WATERSHED IMPLEMENTATION PLAN

TURKEY CREEK

City of Gulfport, Harrison County, MS

Prepared in collaboration with:
Turkey Creek and North Gulfport community partners

Sponsored by:

With funding assistance from EPA, Region IV

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Submitted October 16, 2006

Turkey Creek Watershed Implementation Plan
October 2006

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Turkey Creek Watershed Implementation Plan

EXECUTIVE SUMMARY

In 2003, community leaders in the Turkey Creek Watershed approached the Land Trust and District IV, Harrison County Board of Supervisor, William Martin, about their desire to highlight the benefits of the Creek by creating a greenway. In 2004, a Turkey Creek Greenway Coalition was formed and the Land Trust for the Mississippi Coastal Plain (LTMCP) began a series of forums funded in part by Harrison County Board of Supervisors and EPA Region IV to gauge community support for a greenway and to determine other environmental issues residents considered important. (See Appendix A and Appendix B.) Progress was temporarily halted by the devastation of Hurricane Katrina on August 29, 2005. After Katrina, community development and renewal continued with the creation of the North Gulfport Neighborhoods Community Plan, a planning process hosted by Turkey Creek Community Initiatives and North Gulfport Community Land Conservancy with technical assistance and document production by Moore, Iacofano, Goltsman, Inc. (see Appendix C).

Also, after Hurricane Katrina, the LTMCP wanted to build on the work of the Greenway coalition and further develop a unique, engaged watershed partnership with the Turkey Creek community. Preparation for the Turkey Creek Watershed Implementation Plan began in October 2005 with funding assistance from the EPA. This partnership is intended to foster a more sustainable future for residents, businesses and community institutions by addressing natural and cultural resource concerns in a comprehensive plan. The Turkey Creek Watershed Implementation Plan was developed to serve as overall guidance for improving water quality in Turkey Creek. The LTMCP and its partners believe that citizens and private sector stakeholders can best achieve this goal by (1) creating a community greenway with public access to the creek; (2) prioritizing ecological restoration projects and environmental education programs and (3) developing partnerships to implement watershed projects.

In January 2006, the Turkey Creek-North Gulfport Neighborhood's identified five primary conservation goals (see Appendix C):

1. **Protect Existing Resources**
2. **Educate and Empower the Community**
3. **Restore Ecological Functions and Natural Connections to System Headwaters**
4. **Increase Non-vehicular Connectivity between schools, parks, community centers, homes, businesses and neighborhoods**
5. **Coordinate funding so that public projects are well leveraged to maximize public benefit**

In order to achieve these goals, we have created a Watershed Implementation Plan (the Plan) that contains appropriate actions for public/private action along Turkey Creek, such as public access, environmental and watershed education, ecological restoration, wetland and tree canopy protection. Strategies identified in the Plan could be supported through several federal, state and local funding programs. Funding support to develop the Plan came through an EPA grant to the LTMCP with technical support from Mississippi Department of Environmental Quality (DEQ). The Plan was developed to be in compliance with EPA and DEQ

319 funding program guidelines in anticipation of that LTMCP and other community organizations will submit future proposals to the 319 grant program. The Plan is divided into two parts: protection and restoration strategies that the community wants to see accomplished within the next few years.

(1) PROTECTION GOAL: To defend the existing natural and cultural resources of the Turkey Creek Watershed from further degradation caused by encroachment, abuse or neglect. The Plan includes 8 management strategies and 15 education strategies to help meet the protection goal.

(2) RESTORATION GOAL: To actively initiate or accelerate the recovery of the ecological and cultural health, integrity and sustainability of the Turkey Creek Watershed wherever it has been degraded, damaged or destroyed. The Plan includes 15 management strategies and 8 education strategies to help meet the restoration goal.

