

Executive Summary

Lake Monticello has many fine amenities to enrich the lives of its members. Notably absent is a suitable facility to permit non-boating anglers access to productive fishing waters. In spite of the fact that angling is one of the most popular outdoor recreational activities in the nation, there are very few sites here for children, the elderly, the handicapped and others who do not have access to a boat to enjoy fishing.

- A grassroots effort started in the summer of 2008 to address this need. A working group was formed to study the possibility of building an Americans with Disabilities Act (ADA) compliant Community Fishing Pier in January 2009. Funding would be through voluntary contributions and construction through voluntary labor.
- Existing facilities in other communities were visited and design alternatives were explored. As a result, a wooden floating pier design was chosen as the best alternative to provide a functional and affordable solution.
- A thorough evaluation of potential LMOA sites was conducted. The shoreline of Tufton Lake was selected as the best available location. No conflicts to use of the site have been discovered.
- A questionnaire was circulated in the Lake Monticello community to assess acceptance of the idea and willingness to participate in the effort. Results were generally favorable. Questions raised by respondents have been investigated and answered in the attached report.
- The Virginia Department of Game and Inland Fisheries conducted a fish population survey of Tufton Lake and found it to be a good place to build the pier.
- Cost of materials to construct the pier has been estimated to be about \$25,000. Annual maintenance cost to the community is estimated to be not more than \$0.46 per household per year.

The plan has been reviewed and accepted by interested advisory LMOA committees. It has also been reviewed by various LMOA staff without objection. Possible permit requirements have been researched with community, county, state and federal government agencies. These do not present any obstacle.

We hereby request the Board of Directors to allocate the site for the pier and give it's blessing to organize fund raising activities.

Acknowledgements

I'd like to thank the many individuals and organization who contributed to this effort. First, I want to thank the members of the Working Group. Without their help, thoughtful suggestions and encouragement this project would never have come this far:

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Thanks to all the LMOA committee members who provided their advice and recommendations.

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Finally, thanks to my wife for her patience, understanding and encouragement.

To all of you I say a heartfelt, Thank you.

Sincerely,

Ted Makranczy

Report of the Community Fishing Pier Working Group

July 15, 2009

<u>Item</u>	<u>Page</u>
Need for a Community Fishing Pier	4
Requirements	5
Pier Design	7
Site Location	9
Membership Questionnaire	11
VDGIF Assessment	14
Optimizing Fishing Productivity	16
Construction Cost	18
Permits/Approvals	19
Fund Raising	20
Maintenance Cost	21
Coordination	22
Appendices	23

Need for a Community Fishing Pier

The Lake Monticello Community has many fine amenities to enhance the lives of its residents. Many members of the community enjoy fishing on the main lake from boats and from waterfront docks. There are even organized competitive fishing tournaments on the main lake throughout the spring and summer months. These are well attended by skillful fishermen usually aboard specially equipped bass boats. However, notably missing is any facility designed to provide a productive, three-season recreational experience for non-boating resident anglers, children, the elderly and the handicapped even though fishing is one of the most popular outdoor sports in America.

Most of the waterfront on the main lake is private and not available to anglers on foot unless they own the property or are guests. While Tufton Lake and the pond adjacent to the 18th fairway afford some community fishing access for these non-boating anglers, these locations are only productive during the spring when water temperatures are relatively low and fish gather in the shallows to spawn. These locations have no accommodations for the infirm. Other than ramps to facilitate boarding boats, the same can be said for areas around public docks. As the water temperatures warm, fish move into relatively cooler deep water. They become increasingly difficult to reach from shore. Consequently, during the summer months, when many anglers such as school-age children want to fish, productivity drops and few fish are caught.

A "Kids Fishing Day" was held at Tufton Lake during August of 2008. Approximately 30 children registered along with accompanying adults for the two-hour event. All anglers fished from shore, no boats were used. Knowledgeable fishermen were on hand to provide advice and equipment where needed. During that period, only four sunfish and no bass were caught. It is likely that the low catch rate was because most fish were in deep or brush-sheltered water that could not be reached from shore.

Members who are handicapped or infirm due to age have virtually no place from which to safely fish unless they can be assisted aboard a suitably equipped boat. Those without access to such a boat are thus prevented from enjoying this popular sport within the community. The few public facilities that exist, lack suitable guardrails to prevent serious falls. Children and grandchildren of members have very limited angling opportunities in spite of the fact that there are several bodies of water containing game fish in the community. This is generally because they lack access to productive water.

