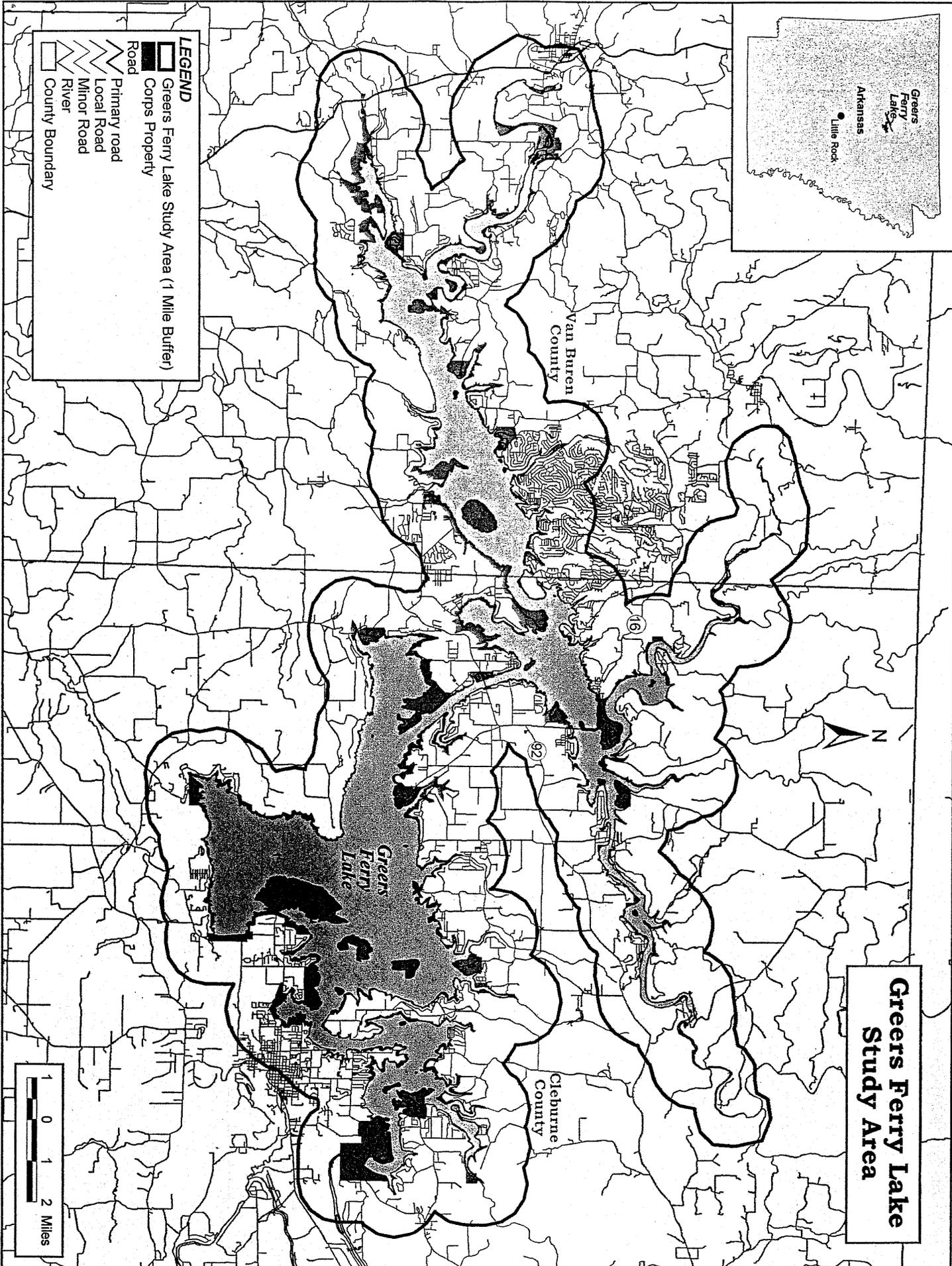
Sincerely,

Roger C. Hicklin, P.E.  
Chief, Planning Section

Enclosure  
(as)

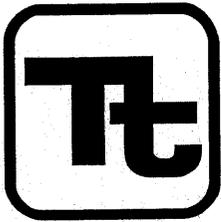


# Greers Ferry Lake Study Area



**LEGEND**

- Greers Ferry Lake Study Area (1 Mile Buffer)
- Corps Property
- Road
  - Primary road
  - Local Road
  - Minor Road
- River
- County Boundary



**TETRA TECH, INC.**  
10306 Eaton Pl., Suite 340  
Fairfax, VA 22030  
Telephone (703) 385-6000  
FAX (703) 385-6007

10/17/01

Ms. Susan Rogers  
U.S. Fish and Wildlife Service  
1500 Museum Road, Suite 105  
Conway, AR 72032

Dear Ms. Rogers:

The U.S. Army Corps of Engineers, Little Rock District, with assistance from Tetra Tech, Inc. is currently preparing an Environmental Impact Statement (EIS) to address proposed shoreline management actions for Greers Ferry Lake in Cleburne and Van Buren counties, Arkansas. The Corps of Engineers, Little Rock District, through the Greers Ferry Project Office, has managed public access to and use of Greers Ferry Lake through the use of a Shoreline Management Plan (SMP). The current version of the Greers Ferry Lake SMP became effective on November 21, 1994. Corps of Engineers (Corps) regulations provide that such plans are to be reviewed as appropriate. Pursuant to requirements of the National Environmental Policy Act (NEPA), this environmental impact statement addresses shoreline management actions proposed to be implemented following the review, revision, and approval of the SMP for Greers Ferry Lake.

The purpose of the proposed action is to implement an SMP that accomplishes congressionally authorized project purposes while balancing permitted private uses, community social and economic needs, and the application of sound environmental stewardship. Through continued sound management at Greers Ferry Lake through an approved SMP, shoreline uses that interfere with authorized project purposes, create public safety concerns, place undue restrictions on property owners, violate local norms, or result in harm to the environment will be minimized. Specific shoreline management elements under consideration in the EIS are discussed in the attached Description of the Proposed Action and Alternatives. A description of federally listed species known from the vicinity of Greers Ferry Lake and an analysis of ecological consequences to vegetation and wildlife follows. Please review the attached materials.

In accordance with the National Environmental Policy Act, Endangered Species Act, and Fish and Wildlife Coordination Act, an evaluation of the potential impacts (both positive and negative) associated with implementing this action is required. We have incorporated into the EIS some of your concerns identified in our telephone conversation October 3, 2001. We are requesting your further input concerning any biological concerns regarding this action, such as threatened and endangered species, or other species under your cognizance. For quick reference, the project area can be found on the attached location map of the Greers Ferry Lake.

In our opinion, implementation of any of the five alternatives under the EIS will result in No Adverse Effects because of their minimal impact on federally listed species. Vegetation modification (clearing brush) on Corps lands for fire protection of habitable structures would not significantly alter potential gray bat foraging areas. At this point, it is not certain if gray bats actually forage in the shoreline because

there are no records for gray bat at the lake. Vegetation modification permits found to be harmful to federally listed species could be revoked by the Corps during annual permit inspections. Development in the Greers Ferry Lake watershed as an indirect result of lakeshore rezoning would not be expected to exceed 0.06 percent of the watershed under the Preferred Alternative. Induced development under the Maximum Modification Alternative would be expected to induce development at a projected maximum of 0.33 percent of the watershed over 40 years. Impacts to the bald eagle would be alleviated by maintaining a 1,500 foot buffer zone around the nest. The continued survival of the yellowcheek darter and speckled pocketbook mussel would depend on hydrology and water quality in lake tributaries rather than activities on the lakeshore. Because no change in lake level would be expected under any of the alternatives, no adverse impacts would be expected to basic hydrology in yellowcheek darter and speckled pocketbook mussel habitat.

We have concluded that the Corps' shoreline management alternatives proposed in the EIS will have no direct adverse affects on the federally listed species that have been observed in the area. Given this conclusion, we request the concurrence of the Service on this issue.

Your prompt consideration and response is greatly appreciated. If there is anything that I can do to help expedite this process please feel free to contact me at (703) 385-6000 extension 163.

Sincerely,

A handwritten signature in black ink that reads "John Beckman" followed by a horizontal line.

John Beckman  
Environmental Scientist  
Tetra Tech, Inc.