In addition to strategies, the Plan includes a watershed description and history, as well as a budget estimate and a provision for regular review of the Plan – measuring and celebrating success. The estimated cost for completing this watershed action plan is approximately $2.3 million. This budget could be met through several different federal, state and local environmental grant programs as well as through public-private partnerships. Sustaining a unified vision for Turkey Creek's future is crucial and, to that end, it is intended that the steering committee will meet quarterly to review progress, include newly developed partnerships, measure success and re-align strategies with the most current environmental-social-political reality.

If you are reading this Executive Summary, then you are most likely a stakeholder in the Turkey Creek Watershed and as such, we invite your wholehearted participation in a long-term process to create cleaner water, a healthier watershed and a brighter future for the Turkey Creek and North Gulfport Communities. Your questions and comments are welcomed!

Judy Steckler
Director
Land Trust for the Mississippi Coastal Plain
October 16, 2006

I. STATEMENT OF PURPOSE

Our purpose is to work within the context of an engaged partnership to develop a more sustainable future for residents, businesses and community institutions located within the Turkey Creek Watershed by addressing natural and cultural resource concerns in a comprehensive Watershed Implementation Plan.

The Turkey Creek Watershed Implementation Plan was developed to serve as overall guidance for improving water quality in Turkey Creek by:

(1) Creating a community greenway
(2) Identifying and implementing ecological restoration projects
(3) Creating environmental education opportunities
(4) Building partnerships for implementing this plan.

II. PARTNERS AND COLLABORATORS: Turkey Creek Watershed

The Turkey Creek Watershed has been the subject of numerous initiatives designed to protect and conserve its valuable resources, both natural and cultural. The following lists of partners and collaborators were developed to gather those individuals already involved in various initiatives surrounding the watershed, and additional individuals with technical expertise, into a cohesive planning group that speaks with a singular authoritative voice for the protection and restoration of the Turkey Creek Watershed resources.

A. Watershed Implementation Team (Steering Committee for the Plan):

Derrick Evans, Turkey Creek Community Initiatives (TCCI)
Rose Johnson, North Gulfport Community Land Conservancy (NGCC) & Sierra Club
Mark LaSalle, Audubon Mississippi
Buck Lawrence, Land Trust for Mississippi Coastal Plain
Judy Steckler, Land Trust for Mississippi Coastal Plain
Flowers White, Eulice N. White Civic Organization and Mt. Pleasant UMC
Lettie Evans-Caldwell, Mt. Pleasant UMC Environmental Ministry

Technical Committee (Coastal Basin Team Members) for Turkey Creek Watershed Implementation Plan:

Judy Steckler, Land Trust for Mississippi Coastal Plain
Jennifer Buchanan Grand Bay NERR, DMR
Tina Shumate, CRMP – Heritage Program, DMR
Phil Bass, EPA, Gulf of Mexico Program
Kenneth Dean, EPA, Region I$, Watershed Management
Pansy Maddox MS State Dept of Health
Stan Crider, MS Dept of Wildlife, Fisheries and Parks
Andrew Whitehurst MS Dept of Wildlife, Fisheries and Parks
Ed Pinero, USM, Dept of Marine Sciences
Gwen Necaise Smith, MSU, Extension Service, Hancock County
MS Forestry Commission
Kay Whittington, MDEQ, TMDL Section
Mark Gilbert, MSSWCC
Tyree Harrington, NRCS

B. The following are committees of Turkey Creek and North Gulfport Neighborhoods Community Plan. They have been the primary contributors to the establishment of the Turkey Creek Greenway Plan and the Turkey Creek Watershed Plan. It is the long-term commitment of these committees that will continue to inform and support implementation of the Turkey Creek Watershed Implementation Plan.

