US Army Corps
of Engineers

Nashville District

DRAFT ENVIRONMENTAL ASSESSMENT
Gregory Mill Recreation Area
Lease to Town of Smyrna, Tennessee

October 2003

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1. INTRODUCTION.

1.1. Study Authority. The J. Percy Priest project was authorized for flood control and hydropower purposes under the Flood Control Act of 1938. The project was modified under guidance contained in Senate document No. 97, 87th Congress, 2nd Session to include recreation as a benefit based on revised standards for recreation. The currently authorized project purposes are recreation, flood control, hydroelectric power production, and fish and wildlife management. The Town of Smyrna, Tennessee, has requested permission to lease and develop public recreation facilities in the Gregory Mill area of J. Percy Priest Lake. This Environmental Assessment is being prepared in accordance with ER 200-2-2, Procedures for Implementing NEPA.

1.2. Background. The Nashville District has received a lease request from the Town of Smyrna, Tennessee, to utilize the Gregory Mill Recreation Area for public park and recreation purposes. Stewart Creek flows through the recreation area that is part of J. Percy Priest Dam and Reservoir Project. The existing recreation area totals approximately 45 acres along Enon Springs Road and contains a comfort station, 27-space parking area, and 10 picnic sites. The Town of Smyrna proposes to construct facilities including picnic shelters, restrooms, walking trail, historical displays, pedestrian bridge over Stewart Creek and the raceway channel, fishing piers, canoe access, group camping area, and a park office/maintenance area. In a separate action, independent of the findings of this EA, the Town proposes to develop the area as a major trailhead for their Greenway System. Approximately 1.55 acres of the area is currently leased to the Tennessee Wildlife Resources Agency (TWRA) for operation and maintenance of the Gregory Mill Dam.

1.3. Purpose and Need. The recreation area contains the Gregory Mill site, designated as site 40Rd95 in the files in the Tennessee Division of Archaeology. The site is considered eligible for listing on the National Register of Historic Places. Previous archaeological testing of the immediate mill area determined there is a high potential that undisturbed areas within the site contain archaeological deposits associated with the use of the site as a mill in the late 19th and early 20th Centuries. Archaeological testing further concluded that additional development of the

site may have an adverse effect on this historic property or the components thereto. Therefore, formal consultation with the Tennessee State Historic Preservation Officer (SHPO) is required.

1.4. Coordination. A Scoping Letter was issued to all known interested parties and agencies in October 2002. The Scoping Letter and comments received are included in Appendix A. This EA is being coordinated through all pertinent state and federal agencies. Non-government organizations (NGOs) and members of the public known to be interested in this action will also be notified of the availability of the EA and will have an opportunity to comment.

2. ALTERNATIVES CONSIDERED.

2.1. General. Three alternatives have been identified and are considered under this EA. These alternatives are 1) granting the requested lease, 2) granting the request with special conditions, and 3) denial of the request (No Action).

2.2. Granting the Requested Lease. This alternative would allow the Town to fully develop the area as described in the Town of Smyrna's Draft Five Year Development Plan for Gregory Mill Park.

2.3. Granting The Request With Special Conditions. This alternative would grant the lease request as described in the Town of Smyrna's Draft Five Year Development Plan for Gregory Mill Park. However, it would impose special conditions such as avoidance or minimization of impacts in areas with historic remains.

2.4. No Action. A No Action decision would deny the lease request and would maintain the status quo.

2.5. Environmental Commitments, Permits, Approvals, and Compliance.

Sections 401 and 404 of the Clean Water Act. Section 404 permits would be required if any work is done in Stewarts Creek. In addition, Section 401 Water Quality Certification would be required from the State of Tennessee before any stream modifications could proceed. At the moment, however, no work is planned that would require either Section 404 or Section 401 permitting.

National Pollutant Discharge Elimination System (NPDES) Stormwater Permit. An NPDES Stormwater permit would be required for the Town of Smyrna to proceed with either Alternative 1 or 2 as more than 1 acre will be developed.