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## ***DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES***

### ***2.1 INTRODUCTION***

This chapter describes the proposed SMP revision and the action alternatives that were considered by the Little Rock District Corps of Engineers. SMPs are prepared in accordance with Title 36 CFR, Part 327.30, Shoreline Management on Civil Works Projects (also published as ER 1130-2-406 under the same title).<sup>1</sup> The principal elements of such a plan include a description of the shoreline, shoreline allocation (see definitions in Section 2.2.2), shoreline use permit guidelines construction and maintenance requirements for private floating facilities, other shoreline uses by individuals (e.g., vegetation modification), permits, and other land uses. The 1994 SMP can be viewed at (<http://www.swl.usace.army.mil/projmgmt/smpdocs/gftoc.html>) and at the Greers Ferry Lake Project Office. The draft SMP proposed to be implemented following completion of this EIS and the ROD is at Appendix A. Section 2.2 states the proposed action and contains a brief description of Greers Ferry Lake and its shoreline management under the current SMP and a description of the 1994 SMP. This section also presents three alternatives for changes to the proposed SMP, as well as a No Action Alternative. The Greers Ferry Lake policy is to protect and manage water resource development project shorelines in a manner that promotes safe and healthful use by the public while maintaining environmental safeguards to ensure a quality resource.

### ***2.2 THE PROPOSED ACTION***

Consistent with Corps's policy and the purpose and need for the action, the Little Rock District and the Greers Ferry Project Office propose to implement a SMP following review of public comments and appropriate environmental impact analyses. The new SMP would adhere to USACE policy and Title 36 CFR cited above.

The Corps's policy for management of shorelines at its water resource development projects is to promote safe and healthful use by the public and provide sound environmental stewardship while

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<sup>1</sup> The SMP will consist of a map showing the shoreline allocated to the uses listed in Sec. 327.30(e)(6), related rules and regulations, a discussion of what areas are open or closed to specific activities and facilities, how to apply for permits, and other information pertinent to the Corps management of the shoreline. The plan will be prepared in sufficient detail to ensure that it is clear to the public what uses are and are not allowed on the shoreline of the project and why. A process will be developed and presented in the SMP that prescribes a procedure for review of activities requested but not specifically addressed by the SMP.

meeting other authorized project purposes. This policy is reflected in the Purpose and Need described in Section 1.2.

The Greers Ferry Lake SMP objectives (Appendix A, Section II and Appendix D, Section 2-01) are:

- The primary objective of all shoreline management actions is to achieve a balance between permitted private use by the general public and resource protection. Management of the shoreline for recreational use is to provide an opportunity for optimum recreational experience for the maximum number of people that is compatible with other uses and with congressionally authorized project purposes.
- Stemming from the first, the secondary objectives of the plan are to manage and protect the shoreline; to establish and maintain acceptable fish and wildlife habitat, aesthetic quality, and natural environmental conditions; and to promote the safe and healthful use of the lake and shoreline for recreational purposes by the public.

### 2.2.1 Project Site Overview

Greers Ferry Lake was constructed between March 1959 and July 1964 at a cost of approximately \$46 million. The project area includes 45,548 acres (slightly more than 71 square miles). Within the project area, the government owns flowage easements over 4,634 acres. The lake's waters cover 31,500 acres when measured at the "conservation pool" level of 461 feet above mean sea level. When waters must be held to prevent flooding of areas below the dam, the surface of the lake may rise to 487 feet above mean sea level. When this happens, the lake's surface area increases to 40,500 acres, and adjacent lands subject to the flowage easements become inundated. Data that describe Greers Ferry Lake include the following:

- |   |                                  |
|---|----------------------------------|
| • Elevation of conservation pool        | 461.26 feet above mean sea level |
| • Elevation of flood control pool       | 487 feet above mean sea level    |
| • Drainage area above dam               | 1,146 square miles               |
| • Lake surface area (conservation pool) | 31,500 acres                     |
| • Lake surface area (flood pool)        | 40,500 acres                     |
| • Total lake storage capacity           | 2,844,000 acre-feet <sup>2</sup> |
| • Conservation pool shoreline length    | 276 miles                        |
| • Flood pool shoreline length           | 343 miles                        |

<sup>2</sup> An acre-foot of water contains approximately 326,000 gallons.

The area around Greers Ferry Lake is a popular vacation and retirement area and there is substantial demand for recreational uses of the project's shoreline and waters. More than 200 subdivisions adjoin project property. As of 1993, approximately 30 percent of the lots in these subdivisions had been developed (USACE, Little Rock District, 1993)<sup>3</sup>.

The Greers Ferry Lake Operations Manager is authorized to issue shoreline use permits. The permits may be issued for private floating facilities, ski jumps, vegetation modification (for fire protection only), and path construction where such activities conform to the SMP. Shoreline permits are issued for a term of 5 years. The District Engineer may revoke a permit whenever it is determined that the public interest requires such action or that the permit holder has failed to comply with the conditions of the permit, the SMP, or ER 1130-2-406.<sup>4</sup>

Private boat docks have been permitted on Greers Ferry Lake since impoundment of waters began in January 1961. The number of permitted private floating facilities (shown in parentheses) for various years have been 1968 (125), 1970 (152), 1980 (179), 1990 (195), 1992 (204), and 2000 (295). These data reflect the fact that an increasing number of residents are gaining access to the lake from adjoining residential properties.

Recreational access to Greers Ferry Lake is gained at numerous points. There are 18 park facilities around the lake, and the Corps's parks contain 59 boat launching lanes. The Little Rock District has granted 26 rights-of-way to Cleburne and Van Buren counties for construction of ramp complexes for public boat launching. In addition, residents and sports enthusiasts launch their boats at the ends of 78 roads that were severed when the lake was created. Another 20 adjoining landowners were granted rights-of-way for construction of tramways to provide their access to the waters of the lake. A total of 181 path-only permits, 44 combination mow/path permits, and 219 combination dock/path permits for pedestrian access paths have been issued.<sup>5</sup>

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<sup>3</sup> USACE, Little Rock District. 1993. *Shoreline Management Plan for Greers Ferry Lake*. Appendix F to Design Memorandum No. 19-5. U.S. Army Corps of Engineers, Little Rock District, Little Rock, Arkansas.

<sup>4</sup> The USACE issued ER 1130-2-406 (*Shoreline Management at Civil Works Projects*) on October 31, 1990.

<sup>5</sup> As of April 2001.

### 2.2.2 Shoreline Allocations

The Greers Ferry Lake SMP, dated April 14, 1993, was last modified on November 21, 1994, upon the issuance of Supplement No. 1.<sup>6</sup> As provided for in USACE regulations, the Greers Ferry Lake SMP allocates the shoreline among four classifications. These are described below. Table 2-1 shows the amount of shoreline allocated to each of the four classifications of shoreline, as stated in 40 CFR 327.30(e)(5).

- *Limited Development Areas (LDA).* LDAs are those areas in which private floating facilities and/or activities may be allowed. Private facilities include structures such as floating docks and ski jumps. Authorized activities in LDAs include vegetation modification (for fire protection only) and footpath construction.
- *Public Recreation Areas.* Public Recreation Areas are those areas designated for commercial concessionaire facilities and for federal, state, or other similar public uses. Private shoreline use facilities or activities are not permitted within or near designated or developed recreational areas or their adjoining buffer areas.
- *Protected Shoreline Areas.* Protected Shoreline Areas are those areas designated to maintain or restore aesthetic, fish and wildlife, cultural, or other environmental values. Shoreline may also be so designated to prevent development in areas that are subject to excessive siltation; erosion; rapid dewatering; exposure to high wind, wave, or current action; or interfering with navigation. Shoreline use permits are not issued for floating facilities in Protected Shoreline Areas. Vegetation modification (for fire protection only) and footpath construction may be permitted in these areas.
- *Prohibited Access Areas.* Prohibited Access Areas are those areas in which public access is not allowed or is restricted for health, safety, or security reasons. These areas typically include hazardous zones near dams, spillways, hydroelectric power stations, or water intake structures. No shoreline use permits are issued in Prohibited Access Areas.