Steering Committee:
Sam Arnold, International Relief and Development
Ruby Brewer, North Gulfport Civic Club
Charles Dubra, North Gulfport 7th – 8th Grade School
Derrick Evans, Turkey Creek Community Initiatives
Frances Fredericks, Mississippi House of Representatives
Sammy Gray, Villa Del Rey Subdivsion
Ella Homes-Hines, Gulfport City Council, Ward 3
Rose Johnson, North Gulfport Community Land Trust and Sierra Club
JP Lawrence, South Mississippi Regional Housing Authority
Richard Marsh, Fredericks and Good Deeds Community Centers
William Martin, Harrison County Board of Supervisors, District 4
Purvis McBride, Forrest Heights Boys & Girls Club
Philip McSwain, Greater Mt. Olive Baptist Church
Edward Moses, Mt. Pleasant United Methodist Church
Gaynette Flowers-Pugh, Good Deeds Association
George D. Rouse, Forrest Heights Baptist Church
Mary Spinks-Thigpen, Forrest Heights Homeowners-Renters Association
Flowers White, Elice N. White Civic Organization and Mt. Pleasant UMC

Task Force on Education, Recreation and Public Health
Gayle Abrams, Harrison Central 9th Grade School
Sheila Belcher, Forrest Heights Boys and Girls Club
Christine Brice, Workers Helping Youth, Inc.
Charles Dubra, North Gulfport 7th-8th Grade School
Lettie Evans-Caldwell, Mt. Pleasant UMC, Environmental Ministry
Luther Graves, Gulfport Chapter AARP, Turkey Creek Community Initiatives
Janice Green, North Gulfport Senior Citizens' Center
Mark LaSalle, Audubon Mississippi
Bill Liermann, Mt. Pleasant UMC, Environmental Ministry
Gregg Magee, Silver Cloud District Boy Scouts
Richard Marsh, Good Deeds and Isaiah Fredericks Community Centers
Purvis McBride, Forrest Heights Boys & Girls Club
Carol Paola, Long Beach Elementary School
Maurice Reese, West Gulfport NFL Youth
Bruce Roberts, Forrest Heights boys & Girls Club
Sandra Smith, Mt. Pleasant UMC, Turkey Creek Community Initiatives
Mary Spinks-Thigpen, Forrest Heights Boys & Girls club
Andrew Whitehurst, MS Museum of Natural Science

Task Force for Environmental Preservation and Watershed Planning
Margaret Bretz, Land Trust for Mississippi Coastal Plain
Jennifer Buchanan, Grand Bay National Estuarine Research Reserve
Kris Carter, Region IV, US Environmental Protection Agency
Lettie Evans-Caldwell, Mt. Pleasant United Methodist Church
Becky Gillette, Sierra Club
Steve Goff, Mississippi Department of Environmental Quality

Tyree Harrington, Natural Resource Conservation Service
Flinda Hill, MPCO and SMEACO
Chris Lagarde, Congressman Gene Taylor's Office
Mark LaSalle, Audubon, MS
Buck Lawrence, Land Trust for Mississippi Coastal Plain
Bill Liermann, Mt. Pleasant United Methodist Church
Amy Mitchell, MIG
Howard Page, Sierra Club
Cynthia Ramseur, Eco-Logic Restoration Services, LLC
Patty Rogers, Natural Resource Conservation Science
Patricia Spinks, Turkey Creek Community Initiatives
Judy Steckler, Land Trust for Mississippi Coastal Plain
Flowers White, Mt. Pleasant United Methodist Church
Andrew Whitehurst, MS Museum of Natural Science
Donna Yowell, Mississippi Urban Forestry Council

III. WATERSHED DESCRIPTION AND HISTORY

"Anyone who flies in or out of Mississippi's fastest-growing city can't help but notice a dramatic island of greenery shaped something like a pork chop, lying smack in the middle of twenty-first century Gulfport. The Turkey Creek Watershed, containing some of Harrison County's busiest roads, highways and businesses, also includes some of its oldest residential communities, as well as much of what's left of the area's distinctive natural habitats. Whether from the air, a roadway, or the banks of the creek itself – the view is dramatic and the contrasts are amazing …

Drenched by eighty inches of rainfall each year, the Turkey Creek watershed has always included thousands of acres of wetlands. All of its runoff, or storm water, not absorbed by soils and plants or transpired into the air ends up in the creek itself – which is also subjected each day to the Gulf of Mexico's rising and falling tides. A literal extension of the gulf by way of Biloxi Bay and Bernard Bayou, the eastern stretch of Turkey Creek is actually a brackish bayou – a coastal estuary of remarkable biodiversity and classic southern beauty.