Fish and Wildlife Coordination Act. A Fish and Wildlife Coordination Act Report is required and the U.S. Fish and Wildlife Service (USFWS) has been consulted.

National Historic Preservation Act. The State Historic Preservation Officer (SHPO) of Tennessee has been consulted and the effects of the proposed project on historic properties will be taken into account.

Endangered Species Act. Although there are a number of Threatened and Endangered Species in Rutherford County, none are known to exist in the project area. In response to the Scoping Letter, the U.S. Fish and Wildlife Service stated on December 3, 2002, that "No significant adverse impacts to wetlands or federally listed endangered or threatened species are anticipated from this proposal." All of the alternatives, therefore, support a No Effect determination.

Resource Conservation and Recovery Act. All alternatives are in compliance with the Resource Conservation and Recovery Act (RCRA).

Comprehensive Environmental Response, Compensation, and Liability Act. No Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites were identified within any of the project boundaries.

Farmland Policy Protection Act. No agricultural lands or Prime and Unique Farmlands are located in the project areas.

Executive Order 11988 - Floodplain Management. None of the alternatives considered will increase the risk of a "base flood".

Clean Air Act Conformity Rule Currently Rutherford County and the Town of Smyrna are in attainment areas with regard to the National Ambient Air Quality Standard (NAAQS). None of the alternatives would have more than a very minor effect on air quality.

Executive Order 12898 - Environmental Justice. None of the alternatives would have a disproportionate impact on minority or low-income populations.

2.6 Tables. Table 1 shows the environmental and economic impacts associated with each alternative. Table 2 depicts the status of the environmental commitments and necessary permits and approvals. Table 3 evaluates the occurrence of possibly significant impacts.

Env. and Economic Impacts	Grant Lease	Modified Lease	Deny Lease
Forest Resources	Minor Negative	Minor Negative	None
Wildlife Resources	Minor Negative	Minor Negative	None
Aquatic Resources	None	None	None
Shoreline Erosion	None	None	None
Economics	None	None	None
Wetland Impacts	None	None	None
Water Quality – Short Term	Minor Negative	Minor Negative	None
Water Quality – Long Term	None	None	None
T & E Species	None	None	None
Cultural Resources	Minor Negative	Minor Negative	None
Environmental Justice	None	None	None
Air Quality	None	None	None
Noise	None	None	None
HTRW	None	None	None
Flood Damage Reduction	None	None	None
Aesthetics	None	None	None
Public Facilities	Minor Positive	Minor Positive	None
Public Services	None	None	None
Employment	None	None	None
Tax Values	None	None	None
Property Values	None	None	None
Community Cohesion	None	None	None
Displacement of People	None	None	None
Displacement of Businesses	None	None	None
Disrupt of Comm. Growth	None	None	None
Disrupt of Regional Growth	None	None	None
Recreation	Positive	Positive	None
Safety	None	None	None

Table 1 - Environmental and Economic Impacts

Environmental Commitment, Permit, or Approval	Status
Section 404 of the Clean Water Act	Not Applicable
NPDES Stormwater Permit	To Be Obtained Before Construction
Fish and Wildlife Coordination Act Report	In Process
Cultural Resources Coordination	Complete
Endangered Species Act	Not Applicable
Resource Conservation and Recovery Act	Not Applicable
CERCLA	Not Applicable
Farmland Policy Protection Act	Not Applicable

Table 2 – Environmental Commitments, Permits, or Approvals

Environmental and Economic Impacts	Grant Lease	Modify Lease	Deny Lease
1) Will the alternative cause any significant effects, either beneficial or adverse?	No.	No.	No.
2) Will the proposed alternative significantly affect public health or safety?	No.	No.	No.
3) Will the proposed alternative affect any unique characteristics of the geographic area, such as proximity to historic or cultural resources, parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?	No.	No.	No.
4) Is the alternative likely to be highly controversial?	No.	No.	No.
5) Are there any significant possible effects on the human environment that are highly uncertain or involve unique or unknown risks?	No.	No.	No.
6) Will the alternative establish a precedent for future actions with significant effects or does it represent a decision in principle about a future consideration?	No.	No.	No.
7) Is the alternative related to other actions with individually insignificant but cumulatively significant impacts?	No.	No.	No.
8) Will the alternative have a significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss of significant scientific, cultural, or historical resources?	No.	No.	No.
9) Will the alternative adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973?	No.	No.	No.
10) Does the alternative risk a violation of Federal, state, or local law, or requirements imposed for the protection or the environment?	No.	No.	No.