A suitably located pier designed to be compatible with Americans with Disabilities Act (ADA) requirements could provide safe access to productive water. The pier would need to allow anglers to reach deep or sheltered water to be productive during the warmer months. It would provide recreational angling opportunities for children, grandchildren, the elderly, handicapped members, non-boating members and any other resident or guest who enjoys

the sport. Many communities around the country are now providing this type of facility. Lake Monticello needs an ADA compatible Community Fishing Pier to serve all recreational anglers.

Pier Requirements

To satisfy the need for a Community Fishing Pier the facility must be **safe, convenient and productive** for those whom it is intended to serve. It should also be comfortable and be viewed as an attractive asset by the community at large

Safe

The pier must be compatible with ADA requirements and be suitable for use by persons using canes, walkers and wheelchairs as well as small children and able bodied adults. It must be surrounded by a suitable guardrail with height appropriate for individuals in wheelchairs as well as children and standing anglers. This is usually accomplished by using a guardrail with varying heights. The portion of the rail intended for anglers in wheelchairs must have an additional rail at deck level to prevent the front wheels on the chair from running off the deck when the angler pulls up to the rail.

The platform must be stable enough so that persons with impaired mobility are able to transit the pier without fear of being thrown off balance.

The approach to the pier must have a gradual enough slope so that persons with impaired mobility can comfortably access the pier in a wheelchair, or using a walker or cane. The pier should be located on a site that avoids conflict with boaters, water skiers, golfers and other activities.

With a floating pier, special care should be used to avoid locations where large wakes are likely to be created. These can cause uncomfortable bobbing or swaying of the structure. As with most recreational facilities, small children are expected to be accompanied by an attentive adult when using the pier.

Regular treatment with a waterproofing material should be performed to minimize cracking and splintering of the deck and rail surface.

The facility should be located in an area that is easily observed by law enforcement to reduce the chances of dangerous horseplay or vandalism.

Convenient

The location should provide nearly level access so that those who are mobility impaired can easily access the pier within a short distance from a vehicular drop-off point. There should be adequate parking nearby. The pier should accommodate standing, sitting and wheelchair bound anglers. It should be wide enough to permit two persons in wheelchairs to pass

comfortably. There should be adequate restroom facilities within easy reach of persons with impaired mobility. It should be easy to drive to over well maintained roads.

Productive

To be useful, the pier must provide a productive fishing experience for its users. Most anglers would be expected to use the facility during spring, summer and fall. During the spring and fall months when water temperatures are cool, fish tend to locate in shallower water, near shore. Many anglers, including children out of school and vacationers prefer to fish during the summer. During daylight hours at this time of year, game fish retreat to cooler, deeper water or water sheltered by vegetation or structures or along drop-offs.

To take advantage of this behavior, the pier should provide access to this type of water. It needs to be long enough to allow anglers to reach these deeper waters with a reasonable cast.

The pier itself will provide some habitat for game fish. Fish can be attracted to the vicinity of the pier by addition of underwater shelter such as sunken brush piles. Additionally, automatic, solar powered fish feeders which periodically spread floating fish food will attract smaller forage fish that in turn will attract larger game fish. Appropriate fisheries management procedures such as encouraging the observance of existing slot limits can increase the size of the average fish caught. By keeping some smaller fish, anglers can reduce the competition for food among the larger fish.

Comfortable

The pier can be made more comfortable for anglers by incorporating a few benches. Sections of the rail should be designed to accommodate anglers in wheelchairs. These provisions would include lower railing to permit sitting anglers to cast and reach over the railing, shelves on which to put angling supplies and barriers to prevent the front wheels from running off the deck.

Other sections of the railing should be high enough to accommodate standing anglers. Provisions should be made to permit anglers to use temporary shade such as brackets for beach umbrellas.

Attractive

To be attractive, the pier should blend well with the natural surroundings. The appearance should be understated, rather than bright and glaring. It should be something in which the community takes pride.

Pier Design

The primary requirements for the pier are that it be safe, convenient and productive. Some pier users are likely to have mobility challenges or be unsteady on their feet. Stability and a suitable guardrail are therefore essential.

The pier needs to be easily accessed by persons in wheelchairs or walkers. It needs to be compliant with Americans with Disabilities Act (ADA) requirements. Consequently, it must be adjacent to a gradual slope and have an even entry ramp near a suitable spot where anglers can be dropped off from vehicles. To be ADA compliant, the slope of the approach ramp to the pier can be not greater than 1" drop in 12". Its length can be no more than 30' before a landing is required.