Equally important, this easternmost segment of the watershed is where an international airport, a U.S. interstate a major state highway, an active railway, and scores of commercial and industrial activities converge as well. Lying at the very center of both past and prospective annexations by Gulfport, the Turkey Creek watershed remains a dramatic foacl point of the city's continuing growth. Consequently, nowhere on the Mississippi coast or in our state is the need for balanced development or smart planning any more obvious, important or challenging. Whether we like it or not, tis small but complex watershed and stream will help shape and define our community and lives for countless more years to come – be we residents, developers, business owners, government officers, or children." Quoting Derrick Evans, *"The Emerald Port Chop".* Turkey Creek Community Initiative, 2005.

Turkey Creek is in the Coastal Basin Hydrologic Unit Code (HUC) 031700090702 in southeastern Mississippi (Figure 1 below). It flows approximately 12.9 miles in a southeastern direction from its headwaters until its confluence with Bernard Bayou. Turkey Creek headwaters are located just north of Interstate 10 and west of Highway 49. The drainage area is approximately 11,000 acres and lies within Harrison County. The watershed is rural but includes some urban areas, those portions located within the city limits of Gulfport and Long Beach. The historic Turkey Creek community is surrounded by large urban developments: the airport lies to the south, highway 49 lies to the west and the industrial seaway lies to the north. Outside the city limits, open land (wet-pine savannas and forests) is the dominant landuse within the watershed (see Appendix D, land use map and Appendix E, aerial view of Turkey Creek Watershed).

Land Distribution in Acres for the Turkey Creek Watershed

	Urban**	Forest*	Cropland	Pasture	Total
Area (acres)	1,392	5,134	3,270	1,328	11,124
% Area	12.5%	46.2%	29.4%	11.9%	100%

*Includes wetlands **Includes barren lands (Ref: MDEQ, Fecal Coliform TMDL for Turkey Creek, June 2003)