Table 3 – Determination of Significance of Alternatives

3. ENVIRONMENTAL SETTING (Baseline Conditions).

3.1. General. J. Percy Priest Reservoir was one of six flood control reservoirs recommended for the Cumberland River and tributaries. Land acquisition for the project began in February 1963, and the dam was first closed on September 18, 1967. Gregory Mill is a 45-acre site that is located at an old mill site on Stewart Creek in Smyrna, Tennessee. It is upstream from normal pool effects of the lake and was allocated for public use upon recommendations of the US Fish and Wildlife Service (FWS) and the Tennessee Wildlife Resources Agency (TWRA). TWRA was to maintain the milldam to prevent movement of undesirable reservoir-type fish into the upper stream sections and to maintain a tailwater fishery. A comfort station, paved parking lot accommodating 27 cars and 10 picnic sites have been constructed.

3.2. Overall Forest and Vegetative Conditions. The Gregory Mill site is largely covered in mature hardwood trees. Typical species include maple (*Acer spp.*), hickory (*Carya spp.*), elm (*Ulmus spp.*), oak (*Quercus spp.*), and yellow poplar (*Liriodendron tulipfera*). As can be seen in Aerial Photo 1, the site is a virtual oasis surrounded in an area fully developed for residential housing and commercial businesses. Many exotic species such as common privet (*Ligustrum vulgare*), Japanese honeysuckle (*Lonicera japonica*), and low bush honeysuckle (*Diervilla lonicera*) are present, particularly in the understory.

3.3. Overall Wildlife Habitat Conditions. The site supports and provides refuge to a variety of species including many species of neotropical songbirds and small mammals. Examples include the Eastern cottontail rabbit (*Sylvilagus floridanus*), squirrels (*Sciurus spp.*), raccoon (*Procyon lotor*), opossum (*Didelphus marsupialis*), and woodchucks (*Marmota monax*). Occasionally foxes (*Vulpes spp.*) and deer (*Odocioleus virginianus*) have also been seen in the park.

3.4. Water Quality. Substances that harm plant or animal life in an ecosystem are considered to be pollutants. Pollutants may be natural, such as soil, minerals, or animal wastes, or manmade, such as PCBs or pesticides. A substance is not considered a pollutant until the concentration is great enough to harm plants and animals in the ecosystem. The Tennessee Department of Environment and Conservation has determined that the upper portion of Stewart Creek is a high quality stream and serves as a reference stream for subecoregion 71i. However, the lower portion is only partially supporting of aquatic life. This is primarily due to excessive siltation together with high nutrient levels and habitat alterations.

3.5. Air Quality. Currently the site is in an attainment area with regard to the National Ambient Air Quality Standard (NAAQS).

3.6. Threatened or Endangered Species. Several Federally listed Threatened or Endangered Species or Species of Management Concern exist in Rutherford County, Tennessee. The relatively high number of species is primarily a result of the fragile cedar glade ecosystems that occur there. Species listed by the Fish and Wildlife Service as Threatened, Endangered, or