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<sup>6</sup> The District Engineer approved the initial Lakeshore Management Plan for Greers Ferry Lake on October 7, 1974. The plan was reviewed and updated in February 1976 and October 1982. Subsequent periodic assessments did not reveal any significant changes in use patterns that warranted further updating of the plan. The USACE revision of its principal regulation for SMPs in 1990 necessitated converting all lakeshore management plans to SMPs. The process of converting existing plans to SMPs did not consider changes to existing shoreline allocations. Following a series of public workshops and consideration of comments derived from public involvement opportunities, the Little Rock District issued its shoreline management policy (SWLOM-1130-

**Table 2-1  
Current Shoreline Allocations**

Shoreline Classification	Length (miles)	Percentage of Total Shoreline
Limited Development Areas	19	7
Public Recreation Areas	45	16
Protected Shoreline Areas	210	76
Prohibited Access Areas	2	1
TOTAL	276	100

### 2.2.3 Alternative Identification Process

**Alternative Identification Process Methodology.** Identification of alternative SMPs followed a two-step process. In the first step, the individual elements which make up shoreline management were identified. These elements were analyzed and four elements were identified for consideration at integral parts of revised SMP alternatives. These elements are:

- Limited Development Zoning.** This management element determines the amount of shoreline where docks may be permitted, vegetation modified, and footpaths constructed. Several variations or options are possible. First, the SMP could stabilize or “freeze” the amount of shoreline zoned for limited development by no longer accepting rezoning requests during periodic reviews of the SMP. Second, the SMP could provide for an increase in the extent of LDA shoreline by favorably acting on 93 rezoning requests received during the present SMP review.<sup>7</sup> Third, the SMP could include a determination of the physical capacity of the shoreline and use existing rezoning criteria to limit development areas. If the baseline were “recalibrated” in this manner, use of this option could possibly lead to a greater percentage of LDAs around the lake.
- Boat Dock Distribution.** The current SMP recognizes two kinds of docks: single-owner (private) docks, which typically have 1 or 2 slips, and two-or-more-owner (community) docks, which usually have between 2 and 20 slips. An option under this element would

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2-33) on September 15, 1992. The shoreline allocations reflected in the 1994 SMP are essentially the same as those set forth in the 1982 lakeshore management plan.

<sup>7</sup> In connection with the SMP review, the Little Rock District solicited permit applications for limited development area-type actions. The Project Office received 123 requests by the April 1999 deadline. Of this number, 103 met 80 percent of the evaluation criteria and thus were found eligible for approval. The number of approved sites was subsequently lowered to 93 because some requests were consolidated and others were found to pertain to shoreline already zoned for limited development.

be to require that all newly permitted docks accommodate at least four boats on a community dock basis.

- *Vegetation Modification.* The current SMP allows a vegetation modification permit to be granted to enable building owners to protect their premises from fire. The purpose is for fire protection and not for landscape enhancement. Underbrush, such as broom sedge, green brier, and some saplings, may be removed. No mechanical clearing equipment is permitted. Trees and scrubs with trunk diameters equal to or exceeding 2 inches may not be removed. Flowering trees and shrubs, regardless of size, may not be removed. No plantings would be authorized, except at the specific direction of the Corps of Engineers Project Office to mitigate erosion. Under these permits, vegetation may be modified no farther than 50 feet from the foundation of habitable structures. Options under this element include increasing or decreasing the 50-foot limitation to as much as 200 feet. In either event, an additional requirement could be added to the SMP that no vegetation modification occur within a 50-foot buffer along the shoreline.
- *Grandfathered Docks.* Grandfathered docks are those that existed prior to the first management plan and are not located in an LDA. The current SMP restricts each grandfathered dock to its original footprint, though owners can request dock expansions. An option would be to allow grandfathered docks to be reconstructed to alternative dimensions.<sup>8</sup> Another option would be to reallocate the locations of existing grandfathered docks outside the buffer zones or prohibited areas to limit development.
- *Restriction on Boats with Sleeping Quarters and/or Marine Sanitation Devices.* The current SMP contains instructions on use of all boats with sleeping quarters and/or marine sanitation devices. This management element provides controls on a particular use of the lake which has special potential to degrade the quality of the environment. All such boats must be moored at commercial marinas. An option would be to delete adherence to the sleeping quarters map from the SMP. The restricted area from the mouth of Peter Creek to the Dam would be eliminated. Additionally, the restricted area around municipal water intakes would be changed to conform to Arkansas state

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<sup>8</sup> A Little Rock District memorandum provides revised guidance concerning grandfathered dock alterations. The memorandum states that changes may be considered. While the numbers of boats or slips cannot be changed, a slip may be enlarged up to 14 feet. No other changes to grandfathered docks, such as the addition of swimming platforms or diving boards, are eligible for approval.

regulation.<sup>9</sup> The requirement that all such boats continue to be moored at commercial marinas would be retained.

In the second step of alternative identification, these elements were combined in various configurations based on public comments to arrive at four alternatives and the No Action Alternative. These five alternatives are further defined in Section 2.5 and analyzed in Section 4.0.

### **2.3 ALTERNATIVES**

As a result of comments received from the public and various agencies during the scoping period for this EIS, the proposed action and alternatives were refined and expanded to better address stakeholder interests. A continuing concern in defining the alternatives was the desire to retain the quality environment that currently exists at Greers Ferry Lake while supporting the public's interest in access to the lake for recreation.

The alternatives thus derived reflect various configurations of the key SMP elements described in Section 2.2.3. Each alternative describes actions that would be implemented if adopted. It is generally intended that measures to be implemented under each alternative would be established into perpetuity, and the analysis in this EIS is based on the assumption that whatever decision is made would be acted on into the foreseeable future. In many instances, however, the phrase "until the next review" is used. Changing future conditions and sound adaptive resource management may create circumstances that call for additional review and possibly revision of earlier decisions. That is why 36 CFR, Part 327.30, requires a review every 5 years. The alternatives that the Little Rock District is considering are described below and summarized in Table 2-2.

#### **2.3.1 Alternative 1: No Action Alternative**

The No Action Alternative serves as a benchmark against which federal actions can be evaluated. Its inclusion is prescribed by CEQ regulations. The No Action Alternative is evaluated in detail in this EIS. Under the No Action Alternative, the Little Rock District would make no changes to the existing 1994 Greers Ferry Lake SMP. No new management elements would be adopted, and no existing management elements would be modified. Rezoning applications received during the current SMP review would not be allowed, but would be returned to the applicants at the completion of the current review. Applicants would be advised that they could reapply during the

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<sup>9</sup> The current state regulation requires a 300-foot standoff on the water marked with buoys and 0.25 mile on each side of the intake on land.

next review. Permit applications for placement of private floating facilities within present LDAs could be approved. See Table 2-3 for the total number of docks that could potentially be approved under this alternative. Figure 2-1 shows existing and potential dock locations under the No Action Alternative. Treatment of applications concerning grandfathered docks would proceed based on the 1994 SMP, which means no change or enlargements. The allowance for vegetation modification would permit mowing up to a maximum of 50 feet from habitable structures, as currently allowed under the 1994 SMP (Figure 2-2). Restrictions on the locations for boats with sleeping quarters and/or marine sanitation devices would remain in effect.

**Table 2-2  
Alternatives**

<b>Plan Element vs. Alternative Considered</b>	<b>Alternative 1 No Action Alternative</b>	<b>Alternative 2 Preferred Alternative</b>	<b>Alternative 3 No Growth</b>	<b>Alternative 4 90% Rezoning Criteria</b>	<b>Alternative 5 Maximum Modification</b>
<b>Limited Development Zoning</b>	The LDA would be maintained at the current 7% of total shoreline allocation for this period. No rezoning requests from those submitted in 1999 would be approved at this time. Rezoning requests would be maintained by the project office and reconsidered at the next SMP review. Development under this alternative could eventually reach the levels described in Alternative 5.	The shoreline would be rezoned to increase the LDA from 7% to 8% LDA. Rezoning requests submitted in 1999 that met 80% of the rezoning criteria would be approved (93 requests). No rezoning requests would be accepted or approved at future SMP reviews.	The shoreline zoning would be frozen in the current configuration (7% LDA). No new land use permits (docks and paths) would be approved. No rezoning requests from those submitted in 1999 would be approved. No rezoning requests would be accepted or approved at future SMP reviews.	The shoreline would be rezoned to increase the LDA from 7% to 7.5% LDA. Rezoning requests submitted in 1999 that met 90% of the rezoning criteria would be approved (45 requests). No rezoning requests would be accepted or approved at future SMP reviews.	The shoreline would be rezoned to increase the LDA from 7% to 33% LDA. Rezoning would be based on suitable topography 20-49% slope. No rezoning requests would be accepted or approved at future SMP reviews.
<b>Vegetative Modification</b>	Maintain 50 feet mowing from foundation of habitable structure. No vegetative buffer would be established.	Increase mowing from 50 feet to 100 feet mowing from foundation of habitable structure. Establish a 50-foot buffer strip from the conservation pool.	No new permits, and expiring permits not renewed.	Increase mowing from 50 feet to 100 feet mowing from foundation of habitable structure. Establish a 100-foot buffer strip from the conservation pool.	Increase mowing from 50 feet to 200 feet mowing from foundation of habitable structure. No vegetative buffer would be established.
<b>Restrictions on Boats with Sleeping Quarters and/or Marine Sanitation Devices</b>	Maintain separate rules in the SMP.	Abolish separate rules in the SMP and follow state law and 36 CFR.	Maintain separate rules in the SMP.	Abolish separate rules in the SMP and follow state law and 36 CFR.	Abolish separate rules in the SMP and follow state law and 36 CFR.
<b>Grandfathered Docks</b>	Maintain current rules.	Adopt district policy that allows limited improvements to grandfathered docks.	Maintain current rules.	Adopt district policy that allows limited improvements to grandfathered docks.	Rezone to LDA the shoreline where grandfathered docks exist, except in park buffers and prohibited areas.