A key requirement is that the pier affords anglers access to deep water. The pier must be long enough so that children and others with limited casting abilities can reach the deeper water with a cast of about 30 feet. Fit adult anglers should be able to cast 50 feet or more. Consequently, it must be located within these distances to deep water. This is generally considered to be between 6' to 8' deep.

Initially the workgroup focused on piers supported by fixed pilings. These offer the maximum stability. However, the pier must be long enough to reach deep water from a shoreline with gradual slope. This requires great length and construction in relatively deep water. These characteristics make fixed pilings very expensive because they must be driven into the bottom with a specially equipped barge. Based on a similar pier at Chris Greene Park in Albemarle County, the cost of a pier like this would be at least \$85,000.

Subsequently, the workgroup evaluated several floating pier designs. Six members of our working group, including one member who uses a wheelchair and walker, traveled to Apex Community Park in North Carolina where such a pier has been in service since late 2007. (See: Appendix, Fishing Pier at Apex Community Park)

We were very impressed with the features and stability of their pier. The pier was constructed from modules of two basic sizes, 16' x 8' and 16' x 11'. They were then floated into position and attached to the adjacent module with hinges. These hinges permit the modules to flex slightly relative to each other. The pier was built in a "T" shape with a base of 50' x 8' and a cross piece of 80' x 11'. The width of the modules contributes significantly to the stability of the pier. Several people can stand on one side of the pier without appreciable swaying or tilting.

It was built with prison labor at a cost of \$20,000 for materials. The relatively simple wooden construction appears to be within the capabilities of volunteer labor, while also meeting safety standards. Using volunteer labor further

reduces the overall cost. Good quality pressure treated lumber is the recommended building material. This material blends well with the surroundings.

The Apex Pier has guardrails with sections of high and lower top rails. This permits sitting and standing anglers to use it comfortably. It also has additional rails at the bottom to stop the small wheels on wheelchairs from running off the deck when an angler is seated in front of the rail.

A floating design would not appear to be suitable for a built-in overhead shade cover because of its reaction to strong winds. Provisions could easily be made for anglers to use their own beach umbrellas for temporary shade.

Based on a survey we conducted of the bottom of Tufton Lake, we recommend a T-shaped pier with a base of 80' x 8' which will permit anglers to reach deeper water and shaded, sheltered water with a reasonable cast. The cross piece should be 50' x 11'. This will provide ample space for wheelchairs to maneuver, a few benches and room for at least 6 anglers along the outer rail with 10' between them. The inner rail and 80' walkway also provide opportunities. (See: Appendix, Proposed Pier Design)

The pier will be secured to the shore at a concrete abutment that will also serve as an entry point. The pier will be prevented from drifting left or right with a pair of "spud" poles located at the outer corners of the pier and driven into the bottom. These can be driven in by hand once the pier is completed.

An entry ramp with suitable guardrails will extend from the existing blacktop road to the concrete abutment. The ramp will slope down to the pier at a rate not steeper than 1" drop for every 12".

Some have expressed concern over the safety of the pier for children. With the guardrail completely surrounding it, the pier would be safer than any existing dock facilities at the main lake which children frequently use today. These have no guardrails at all. Similar floating docks are in use at many public facilities in North Carolina. Virginia also has an active program of installing fishing piers at public lakes. As with all recreational facilities, it is advisable for adults to closely supervise its use by small children.

Based on first hand observation and the much lower installation costs, the working group chose the basic floating pier design used at Apex Community Park, adapted for use on Tufton Lake.

Site Location

Members of the working group surveyed LMOA records to identify LMOA owned waterfront property to be considered as potential sites for the pier (See: "LMOA Property in Fluvanna County", Meg Gore, updated 2/16/09). We identified fourteen such locations. These included all beaches, the marina, the main dam, river frontage on the Rivanna River, Tufton Lake, the pond adjacent to the 18th fairway and two other lots located on the main lake. Each of these sites was evaluated using weighted criteria.

During the selection process, ten criteria were developed upon which to evaluate each site. The criteria were each given a weighting factor based on the working group's consensus of how important the criterion was to the successful implementation of the pier. The weighting factors are shown in parenthesis, the larger the number the more important the criterion.