Candidate Species are the gray bat (*Myotis grisescens* (E)), the tan riffleshell (*Epioblasma walkeri* (E)), the yellow-blossom pearly mussel – (*Epioblasma florentina florentina* (E)), the Tennessee purple coneflower (*Echinacea tennesseensis* (E)), the leafy prairie clover (*Dalea foliosa* (E)), Guthrie's ground-plum (*Astragalus bibullatus* (E)), the large rock cress (*Arabis perstellata var. ampla* (E)), Shorts bladderpod (*Lesquerella globosa* (C)), and Pyne's ground plum (*Arenaria cumberlandensis* (E)). In addition, the following species have been identified as Species of Management Concern (SOC). These species have the potential to be listed as endangered or threatened but currently have no legal protection under the Endangered Species Act. The Alleghany (Eastern) woodrat (*Neotoma magister* (*N. floridana m*.) (SOC)), the Tennessee cave salamander (*Gyrinophilus palleucus* (SOC)), the water stitchwort (*Arenaria fontinalis* (SOC)), the Stone's River bladderpod (*Lesquerella stonensis* (SOC)), the cleft phlox (*Phlox bifida var. stellaria* (SOC)), and the Eastern blue star - *Amsonia tabernae-montana var. gattingeri* (SOC)).

3.7. Wetlands. The possible project site was examined for jurisdictional waters of the U.S., including wetlands, through a combination of in-house research and field investigations. In-house research included a review of published information sources such as U.S. Geologic Survey 7.5-minute quadrangle topographic maps and NRCS soil survey maps. Subsequent to the in-house review, the site was examined using the Routine On-Site Determination Method as defined in the 1987 Corps of Engineers Wetlands Delineation Manual. This method uses a multi-parameter approach, which requires positive evidence of three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. No jurisdictional wetlands were found on the sites.

3.8. Aquatic Habitat. As stated above, the upper portion of Stewart Creek is a high quality stream and fully supports all of the uses that people want to make of it. Examples include swimming, drinking supply, fishing, wading, and wildlife observation. However, the downstream portions of the creek, including the area encompassed by Gregory Mill, only partially supports those uses. This is primarily due to excessive siltation together with high nutrient levels and habitat alterations. As J. Percy Priest Lake was being planned, the U.S. Fish and Wildlife Service (FWS) and the Tennessee Wildlife Resources Agency (TWRA) recommended that the Gregory Mill dam be maintained to prevent movement of undesirable reservoir-type fish into the upper stream sections and to maintain a tailwater fishery. Over the years, however, the dam has been both breached and over-topped during floods and rough fish have migrated above the dam.

3.9. Environmental Justice. Executive Order 12898 requires that extensive outreach and opportunity for involvement will address concerns of all communities and that minority residents and low-income residents are not disproportionately affected by potential adverse health and environmental effects from proposed actions. The US 2000 Census identified Rutherford County as being 85.7% white, more than 5% greater than the Tennessee overall population of 80.2%. Demographic information indicates that the City of Smyrna is 98.44% white. All of the areas surrounding Gregory Mill are developed as either middle-class subdivisions or commercial properties. None of the surrounding areas contain a significant minority or low-income population that would be affected.

3.10. Socioeconomics. A variety of businesses including industries, retailers, transportation, finance, and agriculture reside in or near Smyrna. Some of the larger industries include, Better Built Aluminum, Cumberland Swan, and Square D. The economy of Smyrna prospered during the 1970's and 80's following the construction of the Nissan automobile plant, the largest automobile manufacturing plant under one roof. Nissan employs approximately 6,000 workers. The availability of ample utilities and supporting major transportation facilities (air, road and rail) makes Smyrna an attractive location for business and industry.

3.11. Cultural Resources. Gregory Mill (40Rd95), located within the larger context of the Gregory Mill Recreation Area, is considered eligible for listing on the National Register of Historic Places. Previous cultural resource investigations of the property were restricted to areas immediately adjacent to the sites' remaining structural features – the dam and millrace and possible remains of the mill. Development of the larger site area required implementation of an archeological survey in sufficient detail to determine if intact, significant, archeological resources are present in areas of the site that will be directly or indirectly affected by site development. Previous investigations concluded that on-going impacts from the combination of fluctuating water levels, site visitation, and erosion were impacting the dam and millrace. Development could potentially increase visitation and further contribute to that impact.

The archeological contractor for the city of Smyrna, DuVall & Associates, Inc., conducted an archeological survey of the project area exclusive of the immediate area of the milldam, millrace and possible associated archeological components. The DuVall survey identified four additional site indicators, all representing historic period features or occupations. Two locations were assigned sites numbers, 40Rd269 and 40Rd270. Neither of these sites was considered significant nor eligible for listing on the National Register.