**Table 2-3  
Existing 5-Year and Potential Number of Docks Under Each Alternative**

	<b>Alternative 1 No Action</b>	<b>Alternative 2 Preferred Alternative</b>	<b>Alternative 3 No Growth</b>	<b>Alternative 4 90 Percent Rezoning Criteria</b>	<b>Alternative 5 Maximum Modification</b>
Existing	295	295	295	295	295
Potential	170	263	0	215	1,098
Subtotal	465	558	295	510	1,393
Max Potential	928	0	0	0	0
Total	1,393	558	295	510	1,393

It should be noted that if the No Action Alternative were adopted, no new rezoning requests would be approved during the period that would commence following the issuance of the ROD following completion of this EIS. However, under future reviews of the SMP, rezoning applications could be approved to the extent of the level described in Alternative 5 (Maximum Modification). It is expected that some growth would occur over a much longer period of time than that described under Alternative 3.

**2.3.2 *Alternative 2: Preferred Alternative, Approval of Rezoning Requests Meeting the 80 Percent Criteria***

This alternative would be based on the USACE Little Rock District's management objectives for the lake and the input received from public comments. Although this alternative is similar to the previously approved 2000 SMP, it has been reduced in scope as a result of public input. No future rezoning request would be accepted under this alternative. The 93 rezoning requests that met the 80 percent criteria during the 1999 review of the 1994 SMP would be allowed. The evaluation criteria are contained in Appendix B. The existing docks and potential extent of rezoning is shown in Figure 2-3. Table 2-3 contains the number of docks that could potentially be approved under this alternative. A minimum 50-foot buffer would be established, where mowing would be prohibited from the vegetated edge of the shoreline for 50 feet. This would involve only Corps property. Authorization for mowing from habitable structures would be increased from 50 to 100 feet, except where it would conflict with the vegetated buffer. The project rules on use of boats with sleeping quarters and/or marine sanitation devices would be deferred to state and federal regulations, except that the requirement that such boats be moored at commercial docks would remain in effect. Grandfathered docks would be allowed to be reconstructed to alternative dimensions, or the locations of existing grandfathered docks would be reallocated outside the buffer zones or prohibited areas to limit development.

### **2.3.3 *Alternative 3: No Growth***

This alternative, which is the most restrictive to lake access and recreational use would seek to maintain the Corps's land around the lake as it currently exists, at least until the next review (Figure 2-4). Rezoning applications would not be accepted. No new shoreline use permits would be allowed. Expiring permits could be renewed. The allowance for vegetation modification permitting mowing up to a maximum of 50 feet would be retained. Restrictions on the locations for boats with sleeping quarters and/or marine sanitation devices would remain in effect.

### **2.3.4 *Alternative 4: Approval of Rezoning Requests Meeting the 90 Percent Criteria***

This alternative would implement the same measures as described under Alternative 2 (Preferred Alternative); however, only rezoning requests that met 90 percent of the rezoning criteria would be approved (Figure 2-5). Table 2-3 contains the number of docks that could potentially be approved under this alternative. A minimum 100-foot buffer would be established, where mowing would be prohibited from the vegetated edge of the shoreline for 100 feet.

### **2.3.5 *Alternative 5: Maximum Modification***

This alternative would allow the maximum rezoning from "protected" to "limited development." The shoreline would be rezoned to increase the LDAs from 7 to 33 percent LDAs. Rezoning would be based on suitable topography (i.e., shoreline with a 20 to 49 percent slope) (Figure 2-6). Table 2-3 notes the number of docks that could potentially be approved under this alternative. No rezoning requests would be accepted or approved at future SMP reviews. This alternative would include a mitigation measure stating that future rezoning requests will not be accepted until the LDAs are fully utilized. Also, after a 1-year grace period, all docks would have to be a minimum four-stall community dock. Requests for docks that are not located in coves or are located on the main body of the lake or its tributaries would not be considered. Authorization for mowing would be increased from 50 to 200 feet from habitable structures, except where it would conflict with the vegetated buffer. The instructions on use of boats with sleeping quarters and/or marine sanitation devices would be abolished, but the requirement for such boats to be moored at commercial docks would remain in effect. Grandfathered docks would be allowed to be reconstructed to alternative dimensions, or the locations of existing grandfathered docks would be reallocated outside the buffer zones or prohibited areas to limit development.

## Federally Listed and Candidate Species in the Vicinity of Greers Ferry Lake

**Bald eagle.** The bald eagle (*Haliaeetus leucocephalus*) is a federally listed threatened species that has been proposed for delisting by USFWS. Bald eagles are widespread in North America, but suffered population declines in the middle of the 20<sup>th</sup> century due to the adverse effects of the pesticide DDT. More recently, the bald eagle population has increased to the point where the species is no longer threatened with extinction in the 48 contiguous states. Bald eagles nest in large trees near rivers and lakes. The eagles feed primarily on fish, but will occasionally eat carrion. Bald eagles are sensitive to disturbance during the breeding season, and development within 1,500 feet of a nest is likely to have adverse effects (Tobin, 2001). Greers Ferry Lake provides suitable winter (nonbreeding) habitat for bald eagles. There are also two documented eagle nests in the vicinity of Greers Ferry Lake (Parsons Engineering Science, Inc., 2000).

**Gray Bat.** The gray bat (*Myotis grisescens*) is a federally listed endangered species known from Oklahoma east to Kentucky and southeast to northwestern Florida. The species declined in abundance by at least 50 percent from the 1960s to the 1980s (ABI, 2001a). The gray bat is a small bat weighing 8 to 10 grams on average, with uniformly colored gray fur on the back and a wing membrane that attaches at the ankle. The oldest gray bat observed was 16 years old. Female gray bats give birth to one young in late May or early June. Young can fly within 20 to 35 days and are weaned shortly thereafter. Gray bats feed on flying insects, including mayflies and beetles. Individual bats forage along rivers or reservoir shorelines up to approximately 12 miles from their summer roosts. There is evidence that juvenile and adult bats use forested areas for protection from predators, such as owls.

Gray bats use caves to hibernate in winter and raise young in summer. Hibernation and maternity caves are in different locations and may be as many as 300 miles apart. Light and noise from humans entering caves during critical hibernation periods disturb bats and can lead to bat mortality. Disturbance to active maternity caves can result in mother bats abandoning their young. Because gray bats congregate in large numbers in relatively few caves, disturbance to any one cave could result in the loss of a significant portion of the population. Hibernation and maternity caves are also vulnerable to natural disturbances, such as flooding, cave-ins, or debris blocking cave entrances. Cave protection and improved cave gating techniques have helped to stabilize population levels (ABI, 2001a).

The gray bat is also adversely affected by deforestation, water pollution, and the use of some pesticides. Deforestation reduces the quantity of foraging habitat for gray bats, according to some sources. Gray bats have been observed to favor forested habitat over nonforested habitat during foraging and when moving between caves and foraging areas (Tuttle, 1979). Water pollution and sedimentation can impact the reproduction of aquatic insects, such as mayflies, on which the gray bat feeds. Pesticides dieldrin, aldrin, and heptachlor have been found to have toxic effects on young gray bats that receive pesticide residues through the milk of mother bats that forage on insects sprayed with these chemicals (ABI, 2001a). (Dieldrin was banned in 1974, and many farmers have switched from aldrin to heptachlor.)