1. Availability of the site (5)
2. Sufficient space for the pier (5)
3. Proximity to productive water (5)
4. Accessibility on foot (4)
5. Vehicular access and parking (4)
6. Does not conflict with other users (4)
7. Convenient access to toilet facilities (3)
8. Manageability of the fishery (3)
9. Resistance to flooding or low water conditions (3)
10. Visibility to law enforcement (2)

Each criterion was defined and scoring guidelines were developed with a numeric score assigned based on the evaluation. This yielded a numeric index of relative site desirability. For example, definition and the guidelines for Availability of the Site were:

1. **Availability of the site** – There are no known intended uses for the site.

- a. The site is not available because of existing usage or other prohibition (0)
- b. The site has been allocated for another purpose in the future (1)
- c. There are others competing for the site for another use (2)
- d. Some may object to the site being used for the pier (3)
- e. The site is available and not likely to contend with other currently planned uses and is esthetically pleasing(4)

If a site was known to be allocated for another purpose in the future, the site was scored 1 on the "availability of the site" criterion. This score was then multiplied by the weighting factor for the criterion, in this example, 5. The result, 5 was then the weighted score for availability for the site. All ten criteria were similarly evaluated for each of the fourteen sites. The sum of

the weighted scores for a site was its Total Weighted Score. (See: Appendix, Site Evaluation Score Sheets and Site Evaluation Comments)

Finally, sites were ranked in order of their Total Weighted Score. The result of this scoring was:

Site Location	Total Weighted Score
Tufton Lake	144
Beach 2	139
Beach 3	104
Main Beach	96
Beach 5	96
Main Dam	78
Marina	74
Beach 4	71
18th Hole Pond	65
Riverside Rivanna River	41
Cherokee Rivanna River	41
Crofton Rivanna River	41
Wildwood Dr. & Thrush Ct.	21
Jackson Cove	0

On the basis of this evaluation, Tufton Lake was selected as the best site for the pier.

To determine the best location on the Tufton Lake shoreline, a survey was made using fish finders and a hand held GPS unit. The purpose was to map the bottom of the pond along the proposed shoreline (See: Appendix, Topographic Map of Tufton Lake). The result showed a pronounced drop-off which followed the northern shoreline at a distance of about 100 feet from shore. The drop-off is where the bottom changed depth from roughly 5' to about 9' over a short distance. Near the leaf disposal site gate this drop-off hooks sharply north. The pier should be located so that most anglers can reach the deep water on the outside of the drop-off and under the overhanging brush along the shoreline to the west (See: Appendix, Topographic Sketch of Tufton Lake with Proposed Pier and Satellite View of Tufton Lake).

The blacktop road from Jefferson Drive to the leaf disposal site provides good vehicular access to the site (See: Appendix, Tufton Lake Waterfront Section).

Coordination with the Lake Health Committee confirmed no conflict between a proposed dredging bulkhead at Tufton Lake and the pier.

Membership Questionnaire

To gauge membership reaction to the Community Fishing Pier, a questionnaire was prepared and distributed to the residents' curb cubby holes over the weekend of May 8 – 10, 2009. Members were given two weeks to respond. Approximately 3800 questionnaires were distributed and 232 responses or 6.1 % were returned by the deadline (See: Appendix, LMOA Member Questionnaire and Tabular Results – Community Fishing Pier Survey).

Over 73% of respondents thought the pier was an excellent or good idea. Nineteen percent did not think it was a good idea and less than 8% had no opinion.

Fifty three percent of respondents said they were either very likely or somewhat likely to use the pier and 47% said they were not likely to use it or would never use it. It is significant that many who were not likely to use it or would never use it thought it was, nonetheless a good or excellent idea.

Eighty eight people replied that children in their family would use the pier. Seventy one replied anglers without a boat in their family would use it. Fifty five of the respondents said elderly persons in their family would use it and 21 reported that handicapped members of their household would use it.

Of the respondents, 66 stated they would be very likely or somewhat likely to help with construction and 14 said they would help in other ways.

Five respondents replied they had considerable professional construction skills and were willing to volunteer. Four others reported some leadership experience. We should be able to draw experienced construction leadership from that group.

With regard to respondents' willingness to contribute money to the project, 228 responded to that question: 88 said they would contribute up to \$25; 27 would contribute up to \$50; 19 would contribute up to \$100; and 4 would contribute more than \$100. This invites the question of whether it is realistic to expect to raise enough money to complete the pier project. To answer this question, we estimated the amount of money represented by our sample and projected that amount over the entire Lake Monticello community.