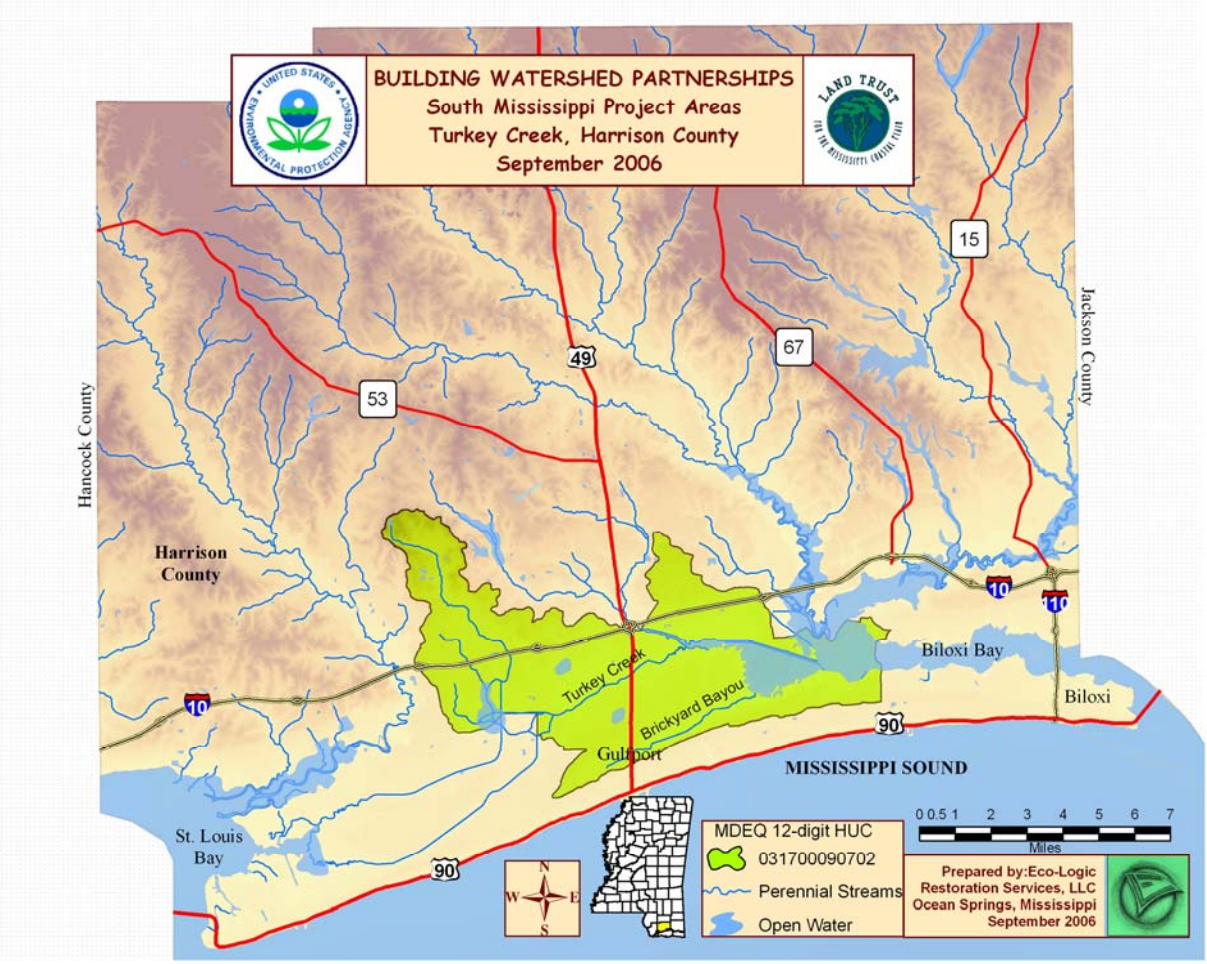


Figure 1. Turkey Creek Watershed, Gulfport, Harrison County, Mississippi

The historic communities of Turkey Creek, North Gulfport and Forrest Heights are located at the lower end of the Turkey Creek watershed. The lower reaches of the Creek are navigable from west of the North Gulfport Middle School to Bernard Bayou. It is a popular waterway for fishing, swimming and canoeing and contributes to the culture and quality of life of the residents.

The watershed is located in the East Gulf Coastal Plain ecoregion of the southeastern U.S. and is part of the Mississippi Coastal Basin and Streams. Native vegetation in the watershed includes those species found in coastal wet pine savannas, mixed southern forests, bayhead swamps and bottomland hardwood forests. The topography of the watershed is relatively flat creating a slow-moving coastal stream and tidal creek.

In 1866, a group of emancipated African-Americans exercised their newly acquired rights to purchase and settle 320 acres in Harrison County Mississippi. Land records listed this area as uninhabited "Swamp Land". Now known as Turkey Creek, the land encompasses bottomland and coastal maritime forests, freshwater marsh and scrub-shrub habitats. The settlers created arable land to practice sustainable agriculture and supplemented their diet with fish, plants and wildlife from the forests and streams. They developed a viable, self-sufficient community bound together by culture and ecology.

Until the mid 1980s, Turkey Creek's community institutions and land use remained remarkably unchanged as land was passed from generation to generation. Since then however, this piece of American heritage has been critically threatened by airport expansion, municipal annexation, land speculation, deforestation, wetland destruction, commercial sprawl, spot zoning and political isolation. As a result, in 2001, the Mississippi Heritage Trust listed the entire community as one of the state's Ten Most Endangered Historical Places.