The USFWS reports that the gray bat is known from Van Buren County, and feeds in riparian areas (Tobin, 2001). Little is known about gray bat activity in the vicinity of Greers Ferry Lake. No gray bat caves have been reported within a mile of the lake. However, there is one cave in Van Buren County, about 8 miles north of the lake on the Middle Fork of the Little Red River that is used by a small colony of male gray bats during the summer months (Sasse, 2001). This colony was at one time observed to have as many as 8,000 bats in it. When last surveyed in 1995,

only 35 gray bats were found. It is not known exactly where the bats from this colony forage, but given what is known about species behavior, gray bats are likely to forage along the river in the vicinity of the cave. Gray bats that venture down to Greers Ferry Lake will most likely be found over slabrock bottom along areas of the main river channel that are bordered by forest (Sasse, 2001). They will generally be within 5 m [16.4 ft] of the lake surface near shore in other areas (Sasse, 2001).

***Speckled Pocketbook Mussel.*** The speckled pocketbook mussel (*Lampsilis streckeri*) is a federally listed endangered bivalved mollusk found only in the Middle Fork of the Little Red River watershed, in Van Buren and Stone counties. Total range for the species is limited to 9 river miles in the Middle Fork of the Little Red River, from Greers Ferry Lake upstream to the confluence of Meadow Creek.

The speckled pocketbook mussel is a thin, elliptical mussel, about 3 inches long, with yellow or brown spots, and chain-like rays. It is similar in appearance to other mussels of the same genus. The speckled pocketbook mussel is a stationary filter feeder that has been found in streams with coarse to muddy sand and a constant flow of water (USFWS, 1991). The mussel is not tolerant of still water, and habitat for the species was eliminated when the river was impounded to create Greers Ferry Lake. The speckled pocketbook mussel had been known from waters downstream of Greers Ferry Lake, but cold, hypolimnetic water flowing from the dam has eliminated the population (USFWS, 1991).

Major threats to the mussel include hazardous materials spills within the watershed (especially along U.S. Highway 65), any additional attempts at channelization, gravel mining operations, and nonpoint pollution sources which result from poor land use practices (USACE, Greers Ferry Project Office, 2000). Recovery strategies include restoration of historic habitat and reestablishment of individuals in restored habitat. Without restoration, the species is vulnerable to extinction from a natural disaster or man-made impact on the one short stretch of river it inhabits (USFWS, 1991).

***Yellowcheek Darter.*** The yellowcheek darter (*Etheostoma moorei*) is a rare fish species likely to be listed as a candidate for protection under the ESA in the near future (Tobin, 2001). The yellowcheek darter is found only in the South and Middle Forks of the Little Red River, in Cleburne and Van Buren counties. Much of the yellowcheek darter's habitat in its restricted native home range was destroyed by the creation of Greers Ferry Lake.

The yellowcheek darter is a small fish in the perch family that grows to just over 2 inches long. Primary foods for yellowcheek darter are aquatic insect larvae, especially dipteran larva. The species prefers the faster sections of small rivers with gravel, rubble, and boulder bottoms. The yellowcheek darter spawns from late May through June and is sexually mature in 1 year. Total life span is 4 years (ABI, 2001b). Major threats to the yellowcheek darter are similar to threats to the speckled pocketbook mussel. Both species are extremely vulnerable to natural disasters or man-made disturbances within their very small range.

## Environmental Consequences for Vegetation, Wildlife and Sensitive Species

### *Alternative 1. Ecological Systems*

Long-term minor direct and indirect adverse impacts to vegetative communities, wildlife, and sensitive species would be expected. Potential new residential development over time in LDAs would be expected to have minor adverse impacts to vegetation and wildlife. According to the methodology for analyzing alternatives, under this alternative there is the potential for 493 new homes to be built in the watershed, resulting in 370 acres in the watershed converted from forested acres to residential acres (Table 4-4). Residential land use would be expected to eliminate many vegetation and wildlife species from formerly forested habitat. Only common species tolerant of human disturbance (i.e. deer, squirrel) would be expected to remain in the area. Future development of permanent structures and associated land clearing would also be expected to have minor adverse impacts on sensitive species.

Vegetation modification on Corps property would be expected to have minor adverse impacts to natural vegetation. According to the methodology for analyzing alternatives, there is a potential for 170 new boat docks to be built under the no action alternative (Table 4-4). Assuming each boat dock was associated with one new home eligible for a vegetation modification permit, and each home was permitted to modify vegetation into Corps property in the shape of a half-circle with radius 50 feet, the maximum acreage potentially modified by 170 new dock-related homes would be 15.3 acres. However, it would be expected that the acreage modified would equal less than that amount.

Soil erosion and increased runoff to the lake were cited as potential impacts of vegetation modification and access path permits. 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. Trees and shrubs adjacent to the lake provide food and cover for wildlife, shade aquatic habitats near shore, and increase the resistance of the shoreline to erosion caused by high water or waves (USDA-NRCS, 1998). A USFWS biologist brought concerns that reduction in lakeshore underbrush would reduce habitat for insects that are food for the endangered gray bat (Rogers, 2001, Appendix E). Minor adverse impacts to sensitive plant species would be expected as a result of vegetation modification and path permits. Seventeen state-listed rare plant species could fall into the size category of underbrush eligible to be removed under a vegetation modification permit (Table 3-32). Because some rare plants are difficult to identify, even by experts, there is a risk that these plants could be harmed unintentionally by landowners otherwise in compliance with vegetation modification or access path permits.

The impact on vegetation on Corps property as a result of issuing mowing permits would depend on the size of each privately owned lot and the distance from a habitable structure to Corps property. Total acreage mowed in the watershed would depend on the number of landowners receiving vegetation modification permits. In most cases, it would be unlikely that a homeowner would need to modify vegetation the entire 50 feet into Corps property. If a house sat 40 feet from the Corps property line, the vegetation modification permit would allow mowing only 10 feet into Corps property (50 feet - 40 feet = 10 feet). Therefore, it would be expected that with a 50-foot limit, mowing would occur mostly on private land, with only the remainder of the eligible 50-foot radius actually on Corps property.

Insignificant effects to aquatic wildlife would be expected from constructing 170 potential new boat docks under this alternative. Floating docks block light to the lake, which can result in localized environmental effects to aquatic plants and wildlife (Chmura and Ross, 1978). A small dock with only one or two slips would be expected to shade only a small portion of the lake. The location of the shaded area would move during the day as the sun changes position relative to the dock, making it unlikely that a significant area would be continuously shaded. Continuous shading could reduce or eliminate aquatic plants under docks. Floating docks and breakwaters can act as fish attractors and provide substrate for other aquatic organisms (USACE, 1993b). Small docks widely spaced along the shoreline would not be expected to significantly alter fish population dynamics in the lake. Large community docks densely arranged could shade significant portions of the lake bottom and attract significant numbers of fish in the immediate area. Overall, factors such as water quality, yearly spawning success, and fish stocking by wildlife agencies would be expected to have more of an effect on fish populations in the lake than 170 potential new boat docks arranged along 276 miles of shoreline.

Except for one bald eagle nest, no sensitive habitats (as defined in Section 3.9.4) occur within the scope of the SMP, and therefore none would be affected by the no action alternative. No impacts would be expected from maintaining current regulations for grandfathered docks. No impacts would be expected from maintaining separate rules for restrictions on boats with sleeping quarters and/or marine sanitation devices.

#### *Alternative 2. (Preferred alternative) Ecological Systems*

Long-term minor direct and indirect adverse effects on vegetative communities, wildlife, and potentially sensitive species would be expected. Rezoning protected area into LDAs 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 impacts to vegetation and wildlife. According to the methodology for analyzing alternatives, 410 acres in the watershed would be expected to be converted from forested acres to residential acres (Table 4-4). Residential land use would be expected to eliminate most vegetation and wildlife species from formerly forested habitat. Long term adverse impacts to sensitive species would also be expected. For example, increased human activity near bald eagle nests on the lake would be expected to have adverse impacts on bald eagle reproduction because eagles are sensitive to human activity when nesting. Only wildlife species tolerant of human disturbance would be expected to remain in residential areas.