We assumed that of those who said they would give up to \$25, the average donation or point estimate would be \$12.50. For the group who said they would donate up to \$50, we estimated the average donation would be \$37.50. For the group who said they would donate up to \$100 we estimated the average donation as \$75. Finally, for the group who said they would donate over \$100 we estimated the average would be \$200. The estimated total contribution from all respondents would then be \$4,337.50. The average donation would be \$19.02.

Estimated Return from LMOA Fundraising Campaign			
	Number	Point Est.	Extrapolated
Up to \$25	88	\$ 12.50	\$ 1,100.00
\$26 - \$50	27	37.50	1,012.50
\$51 - \$100	19	75.00	1,425.00
\$100 +	4	200.00	800.00
No	90	-	-
Total	228		\$ 4,337.50
Average per respondent			\$ 19.02
For 4100 households			\$ 77,998.90

For 4100 households that would yield \$77,998.90. Assuming it's only realistic to expect half that amount, it might be possible to raise \$38,999.45. Based on the results of the questionnaire, it appears possible to raise at least \$25,000 to build the pier.

Many replies included very positive comments. Several expressed questions:

- Some wanted more information about the project. Hopefully, this document will answer most of those questions.
- Some wondered why we didn't state a location for the pier in the questionnaire. Originally, the introduction to the questionnaire stated that the proposed location was Tufton Lake. As we went to press, an issue was raised regarding a potential limitation that might prohibit building it there. Since there wasn't time to thoroughly research the issue before distributing the questionnaire, it was decided to remove the reference to Tufton Lake and send out the questionnaire on schedule. Subsequently, it was determined that there is no applicable limitation to the use of the Tufton Lake location after all.
- Many wanted to know why we are financing it with voluntary contributions instead of LMOA funding or asking local businesses to pay for it. At the time the fishing pier idea was being developed, LMOA residents had just rejected a dues increase. Funding the project through voluntary contributions seemed a better idea, particularly in light of current economic conditions. Contributions from local businesses will also be sought. We envision asking nationally known businesses such as Bass Pro Shops to donate possible raffle prizes as well. However, it is not likely that such contributions will cover a great deal of the cost.

- Some wondered why we are adding a pier when fishing is already available at the lake. Fishing on the main lake is readily available to boaters and those with waterfront lots. However, it is severely limited for others such as non-boaters, children, the elderly and handicapped and those who do not live on the water.
- Some wondered what fishing rules would apply to fishing from the pier. Normal Virginia freshwater fishing rules will apply to the pier, including required fishing licenses. Rules and regulations would be enforced the same way they are now enforced on the main lake and Tufton Lake. There would be no additional usage fee. Access will be for residents and their guests.
- Some wanted to solve other problems around the community instead of building a pier. Certainly there are many worthwhile projects within the community that warrant attention. There are also other special interest groups such as golfers, gardeners, lovers of the arts and others who would prefer to spend their time and money on their interest areas. That is another reason why we chose to finance the project through voluntary contributions. If members feel positive about the fishing pier, they should contribute to it. If not, they won't be forced to contribute to its construction. The choice is theirs.

A couple of questions were asked by several respondents. These were:

1. How would the pier be maintained?

The answer is that once completed, the pier would be turned over to LMOA which will be responsible to maintain it. We believe that much of the maintenance can be performed by volunteers similar to the way the Lake Beautification Corps maintains many of the public areas around the community. In the worst case scenario, if LMOA paid for all the materials and labor to maintain the pier, and replace it within 20 years, it would cost each household in the community about \$0.46 per year.

2. What about safety and insurance?

We asked the LMOA General Manager to obtain a cost estimate for the additional liability insurance necessary to insure the pier and the workers who would construct it. The answer from the LMOA insurance carrier is that the lake carries a blanket liability policy to cover the pier and its builders. The additional premium to cover property insurance for the pier would be negligible.

On the safety issue, we consulted with the LMOA Safety and Security Committee to seek their comment and recommendations. They felt the proposed design and location were at least as safe as existing community facilities and needed no additional safety or security features. It's helpful to

remember that the pier will be completely surrounded by a guardrail, unlike existing public and private boat docks.

The proposed location on Tufton Lake is very visible from Jefferson Drive and law enforcement can easily view it during routine patrols.