3.12. Noise. Smyrna can be generally described as urban or suburban with most of the noise coming from local traffic. No areas of high noise levels were noted in or near the proposed project area.

3.13. Hazardous, Toxic, or Radioactive Waste. Some concern was expressed that the existing restroom facilities could have either asbestos or lead paint present. Asbestos-Containing Material/Lead-Based Paint Survey was performed by PDR Engineers, Inc. on 12/2/02, and determined that the built-up asphalt roof (approximately 245 sq ft) contained 5% chrysolite asbestos. Hazard assessment for this material was considered low.

3.14. Recreation. Gregory Mill receives a moderate amount of visitation all year. In Fiscal Year 2002, the total visits by the public were estimated to exceed 30,000. Visitation primarily consisted of sightseeing, picnicking, and fishing.

4. ENVIRONMENTAL IMPACTS.

4.1 General. Public Law 91-611, Sec. 122, directs Federal agencies to take a number of factors under consideration when preparing Environmental Impact Statements or Environmental Assessments. These factors include, air, noise, and water pollution, destruction or disruption of man-made and natural resources, esthetic values, community cohesion and the availability of public facilities and services, adverse employment effects and tax and property value losses, injurious displacement of people, businesses, and farms, and disruption of desirable community and regional growth. Other items such as environmental justice, wetlands, and cumulative effects are included in the Council on Environmental Quality regulations, Engineering Regulations, Executive Orders, later Acts and Laws, and so on. Many of these factors were not impacted by the alternatives considered and are, therefore, not discussed in detail. Other factors would receive minor impacts, but are best incorporated in the sections below. All of the factors have been considered to some degree.

4.2. Forest and Vegetation. Alternative 1, granting the lease and Alternative 2, granting the lease with conditions would result in some loss of the forest and understory as areas were cleared to make room for the planned facilities. If an effort were made to remove exotic species and encourage native plants these alternatives may have a net beneficial impact on the vegetation of the area. Alternative 3, No Action, would have no effect on the forest or vegetation.

4.3. Wildlife Habitat. Alternatives 1 and 2 would see further development in an area that is already heavily developed. In addition, additional use of the area by people would also discourage its use by wildlife. As the area is small and is already used by local recreators the net effect, although negative would be minor. No Action would not have an effect on wildlife habitat.

4.4. Water Quality. Construction during implementation of either Alternative 1 or 2 would likely have a minor negative impact on water quality. In the long term, however, none of the alternatives would have an impact on water quality.

4.5. Air Quality. Short-term air quality impacts due to equipment emissions during construction of either Alternative 1 or 2 would tend to be localized and would be below deminimus levels. None of the alternatives would have a long-term effect on air quality.

4.6. Threatened or Endangered Species. Although there are a number of Threatened and Endangered species in Rutherford County, none are known to exist in the project area. In response to the Scoping Letter, the U.S. Fish and Wildlife Service stated on December 3, 2002, that "No significant adverse impacts to wetlands or federally listed endangered or threatened species are anticipated from this proposal." All of the alternatives, therefore, support a No Effect determination.

4.7. Wetlands. No wetlands have been identified on the proposed sites. None of the alternatives, therefore, is expected to have an impact on wetlands.

4.8. Aquatic Habitat. Alternatives 1 and 2 may have some minor short-term impacts during the construction phase, however, Best Management Practices (BMPs) would control the impacts. The impacts would be limited to the construction period. After construction, the project area would be stabilized and would no longer be contributing to the sediment load. The No Action alternative would have no short-term impacts. In the long-term, none of the alternatives would have an impact.

4.9. Environmental Justice. None of the alternatives would have a disproportionate effect on minority residents or low-income populations.

4.10. Socioeconomics. Alternatives 1 and 2 may have minor positive effects on local businesses including fast food restaurants and convenience stores. Improved fishing, picnicking and camping opportunities may also have minor effects on the local sale of sporting goods. There would be no significant effects from any of the alternatives.