Long-term minor adverse impacts on vegetative communities and wildlife would be expected if the Corps extended the permitted fire protection vegetation modification (mowing) distance to 100 feet from habitable structures. An increase in the mowing radius from 50 to 100 feet could, in rare instances, potentially affect four times as much area at 100 feet as at 50 feet. According to the methodology for analyzing alternatives, there is a potential for 263 new boat docks to be built under the preferred alternative (Table 4-4). Assuming each boat dock was associated with one new home eligible for a vegetation modification permit, and each home was permitted to modify vegetation into Corps property in the shape of a half-circle with radius 100 feet, the maximum acres potentially modified by 263 new boat dock-related homes would be 94.7 acres. However, it would be expected that the acreage modified would equal less than that amount for reasons stated in Section 4.1.8.

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. Trees and shrubs adjacent to the lake provide food and cover for wildlife, shade aquatic habitats near shore, and increase the resistance of the shoreline to erosion caused by high water or waves (USDA-NRCS, 1998). 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.

Move this paragraph to section 2.5 as per comment # 745

Some public comments mentioned the need to remove vegetation to control rodents, snakes, or insects. However, Corps vegetation modification permits are issued for fire protection only. Permits to modify vegetation on Corps property at Greers Ferry Lake are good for 5 years and can be renewed or revoked. Only hand-operated tools and non-commercial lawn mowers may be used on Corps property at Greers Ferry Lake. Some stakeholder comments opposed an increase in vegetation modification because of the potential increased use of herbicides. However, no chemical herbicides may be used to modify vegetation on Corps property at Greers Ferry Lake under a vegetation modification permit.

Increasing the size of mowed areas around residences would remove shrubs and other plants that wildlife use for food and cover. Wildlife species most likely to be affected in mowed areas around habitable structures are likely to be those already present because they are tolerant of human activity. Species tolerant of human disturbance (such as white-tailed deer) that can exploit forest edge habitats would be expected to remain in the area, while some songbirds that require forest interior habitats for successful nesting would be expected to leave. Minor adverse impacts on other wildlife and some sensitive species would be expected. Sensitive mussel and fish species (i.e. speckled pocketbook mussel, yellowcheek darter) are unlikely to be affected by lake shoreline management because those populations are primarily affected by management activities in watersheds upstream from the lake. Minor adverse impacts to sensitive plant species would be expected as a result of vegetation modification and path permits. Seventeen state-listed rare plant species fall into the size category of underbrush eligible to be removed under a vegetation modification permit (Table 3-32). Because some rare plants are difficult to identify, even by experts, there is a risk that these plants could be harmed unintentionally by landowners otherwise in compliance with vegetation modification or access path permits.

No impacts on vegetation or wildlife would be expected as a result of creating a vegetated buffer area by prohibiting vegetation modification within 50 feet of the vegetated edge of the shoreline. 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 mowing radius without being constrained by the 50-foot shoreline buffer regulation, thereby resulting in an overall net loss of vegetation.

Minor direct beneficial effects on the federally listed gray bat would be expected as a result of a 50-foot vegetation buffer on the shoreline. Gray bats are known to forage in forested areas immediately adjacent to lakes and rivers. According to USFWS sources, gray bats feed on insects that live in shoreline underbrush (Rogers, 2001, Appendix E). A 50-foot vegetative buffer from

the water's edge would preserve gray bat food sources. A 50-foot buffer would also be expected to maintain long-term forest cover in riparian zones where gray bats feed by protecting seedling and sapling trees needed to replace older trees as they grow old and die. Vegetation modification that extends to the conservation pool, and extensive development in LDAs could deprive gray bats of both riparian forest cover and insect food sources.

Insignificant effects to aquatic wildlife would be expected from 170 potential new boat docks. Floating docks block light to the lake, which can result in environmental effects to aquatic plants and wildlife (Chmura and Ross, 1978). A small dock with only one or two slips would be expected to shade only a small portion of the lake. The location of the shaded area would move during the day as the sun changes position relative to the dock, making it unlikely that a significant area would be continuously shaded. Continuous shading could reduce or eliminate aquatic plants under docks. Floating docks and breakwaters can act as fish attractors and provide substrate for other aquatic organisms (USACE, 1993b). Small docks widely spaced along the shoreline would not be expected to significantly alter fish population dynamics in the lake. Large community docks densely arranged in extensive LDAs could shade significant portions of the lake bottom and attract significant numbers of fish. Overall, factors such as water quality, yearly spawning success, and fish stocking by wildlife agencies would be expected to have more of an effect on fish populations in the lake than 263 potential new boat docks arranged along 276 miles of shoreline.

Except for one bald eagle nest, no sensitive habitats occur within the scope of the SMP, and therefore none would be affected by the no action alternative. No impacts would be expected from allowing limited improvements to grandfathered docks. No impacts would be expected from abolishing separate rules in the SMP for restrictions on boats with sleeping quarters and/or marine sanitation devices and following state law and 36 CFR.

### *Alternative 3. Ecological Systems*

No impacts on vegetative communities, wildlife, or sensitive species would be expected as a result of maintaining development activity in shoreline areas at current levels by not issuing new land use permits or approving rezoning requests. No impacts on ecological systems would be expected from not approving rezoning requests at future SMP reviews. No impacts on vegetative communities, wildlife, or most sensitive species would be expected from not issuing new vegetation modification permits and not renewing expiring permits. Minor beneficial effects on the federally listed gray bat would be expected from not issuing new vegetation modification permits and not renewing expiring permits because gray bats are known to forage in forested areas immediately adjacent to lakes and rivers. According to USFWS sources, gray bats feed on insects that live in shoreline underbrush (Rogers, 2001, Appendix E). Not cutting vegetation along the shoreline would preserve gray bat food sources and maintain long-term forest cover in riparian zones where gray bats feed by protecting seedling and sapling trees needed to replace older trees as they grow old and die.

Except for one bald eagle nest, no sensitive habitats occur within the scope of the SMP, and therefore none would be affected by the no action alternative. No impacts would be expected from maintaining current regulations for grandfathered docks. No impacts would be expected from maintaining separate rules for restrictions on boats with sleeping quarters and/or marine sanitation devices.

#### *Alternative 4. Ecological Systems*

Long-term minor direct and indirect adverse effects on vegetative communities, wildlife, and potentially sensitive species would be expected. Minor direct beneficial effects on the federally listed gray bat may occur as a result of a 100-foot vegetation buffer on the shoreline. Maintaining shoreline vegetation in a natural state would protect food and foraging cover for the gray bat. Minor adverse impacts would be expected as a result of approving rezoning requests. The higher standard would be expected to result in the approval of roughly half as many requests as would be approved using the 80 percent criteria. Rezoning protected area into LDAs 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 impacts to vegetation and wildlife. According to the methodology for analyzing alternatives, 389 acres in the watershed would be expected to be converted from forested acres to residential acres (Table 4-4). Residential land use would be expected to eliminate most vegetation and wildlife species from formerly forested habitat. Long term adverse impacts to sensitive species would also be expected. For example, increased human activity near bald eagle nests on the lake would be expected to have adverse impacts on bald eagle reproduction because eagles are sensitive to human activity when nesting. Only wildlife species tolerant of human disturbance would be expected to remain in residential areas.

An increase in the mowing radius from 50 to 100 feet could, in rare instances, potentially affect four times as much area at 100 feet as at 50 feet. According to the methodology for analyzing alternatives, there is a potential for 215 new boat docks to be built under the preferred alternative (Table 4-4). Assuming each boat dock was associated with one new home eligible for a vegetation modification permit, and each home was permitted to modify vegetation into Corps property in the shape of a half-circle with radius 100 feet, the maximum acres potentially modified by 215 new boat dock-related homes would be 77.4 acres. However, it would be expected that the acreage modified would equal less than that amount for reasons stated in Section 4.1.8. Minor adverse impacts to sensitive plant species would be expected as a result of vegetation modification and path permits. Seventeen state-listed rare plant species fall into the size category of underbrush eligible to be removed under a vegetation modification permit (Table 3-32). Because some rare plants are difficult to identify, even by experts, there is a risk that these plants could be harmed unintentionally by landowners otherwise in compliance with vegetation modification or access path permits.

Insignificant impacts to aquatic wildlife would be expected from 215 potential new boat docks. Floating docks block light to the lake, which can result in environmental effects to aquatic plants and wildlife (Chmura and Ross, 1978). A small dock with only one or two slips would be expected to shade only a small portion of the lake. The location of the shaded area would move during the day as the sun changes position relative to the dock, making it unlikely that a significant area would be continuously shaded. Continuous shading could reduce or eliminate aquatic plants under docks. Floating docks and breakwaters can act as fish attractors and provide substrate for other aquatic organisms (USACE, 1993b). Small docks widely spaced along the shoreline would not be expected to significantly alter fish population dynamics in the lake. Large community docks densely arranged in extensive LDAs could shade significant portions of the lake bottom and attract significant numbers of fish. Overall, factors such as water quality, yearly spawning success, and fish stocking by wildlife agencies would be expected to have more of an effect on fish populations in the lake than 215 boat docks arranged along 276 miles of shoreline.