There is no swimming permitted at Tufton Lake, nor will swimming be permitted at the pier. The addition of lifesaving rings was suggested by one respondent. There are no similar devices at any waterfront facility on the lake today. Furthermore, they would undoubtedly be targets for vandalism or pilferage and consequently not be available in the unlikely event they'd be needed.

VDGIF Assessment

On April 16th, 2009 Tufton Lake was assessed by the Virginia Department of Game and Inland Fisheries (VDGIF) with boat electro fishing to determine its suitability as a site for the Community Fishing Pier (See: Appendix, VDGIF Assessment). Key questions to be addressed were:

- 1. Does the pond have a large enough population of game fish to support a community fishing facility?*
- 2. What species of fish are found in Tufton Lake?*
- 3. Why do many people report that Tufton Lake is not a productive fishery during most of the year?*
- 4. What fisheries management steps should be taken to enhance the productivity of the pond?*

The assessment found that: "Tufton Pond offers a great location for a community fishing pier, but the current lake management strategies could be adjusted to potentially maximize the fisheries within the lake. The pond has an overabundance of small bass and low numbers of sunfish".

Largemouth bass was the predominant species of fish caught. The electro fishing catch rate of 261 bass per hour was seen as extremely high. However, 89% of the bass were less than 13 inches and were evaluated as skinny. This indicated competition for food and overcrowding. The sunfish (redeer and bluegill) catch rate was lower than expected. The sunfish were in the range of 8 to 12 inches which is very large for these species. The indication was that the bass were consuming most of the smaller sunfish and only the very large sunfish could survive.

A smaller number of black crappie, chain pickerel, creek chubsucker and gizzard shad were also collected. No catfish were found but this method of sampling generally does not collect catfish even though they may be present.

It is significant to note that the electro fishing was done along the brushy shore line across the lake from the present dock and the brushy shoreline

around the corner to the right of the picnic tables. Both of these areas are only practical to fish from boats. It is felt that this explains why most anglers who fish Tufton Lake from shore during the warmer months are unsuccessful.

Subsequent studies performed by members of the working group with a boat and fish finder located schools of fish along drop-offs that were nearly 100 ft. from the shoreline along the leaf disposal access road. This is well beyond the casting range of most fishermen.

VDGIF recommendations to improve the Tufton Lake fishery include; reducing the number of bass by harvesting smaller fish, stocking sunfish after the bass population has been reduced, use of an automatic fish feeder to feed the sunfish and attract them to areas accessible to anglers, stock channel catfish on an on-going basis and educate residents on the dangers of releasing non-resident fish into our waters.

On the basis of the VDGIF assessment, the overabundance of small bass in inaccessible locations at Tufton Lake would seem to be well suited to a fishing pier whose purpose is to provide anglers access to heretofore unreachable waters.

Optimizing Fishing Productivity

One of the advantages of choosing Tufton Lake as the site for the Community Fishing Pier is that its relatively small size (approximately 15 acres) permits much less expensive fisheries management techniques to optimize fishing productivity.

The VDFIG assessment showed that Tufton Lake is overpopulated with small largemouth bass. Many who have tried to fish along the shoreline there during the warmer months of the year may find that hard to believe. Last August, a "Kids Fishing Day" was held at Tufton Lake that attracted 30 young anglers. In a period of over two hours, a total of only four fish were caught. They were all large sunfish.

If Tufton Lake is overpopulated with bass, why weren't more caught during the "Kids Fishing Day"? We believe the answer is that the fish were not where the anglers were fishing. During warmer summer months when most anglers want to fish, the fish gravitate to cooler, deeper or shaded water. The mapping of the bottom contour we conducted in at Tufton Lake reveals the water is rather shallow along the easily accessed fishable shoreline. Generally it is 3 to 5 feet deep out to approximately 100 feet from shore. At that point, the bottom drops off rather quickly to 8 to 9 feet. These same surveys, conducted in May 2009 with fish finders and a GPS unit showed concentrations of fish along the deep side of the drop-off. The fish are in deeper water during the warmer months. One hundred feet from shore is well outside the casting range of most adult anglers, let alone children and consequently anglers can't reach the places where the fish gather during the warmer months.

The VDFIG assessment was conducted in mid-April 2009 when the water was much cooler. At this time of year, fish congregate in the shallows to spawn. The biologists concentrated on electro fishing along the brushy shorelines as close to shore as possible. While these areas are reachable by boaters, the brush makes them virtually impossible for shore fishermen to reach.