4.11. Cultural Resources. Development of the Gregory Mill site will have an effect on an historic property, site 40Rd95. Although the millrace component of site 40Rd95 has been significantly altered by erosion and other factors that have caused portions of the millrace to collapse, the site, including a likely archeological component associated with the former mill building and the milldam, has enough remaining integrity to qualify it for National Register eligibility. Erosion of the site appears related to past flood events, vegetative undermining of the millrace walls, and pedestrian use of the area for viewing and fishing. The proposed development will focus the use of the recreation area in specific locations that will decrease the potential adverse effect of pedestrian use. Fishing piers are proposed along Stewart Creek, two within the pool area above the milldam and one below the dam and millrace. Two pedestrian bridges and a walking bridge are proposed that cross the millrace, one near the middle and one at the downstream end, and Stewart Creek below the mill dam. The first bridge, a walking bridge, will provide a focused view of the millrace, and if combined with appropriate signage, should serve to limit pedestrian presence along and adjacent to the remaining millrace walls. The second bridge crossing the millrace, part of a greenway trail traversing the recreation site, provides access to the island area formed by the millrace and Stewart Creek. Archeological survey indicated the island area is devoid of any cultural remains. The bridge over Stewart Creek serves to continue the greenway to areas on the opposite bank. The bridges will be constructed in a manner that avoids potential impacts to the archeological and millrace components of site 40Rd95.

The Corps is of the opinion that with conditions, the effect of the proposed development of the Gregory Mill site will not be adverse. Those conditions include the use of focused activity areas, such as fishing piers and picnic areas, away from the significant remains of the millrace and potential archeological components of 40Rd95; construction of bridges over the millrace that avoid potential impacts, and that secondarily serve to focus pedestrian use of the site area to specific locations for viewing; and, use of appropriate signage to both inform visitors of the significant nature of the site's historic features and warn users of the potential damage they may

cause. The millrace, in the absence of a significant effort to stabilize eroding areas, is unstable and may present a safety issue that could also be addressed with appropriate signage. The Tennessee State Historic Preservation Officer has concurred in these findings.

4.12. Noise. The No Action alternative would not have a direct impact on noise. The other proposed alternatives would have only short-term adverse impacts on noise levels due to construction activities associated with the project. These impacts would be insignificant against normal background street noise. After construction was completed there would be no significant difference between any of the alternatives.

4.13. Hazardous, Toxic, or Radioactive Wastes. No HTRW elements are known to exist on the site. None of the proposed alternatives would generate or release hazardous, toxic, or radioactive wastes.

4.14. Recreation. Recreational visits to the park are currently estimated to exceed 30,000 per year. Alternatives 1 or 2 would increase visitation and improve recreational opportunities at the site by adding camping, walking, picnic shelters, historical displays, canoe access and more. The No Action alternative would simply maintain the status quo.

4.15. Cumulative Effects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the (proposed) action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions (40 CFR 1508.7)". Council for Environmental Quality (CEQ) guidance identifies an 11-step process for evaluating cumulative effects.

The assessment can be defined as "what resource goals is the proposed action going to affect". Effects can result from either direct-project related, indirect-project related, and independent indirect causes. Based on the public and agency scoping and review performed for the previous NEPA documents conducted for this project, the following resources have been identified as target resources within the assessment goals: recreation, cultural and historic resources, riparian habitat, aquatics, and water quality.

4.15.1. Cumulative Effects Assessment Boundaries. The geospatial boundary of this analysis is the Gregory Mill Recreation Area and the Stewart Creek basin. The temporal boundary extends from 1968 (the impoundment of J. Percy Priest Lake) to 2050.

4.15.2. Recreation. Public lands for recreation have become increasingly popular over the years. As the population increases and individual leisure time also increases, the demands made on public lands can be expected to increase. There will also be a greater demand for more diverse forms of recreation. Alternatives 1 and 2 are an attempt to proactively anticipate the future needs of the public and would provide more recreational opportunities for a greater number of people than the No Action alternative.