Except for one bald eagle nest, no sensitive habitats occur within the scope of the SMP, and therefore none would be affected by the no action alternative. No impacts would be expected from allowing limited improvements to grandfathered docks. No impacts would be expected from abolishing separate rules in the SMP for restrictions on boats with sleeping quarters and/or marine sanitation devices and following state law and 36 CFR.

### *Alternative 5. Ecological Systems*

Long-term minor adverse effects would be expected on vegetative communities, wildlife, and sensitive species as a result of rezoning as much as 33 percent of the Greers Ferry Lake shoreline to LDAs. Minor adverse impacts on ecological systems would be expected from rezoning shoreline to LDAs where grandfathered docks exist, with the exception of docks in park buffers and prohibited areas. It is assumed that an increase in the number of boat docks would, in turn, lead to increased human activity near the shore and construction of habitable structures in nearby upland areas. Long-term adverse impacts on vegetative communities and wildlife would be expected if the Corps extended the permitted vegetation modification (mowing) distance to 200 feet from habitable structures for fire protection. The impacts of mowing on vegetation and wildlife under implementation of Alternative 5 are similar to the impacts described under Alternative 2. It is not clear at this time whether extending mowing permits from 50 to 200 feet from a habitable structure would result in widespread mowing down to the water's edge. Loss of lakeshore vegetation from mowing would be expected to have minor adverse impacts on gray bat foraging habitat. A USFWS biologist brought concerns that reduction in lakeshore underbrush would reduce habitat for insects that are food for the endangered gray bat (Rogers, 2001). Removing underbrush could also have the effect of killing young trees that are necessary to replace mature trees as they grow old and die, thereby reducing riparian forest cover for the gray bat.

Rezoning protected area into LDAs 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 impacts to vegetation and wildlife. According to the methodology for analyzing alternatives, 2,388 acres in the watershed would be expected to be converted from forested acres to residential acres (Table 4-4). Residential land use would be expected to eliminate most vegetation and wildlife species from formerly forested habitat. Long term adverse impacts to sensitive species would also be expected. For example, increased human activity near bald eagle nests on the lake would be expected to have adverse impacts on bald eagle reproduction because eagles are sensitive to human activity when nesting. Only wildlife species tolerant of human disturbance would be expected to remain in residential areas. However, it would be expected that potential residential development under this alternative could take 40 years.

An increase in the mowing radius from 50 to 200 feet could, in rare instances, potentially affect 16 times as much area at 100 feet as at 50 feet. According to the methodology for analyzing alternatives, there is a potential for 1098 new boat docks to be built under the preferred alternative (Table 4-4). Assuming each boat dock was associated with one new home eligible for a vegetation modification permit, and each home was permitted to modify vegetation into Corps property in the shape of a half-circle with radius 150 feet, the maximum acres potentially modified by 170 new boat dock-related homes would be 889.4 acres. A distance of 150 feet rather than 200 feet is used for this calculation because the model assumes that under maximum allowed use of LDAs, docks would be 300 feet apart. Therefore, each new dock-associated home could in theory only mow 150 feet in most directions before overlapping with another dock-

associated home's vegetation modification permit. It would be expected that the acreage modified would equal less than that amount for reasons stated in Section 4.1.8. Also, in many cases there might be less than 200 feet between a house adjacent Corps property and the conservation pool. Minor adverse impacts to sensitive plant species would be expected as a result of vegetation modification and path permits. Seventeen state-listed rare plant species fall into the size category of underbrush eligible to be removed under a vegetation modification permit (Table 3-32). Because some rare plants are difficult to identify, even by experts, there is a risk that these plants could be harmed unintentionally by landowners otherwise in compliance with vegetation modification or access path permits.

Minor effects to aquatic wildlife would be expected from building 1098 potential new boat docks. Floating docks block light to the lake, which can result in environmental effects to aquatic plants and wildlife (Chmura and Ross, 1978). A small dock with only one or two slips would be expected to shade only a small portion of the lake. The location of the shaded area would move during the day as the sun changes position relative to the dock, making it unlikely that a significant area would be continuously shaded. Continuous shading could reduce or eliminate aquatic plants under docks. Floating docks and breakwaters can act as fish attractors and provide substrate for other aquatic organisms (USACE, 1993b). Small docks widely spaced along the shoreline would not be expected to significantly alter fish population dynamics in the lake. Large community docks densely arranged in extensive LDAs could shade significant portions of the lake bottom and attract significant numbers of fish. Overall, factors such as water quality, yearly spawning success, and fish stocking by wildlife agencies would be expected to have more of an effect on fish populations in the lake than 1098 new boat docks. Some localized adverse effects to aquatic vegetation would be expected if docks were densely arranged so that significant areas of lake bottom were continuously shaded.

Except for one bald eagle nest, no sensitive habitats occur within the scope of the SMP, and therefore none would be affected by the no action alternative. No impacts would be expected from abolishing separate rules in the SMP for restrictions on boats with sleeping quarters and/or marine sanitation devices and following state law and 36 CFR.

### *Cumulative Effects -Ecological Systems*

Alternatives that allow for more development along the shoreline (i.e., more private docks) could lead to increased development of adjacent land, which would result in localized reduction of wildlife habitat. The lake watershed is 1146 square miles (733,437 acres). Under Alternatives 1, 2, or 4, growth induced by development in LDAs would be expected to convert less than 0.06 percent of the watershed from forested area to residential use. Alternative 5 would be expected to induce development at a projected maximum of 0.33 percent of the watershed over 40 years. Compared to the size of the lake watershed, the quantity of acreage potentially effected by vegetation modification and path permits is miniscule. Under the preferred alternative, a maximum of 94.7 acres of Corps property would be expected to be mowed if every new dock permittee obtained a vegetation modification permit.

Lakes and lake tributaries have recreational and aesthetic benefits that attract potential home builders; there are over 200 subdivisions that adjoin Greers Ferry Lake project property. Development that occurs in close proximity to the lake or lake tributaries would be expected to have greater adverse impacts to lake ecological systems than development spread evenly throughout the watershed. However, only about 30 percent of the lots in the 200 subdivisions have been developed. Unless the rate of development increases exponentially in the near future,

there will be time to plan for the long-term protection of wildlife, vegetation, and sensitive species with appropriate conservation easements and nature preserves.