Fish can be attracted to the vicinity of the pier with fish habitat and automatic fish feeders. Brush piles can be placed near the pier. Biologists suggest the use of hardwood brush instead of Christmas trees to create the shelter. Christmas tree needles contain an acid that retards the growth of microorganisms that form the base of the food chain for small fish. Automatic, solar powered fish feeders can periodically spread floating fish food within casting distance of the pier. This will attract the sunfish and that will attract bass.

To increase the size of bass in Tufton Lake, anglers should be encouraged to harvest the smaller bass as recommended by VDGIF. This coupled with planting of additional sunfish will reduce bass competition for food.

Consideration should be given to stocking channel catfish as well. According to VDGIF, channel catfish would have to be stocked annually in Tufton Lake because it is considered too small to provide a self-sustaining environment for them.

The single greatest improvement that can be made to fishing productivity for shore anglers is to provide them a platform from which they can reach deep water along the drop-offs and brushy shoreline. It does not guarantee success but, it will improve the odds. This is the primary objective of the Community Fishing Pier.

Construction Cost

We estimate the cost of materials for the pier based on discussions we had with a member of the North Carolina Wildlife Commission and a representative from Follansbee Dock Systems, the vendor who supplied the specialized hardware used to assemble the Apex Community Center Pier. That pier is 1280 sq. ft. and materials cost \$20,000 in 2007. Our pier is estimated to be 1190 sq. ft. At the same cost per sq. ft. materials for our pier would run about \$18,600. Allowing for inflation and possible escalation in the cost of lumber, \$20,000 seems to be a reasonable estimate for materials. To allow for contingencies and professional services, we estimate cost for the pier to be \$25,000, exclusive of direct labor.

The Apex pier was constructed with prison labor. Presumably, we can't draw on that resource for our project. However, based on the results of the questionnaire we circulated in May 2009, we believe we can construct the pier with volunteers from the Lake Monticello Community. Responses to the questionnaire indicated willingness of many in the community to construct the pier as well as some with leadership experience to guide the work.

If constructed with volunteer labor, the pier could be built for about \$25,000.

Follansbee Dock Systems charges about \$4.50 per sq. ft. for labor to build pier modules at their plant site in West Virginia. If, for some reason the pier could not be constructed with volunteers, the construction could be contracted out. Using \$4.50 per sq. ft., times 1190 sq. ft. the labor cost would be \$5355. It is likely the cost of labor here is higher than at the Follansbee plant. Consequently, we estimate the labor as twice their cost or \$10,710.

In the worst case, if the volunteer construction approach fails and labor had to be contracted out, the pier could be built for about \$36,000 (\$25,000 materials plus \$10,710 labor).

Permits/Approvals

On June 23, 2009 a meet was held between the chairman of the Community Fishing Pier Working Group; Roger Black, Fluvanna Site Inspector; John Korhonen, Ron Shields and Marty De Carlo to identify what, if any permits would be required from Fluvanna County to build the pier. Mr. Black informed us that no county site permit was required because it is constructed on water. He further stated that no Erosion and Soil Control Plan would be required as long as no grading or significant disturbance of nearby soil was performed. Post holes are not considered significant disturbance of the soil. He further described how the abutment to anchor the pier could be installed within these limits. Consequently, the pier can be constructed without county permits or Erosion and Soil Control Plan.

We queried Nora Iseli of the US Army Corps of Engineers to see if it is necessary to file a Joint Permit Application (JPA) with the Virginia Marine Resources Commission (MRC) for the pier. We were informed that "As long as no fill material is placed in the water body (including wetlands) and the deck of the pier is elevated over any wetlands and does not serve the purpose of or act as fill material, no permit is required from this office." (See: Appendix, Letter from US Army Corps of Engineers, re: Corps Project Number NAO 2009-01620 (Lake Monticello Settlement Pond)).

An ECC Miscellaneous Application must be filed with the Lake Monticello Environmental Control Committee. The ECC charges \$55 to process the application. They must approve the project and perform an inspection of the completed pier. Because the pier will extend more than 8 feet from the shore, the ECC Compliance Administrator requested that the Board of Directors grant a waiver to permit construction. (See: LMOA Policy manual, Section VI.A.1)

The Lake Preservation Committee plans to build a dredging off-load bulkhead along the shoreline at Tufton Lake in the vicinity of the proposed pier site. These two projects can be implemented without conflict.