Post-Katrina, the community leaders through the *Turkey Creek and North Gulfport Neighborhoods Community Plan* are leading a movement to provide intelligent urban planning incorporating conservation and ecological restoration. With the help of long-term stakeholders and concerned citizens, these leaders seek to preserve and restore Turkey Creek's natural and cultural heritage using smart growth planning principles and techniques. The Turkey Creek Watershed Implementation Plan is intended to inform the *Turkey Creek and North Gulfport Neighborhoods Community Plan* and bring federal and state resources to improve water quality and protect natural resources.

The watershed's natural capital resource base includes a wide array of flora and fauna species found in south Mississippi. (See Appendix F, Natural Heritage List.) Current threats to ecological and cultural integrity are outlined along with strategies for their restoration and preservation. (See also Appendix G which identifies sites of special environmental concern to the community.)

IV. WATER QUALITY OF TURKEY CREEK

The water use classification for Turkey Creek, as established by the State of Mississippi in the *Water Quality Criteria for Intrastate, Interstate and Coastal Waters* regulation, is "Fish and Wildlife Support". The designated beneficial uses for Turkey Creek are "Secondary Contact and Aquatic Life Support". Local residents have informed MDEQ of a swimming hole used by local children in Turkey Creek and the current water use classification may not support this use. Further investigation with community and MDEQ regarding use classification is a proposed strategy in this plan.

A segment of Turkey Creek, from the confluence with Canal #2 to Highway 49, was included on the Mississippi 1998 Section 303(d) List of Waterbodies as impaired due to fecal coliform bacteria. MDEQ assumed there is a 50% failure rate of septic tanks in the drainage area based on estimates from the State Department of Health for this area of the state. There are two NPDES permitted treatment plants that discharge treated effluent that contains fecal coliform in the watershed. According to the method used to determine this TMDL, a 52% reduction is indicated for Turkey Creek to meet water quality standards. It is also necessary to evaluate the current septic tanks in the watershed to reduce the potential for pollution from failing septic tanks. Additionally, the City of Gulfport needs to reduce accidental spills from the sewage collection system that impairs this stream during flood events. There is one MDEQ ambient monitoring station located near Long Beach on the listed stream segment and there is a special study station at Gulfport and Highway 49 at the Arkansas Street Bridge**.** (Ref: MDEQ, Fecal Coliform TMDL for Turkey Creek, Coastal Basin, Harrison County. June 2003)

Water quality data available for the monitored segment of Turkey Creek shows that low levels of pH have been found in the stream. There is one ambient station operated by MDEQ that has pH monitoring data available. The nonpoint sources from storm water run off that could contribute to an alteration of pH in Turkey Creek include failing septic systems (considered in the TMDL and based on a 50% failure rate), acidic soil (considered uncontrollable and not accounted for in the TMDL), pine needle decay (considered uncontrollable and not accounted for in the TMDL), and urban development (considered controllable, however, there is a limited amount of urban area in the watershed). (Ref: MDEQ, TMDL for Low pH in Turkey Creek, Coastal Streams Basin, Harrison County, Mississippi. December 2000). According to Binkley and Richter, 1987, "under pines where there is a lower pH value, burning tends to raise the pH." Therefore, acidic soil and pine needle decay may be managed to some degree by reestablishing a natural fire regime on the open lands in the watershed, particularly those outside the city limits.

Site visits on January 25th and March 3rd revealed an ecologically damaged watershed exhibiting resultant losses in environmental quality and function. Degradation to the Turkey Creek Watershed is the result of human activities:

- Filling of wetlands
- Dredging/channelizing of wetlands
- Timbering operations within and surrounding wetlands including clear-cutting of vegetation up to the stream edge causing reductions in the filtering capacity of the wetland and subsequent increased sediment loading of the stream channel
- Development and/or constructions up to the stream-edge with the same results as above
- Habitat fragmentation from development without adequate greenway planning
- Habitat degradation through hydrologic alterations and reductions in vegetative cover
- Exotic species invasions, particularly Chinese tallow tree and cogongrass, that cause partial or complete alterations in biological communities that can modify ecological function and wildlife utilization
- Uninformed or ill-conceived zoning ordinances that adversely impact environmentally sensitive areas
- Non-implementation of Best Management Practices (BMPs)
- Inadequate wetland permitting enforcement
- Direct and indirect chemical contamination – historic and current