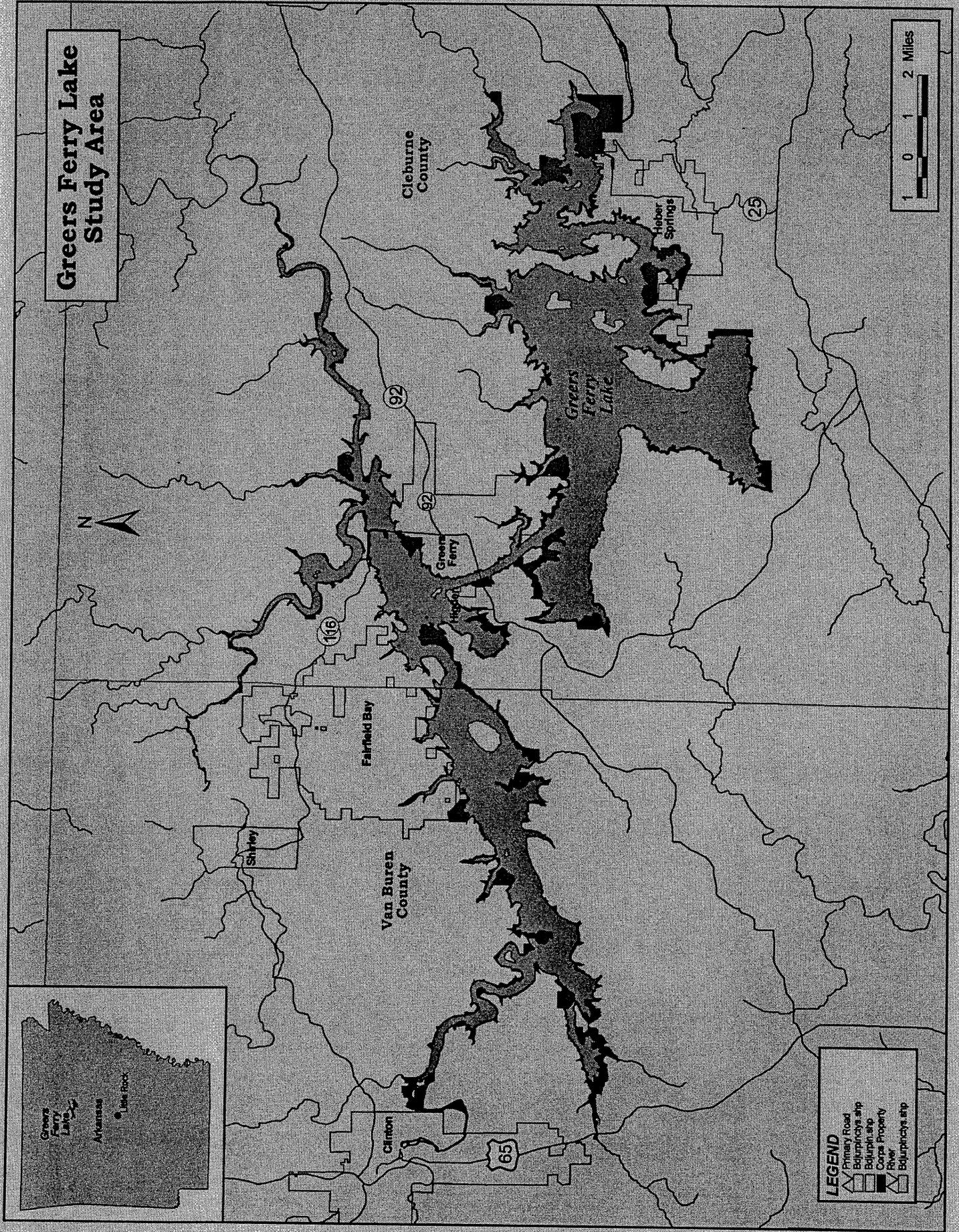
Any new boat dock would be expected to attract some fish species and shade a small portion of the lake bottom. At present, 295 boat docks have been permitted on 276 miles of shoreline around a lake with 31,500 surface acres at its conservation pool. Under the maximum modification alternative, there is a potential for 1098 new boat docks to be built over the next 40 years. Under current regulations, docks must be 300 feet apart. This distance would be expected to result in lake bottom shading of small, isolated locations. Even under such an extreme scenario, effects of boat docks on aquatic plants and wildlife would be expected to be localized in LDAs with the highest density of 20 slip community boat docks. Changes to regulations involving grandfathered docks and boats with sleeping quarters and/or marine sanitation devices would be expected to have effects to water quality (discussed above) that could indirectly effect aquatic wildlife habitat both near docks and in the entire lake.

### *Mitigation - Ecological Systems*

Mowing and clearing around habitable structures and along paths would be expected to result in a loss of natural vegetation. Loss of natural vegetation has the potential to cause direct and indirect impacts to wildlife and sensitive species. For example, the gray bat is known to forage in forested habitats adjacent to water bodies. Long-term removal of shoreline vegetation could deprive the gray bat of foraging cover and insect prey. Homeowners might inadvertently harm state-listed plants while carrying out permitted vegetation modification. To identify and avoid potential damage to the environment, Corps of Engineers lake managers conduct annual inspections of boat dock, vegetation modification, and path permits. Corps staff observing direct adverse environmental impacts to wildlife or vegetation have the authority to modify or revoke permits. Corps staff have sufficient leeway to include conditional terms in permits to address potential problems on a case-by-case basis.

Because the gray bat is the only federally listed species known from the Greers Ferry Lake vicinity that has not been scientifically documented in the project area, planning level surveys for this species are recommended. Management concerns for gray bat at this time are based on professional opinion, not scientific evidence. Corps managers need more information about this species if they are to implement appropriate and effective habitat protection measures in the project area. However, not locating a species during a survey does not necessarily prove its absence. Special attention during annual permit inspections to identify state-listed plant species where they occur near homes and development would also help to maintain viable populations of these plants, educate homeowners, and avoid adverse impacts.

# Greers Ferry Lake Study Area



- LEGEND**
- Primary Road
  - Boroughship strip
  - Boroughship strip
  - County Property
  - Shirel
  - Boroughship strip

**To:** File  
**From:** John Beckman, Environmental Scientist  
**Re:** Phone interview with Susan Rogers, U.S. Fish and Wildlife Service, Conway, AR, 501-513-4481, concerning Greers Ferry Lake EIS  
**Date:** October 3, 2001

I spoke with Susan Rogers concerning the Greers Ferry Lake EIS alternatives and the possible effects on threatened and endangered species in the study area.

#### **Bald eagle**

**USFWS Concerns:** There is one bald eagle nest near the lake. Adverse impacts to bald eagles are most likely when eagles are rearing young. Minimizing disturbance in a 1,500 foot buffer around the nest is the recommended management measure to protect the eagles.

**Corps Mitigation:** Adverse impacts would be minimized by precluding development within the 1,500 foot buffer. (Note: The eagle nest is not actually on Corps property)

#### **Gray Bat**

**USFWS Concerns:** Vegetation modification near the conservation pool would eliminate habitat for insects that are a food source for gray bats.

**Corps Mitigation:** Vegetation modification permits are inspected yearly. Vegetation modification permits found to be harmful to sensitive species can be revoked.

#### **Speckled Pocketbook Mussel and Yellowcheek Darter**

**USFWS Concerns:** Rezoning to LDA would allow for more boat docks and more access paths in riparian zone. Human activity and paths could cause erosion on land and result in siltation in lake. Rezoning to LDA would induce residential development near the lakeshore and in the watershed. Converting forested acres to residential acres would be expected to increase runoff into the lake tributaries where small populations of the mussel and the darter survive. Runoff from residential acres would be expected to contain more fertilizers, pesticides and sediment than runoff from forested areas. A decrease in water quality in tributary streams could have adverse impacts to the mussel and darter. Shoreline activities which result in a rise in lake level would also be expected to have significant adverse impacts to the mussel and darter. Damming of the river system has left a very narrow zone of habitat where species intolerant of lentic conditions can survive. In certain lake tributaries, this zone is bounded by the lentic conditions on the downstream end and by low flow on the upstream end. Recent drought has removed sufficient flow from some upstream habitat, therefore causing a retreat of the upper habitat boundary. Any rise in lake level would be expected to eliminate fish and mussel habitat by advancing lentic conditions on the downstream end.

**Corps Mitigation:** Paths on Corps property are subject to inspection to identify erosion problems and correct them. The Corps is not in a position to halt development in the watershed outside Corps property, but development is expected to occur incrementally over a period of many years.



IN REPLY REFER TO

## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

1500 Museum Road, Suite 105

Conway, Arkansas 72032

Tel.: 501-513-4470 Fax: 501-513-4480

February 6, 2002

Ms. Patricia M. Anslow  
U.S. Army Corps of Engineers  
Planning Division  
P.O. Box 867  
Little Rock, AR 72203-0867

Dear Ms. Anslow:

The Fish and Wildlife Service (Service) has reviewed the draft Environmental Impact Statement (EIS) for the Greers Ferry Lake Shoreline Management Plan, November 2001, in Cleburne and Van Buren Counties, Arkansas. Our comments are provided in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661-667e) and the Endangered Species Act (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.).

The Service finds Alternative 4: 90% Rezoning Criteria, with a rezoning increase of 0.5% and the establishment of a 100 foot buffer strip from the conservation pool, to be preferable because of the increased protection it affords to foraging gray bats (*Myotis grisescens*) and lacustrine species. Alternative 2: Preferred Alternative, with a rezoning increase 1% and the establishment of a 50 foot buffer strip from the conservation pool, is also acceptable, but less desirable than Alternative 4. Providing that the respective 0.5% and 1% rezoning increases do not allow for development within 1500 feet of any bald eagle (*Haliaeetus leucocephalus*) nests, the Service finds either alternative acceptable; however, we prefer alternative 4.

We appreciate your interest in the preservation of endangered species, and the opportunity to provide comments on this project. If you have any questions, please contact Elizabeth Stafford at 501-513-4483.

Sincerely,

Margaret Harney  
Senior Biologist

xc:

Mr. J. Michael Betteker, Tetra Tech, Inc.