Fund Raising

The overall strategy to fund the pier is to solicit voluntary contributions from the Lake Monticello membership. Recent efforts to pay for community projects through dues increases have been challenging. Rather than asking all members to fund the pier it was decided to seek financial support from those who recognize the need and feel deeply enough about the pier to contribute both time and money. This strategy extends to actual construction and maintenance, where possible. Current estimates for the cost of materials are about \$25,000. Based on responses to the questionnaire distributed in May 2009, we believe it will be possible to raise up to about \$39,000.

We propose to raise these funds using various approaches:

- First, we will make an appeal to all members through direct mail. We propose to include a description of the project and a pledge letter in the fall 2009 issue of the Lake Monticello Newsletter. We plan to respond to pledges with personalized contacts. In cooperation with the LMOA Communications Manager, this appeal will be preceded by an article in the Fluvanna Review and "This Week at the Lake" on channel 10. We plan to respond to pledges with personalized contacts.
- Second, we will organize a banquet with entertainment and raffle prizes. Donations will be sought from local businesses and nationally known businesses for door prizes and monetary contributions. Contacts have been made with local talent who has agreed to help with the entertainment.

We have already contacted a local service club which has indicated willingness to contribute. We intend to contact other similar organizations with appeals.

There are also other fund raising possibilities such as golf tournaments, fishing events, and silent auctions.

Specifics for how the monies will be collected and accounted for are under negotiation. Our intent is to record contributions so that they can be returned to the donor if insufficient funds are collected to complete the project.

Donations to the pier and to LMOA are not tax deductible for the donor. (See: LMOA Policy Manual, Section 15.06)

Maintenance Cost

Once completed, ownership of the pier will be turned over to LMOA. Consequently, LMOA will be responsible for maintenance. The Maintenance Supervisor at Apex Community Center reports the only routine maintenance performed on the pier is an annual inspection to ensure all fittings are tight and there are no safety hazards. They estimate a useful life of around 20 years.

Material Costs

It is recommended that the pier at Tufton Lake be painted with a waterproofing deck finish such as Olympic Maximum at least every two years to lengthen the life of the wood decking and reduce splintering. The proposed pier has approximately 2,400 sq. ft. of surface, including rails and benches. The waterproofing material covers approximately 300 sq. ft. per gallon. It would therefore, take 8 gallons to cover the pier. At \$30 per gallon, the cost of waterproofing would be approximately \$240 per biannual application or \$120 per year.

With a cost of materials of \$25,000 and a life expectancy of 20 years, the replacement cost of the pier materials would be \$1250 per year. The manufacturer of the floats provides a 15 year warrantee.

Total cost of maintenance materials is \$1250 plus \$120, or \$1370 per year. With approximately 4100 households in the community that would cost each resident less than \$0.34 per household per year.

Labor Cost

Our objective is to maintain the pier with volunteer labor at no cost to LMOA. If this is not possible, John Korhonen, the LMOA General Manager estimates that painting, board replacement and inspection could be accomplished for not more than \$500 per year.

Total Cost of Maintenance

Based on these estimates, the total cost of materials and contracted labor, if needed would be approximately \$1870 per year, or about \$0.46 per household per year. This maintenance program is more comprehensive than that for other outdoor facilities in the community.

Coordination

Considerable effort was made by the working group to consult with, inform and coordinate the plans for the pier with all known authorities and interested parties. This included the following individuals and organizations:

- LMOA Board of Directors
- LMOA General Manager
- LMOA Director of Business Management
- LMOA Director of Solicitation & Contracts
- LMOA Communications Manager
- LMOA ECC / Compliance Administrator
- LMOA Maintenance Supervisor
- LMOA Legal Counsel
- LMOA Buildings, Roads and Grounds Committee
- LMOA Finance Committee
- LMOA Golf Committee
- LMOA Lake Preservation Committee
- LMOA Planning Committee
- LMOA Safety and Security Committee
- LMOA Storm Water Management Committee Chair
- Rivanna Lions Club
- Professional Engineer, Dan Suggs
- Capital Outlay Program Manager, VDGIF
- Fisheries Biologist, VDGIF
- Fluvanna County Director of Parks and Recreation
- Fluvanna County Site Inspector
- Virginia Marine Resources Commission
- US Army Corps of Engineers
- Park Maintenance Manager, Apex Community Park, N.C.
- Division of Inland Fisheries, N.C. Wildlife Resources Commission
- Representative, Follansbee Dock Systems