V. TURKEY CREEK WATERSHED ACTION PLAN: GOALS AND STRATEGIES

The Turkey Creek and North Gulfport Neighborhoods Community Plan identified five primary conservation goals:

1. **Protect Existing Resources**
2. **Educate and Empower the Community**
3. **Restore Ecological Functions and Natural Connections to System Headwaters**
4. **Increase Non-vehicular Connectivity between schools, parks, community centers, homes, businesses and neighborhoods**
5. **Marshall funding so that public projects are well-coordinated and leveraged to maximize public benefit.**

For the purposes of the Turkey Creek Watershed Implementation Plan, the above conservation goals are restated in two categories: (1) Protection Goals and (2) Restoration Goals. Action plans to help achieve these goals have been identified through partnership planning and are listed below with a possible timeline and a possible lead organization.

I. PROTECTION GOAL

To defend the existing natural and cultural resources of the Turkey Creek Watershed from further degradation caused by encroachment, abuse or neglect.

A. Management: Forestry and Construction BMP strategies for Protection are listed below. (Not in order of priority.)

1. Fund and acquire identified priority conservation areas in the Turkey Creek Greenway from Canal Road area in Long Beach to the confluence with Bernard Bayou. (see Greenway Map, Appendix A). Work to assure that acquisitions will help complete connectivity goals of the community.
   - Proposed Timeline: 2006 and early 2007
   - Lead organizations: City of Gulfport with funding from CIAP I already awarded LTMCP with funding from 319 program, CIAP II and other funding programs

2. Promote the development of "green design" subdivisions in areas off 28th street that are being zoned T3.
   - Proposed Timeline: on-going
   - Possible Lead organizations: NGCC with support from LTMCP, TCCI, NGCC and City of Gulfport

3. Work to complete proposed "green design" subdivision model in Bayou Bernard headwaters near County Farm Road. The tract was recently cutover and is now slated for a residential development. It needs restoration and long-term protection of

wetlands through fee simple donation or conservation easement donation. Project to serve as a model project for the Turkey Creek Watershed.
   - Proposed Timeline: 2006 and early 2007
   - Possible Lead organization: LTMCP and NGCC. Work in progress

4. Create corridor protection zones by promoting conservation options for landowners, such as conservation easements and Transfer of Development Rights (TDRs). Currently, Mississippi does not have statutes that favor TDRs. One recommendation of the Governor's commission is to consider a change the state statutes. If they are changed, the City would need to specify the donor areas for TDRs. In future, be sure that Turkey Creek is identified as a donor site for TDRs in City of Gulfport.
   - Proposed Timeline: 2008
   - Possible Lead organizations: LTMCP, TCCI, NGCC and City of Gulfport

5. Work with City of Gulfport to support, revise if needed and enforce a city-wide tree protection ordinance in Gulfport.
   - Proposed Timeline: 2007
   - Possible Lead organizations: Turkey Creekkeeper, LTMCP, MS Urban Forestry Council

6. Provide education about streamside buffers and need to protect and enhance the native tree canopy, particularly in the 250 – 500 foot streamside management zone along Turkey Creek. Focus on native hardwood trees and shrubs typical of coastal plain habitats.
   - Proposed Timeline: 2008
   - Possible Lead organizations: TCCI, MS Urban Forestry Council, LTMCP

7. Wetland protection is of primary importance to flood control and protection of Turkey Creek watershed. Establish a "Creekkeeper" program to review wetland permits and report wetland violations to regulatory agencies.
   - Proposed Timeline: announced October, 2006!
   - Lead organization: TCCI