4.15.3. Cultural and Historic Resources. The Gregory Mill site, including the dam and millrace, in the absence of a significant effort to stabilize eroding areas, will continue to deteriorate. Use of focused activity areas, such as fishing piers and picnic areas, away from the significant remains of the millrace and potential archeological components of 40Rd95, construction of bridges over the millrace that avoid potential impacts, and that secondarily serve to focus pedestrian use of the site area to specific locations for viewing, and, use of appropriate signage to both inform visitors of the significant nature of the site's historic features and warn users of the potential damage they may cause, serve to ameliorate long term and cumulative impacts of the site's development.

4.15.4. Cumulative Effects on Riparian Habitat. The riparian habitat along Stewart Creek has largely been removed. Prior to the impoundment of J. Percy Priest Lake the area was primarily agricultural, and even then fields were pushed as close to the streambank as was possible. Since the lake was impounded, and, in part because of the lake, Smyrna has seen a great deal of growth since 1968. Although there are still some agricultural fields adjacent to the creek, most of the area has been developed into residential subdivisions. In these areas virtually all of the natural riparian habitat has been removed and replaced by lawns that are mowed to the water's edge. This, in turn, has limited natural wildlife corridors and contributes to the impairment of the water quality. It is anticipated that as Smyrna continues to grow this trend will continue and more and more agricultural fields will be converted to residential communities. Although none of the alternatives will affect this trend, neither will they contribute to it. All of the alternatives will effectively maintain this oasis within the surrounding area of suburban development.

4.15.5. Aquatics. The aquatics have been greatly affected by man since the impoundment of J. Percy Priest Lake. Increasing pollutants in the form of siltation and nutrients together with the loss of riparian buffers has impaired water quality to the point that the creek no longer fully supports the aquatic environment. Although the milldam was left in place to prevent rough fish from migrating upstream, dam failures and over-topping of the dam during flood conditions soon overcame this obstacle and the undesirable fish are now found above the dam. In addition, the area below the milldam is now stocked with trout, albeit only on a put-and-take basis and during winter months. In the foreseeable future it is unlikely that conditions would ever revert to pre-impoundment conditions, however, if water quality can be restored enough for the creek to be removed from the §303(d) listing it is possible that the aquatic habitat would see some marginal improvements. To that end, preserving the riparian and aquatic corridor within the park area will contribute in a small way to that improvement. Although there is the possibility that some of the construction involved in either Alternative 1 or 2 could have temporary, minor negative effects, they would also entail the potential for public educational opportunities, which would offset the negative impacts. All of the alternatives would sustain the preservation of this area.

4.15.6. Water Quality. As noted above, the water quality of Stewart Creek has suffered since 1968, particularly in the lower reaches of the creek, due to increasing urbanization and development in the basin. The upper reaches, however, still fully supports all uses of the stream and even serves as a reference stream for subecoregion 71i. Although similar urbanization and development is expected to continue throughout the Stewart Creek basin, the enforcement of

BMPs on developers should slow the impacts of future growth. Furthermore, as water quality programs are implemented there is hope that the stream may someday be removed from the §303(d) list. None of the alternatives would have a significant effect on the overall water quality of the creek.

5. CONCLUSIONS. None of the alternatives would have a significant impact on the human environment as defined by the National Environmental Policy Act. Alternative 1 would allow the area to be fully developed in accordance with the town's five-year plan and would provide for increased recreational opportunities, but makes no provisions for the protection of the fragile cultural remains at the milldam. Alternative 3, No Action or denial of the lease would preclude further development in the area, limit recreation, and maintain the status quo. Alternative 2 would also allow the area to be developed in accordance with the town's five-year plan and would provide for increased recreational opportunities, but would impose certain conditions on the lease for the protection of the cultural remains at the milldam. Alternative 2 provides the greatest benefits while providing the necessary protection to the resources. Alternative 2 is, therefore, the environmentally preferred plan.

APPENDIX A

CORRESPONDENCE