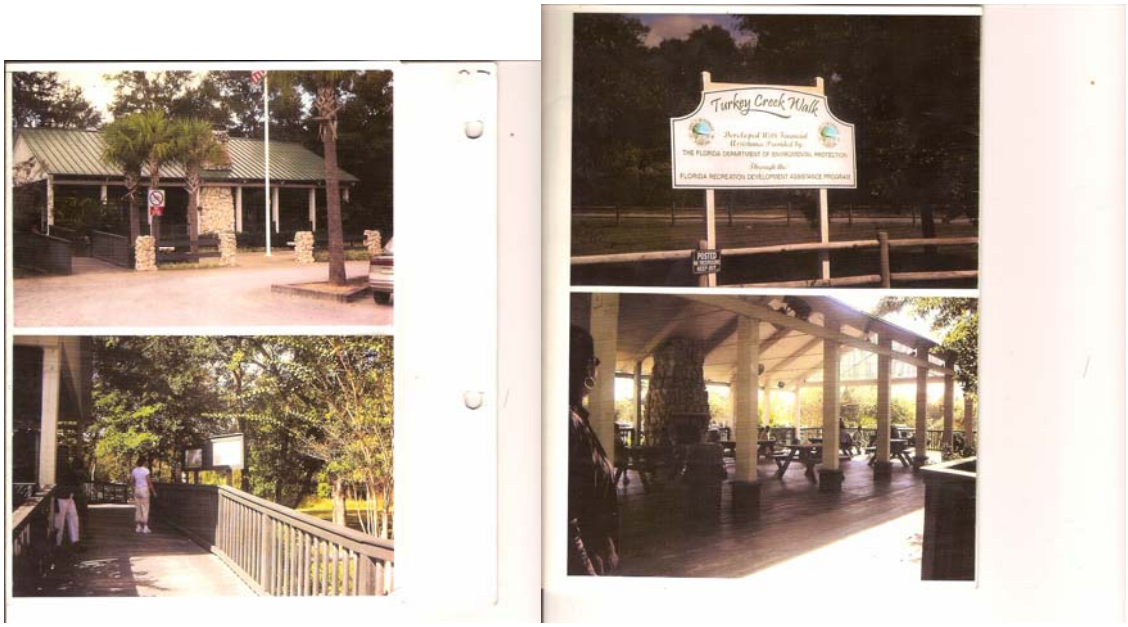
8. Promote the implementation of student-led designs for biking paths in City of Long Beach using canals to link schools with residential communities and ball parks. This is an important strategy for City of Long Beach (canals) as well as North Gulfport and Turkey Creek Community.
   - Proposed Timeline: 2008
   - Lead organizations: City of Long Beach, City of Gulfport, TCCI and LTMCP

B. Education and Outreach strategies for Protection are listed below. See Appendix H. (Not in order of priority.)

1. Working with the Education, Recreation and Public Health Taskforce of the Turkey Creek North Gulfport Community Plan, provide for an environmental science educator and coordinator for the Turkey Creek Community to implement education strategies put forth in this plan working through the Turkey Creek education. Recreation and public health task force.

- Proposed Timeline: Fall 2006
- Possible Lead organization: TCCI with partial funding through MDEQ 319 or EPA

2. Provide additional watershed education about Turkey Creek through updated, state of the art TCCI websites.
   - Proposed Timeline: ongoing from 2006
   - Possible Lead organization: TCCI with assistance from MIG



The people who live in the North Gulfport and Turkey Creek communities have a strong vision for what they want their community to be like: well connected to the natural resource base of Turkey Creek through a series of boardwalks, natural areas and walking/biking trails. Just ask Rose Johnson! Several years ago, Rose took these photographs of Florida's Turkey Creek Walk. Now in 2006, she continues to lead her community to achieve its dreams.

3. Host "Wetlands 101 workshop" to train local residents and contractors about how to recognize a wetland and how to engage in the permitting process.
   - Timeline: Completed September 2006!
   - Lead organization: Gulf Restoration Network

4. Provide a "Creekkeeper" for Turkey Creek: local capacity to monitor water quality and water quantity issues, oversee "adopt-a-stream" program.
   - Proposed Timeline: 2007
   - Possible Lead organization: TCCI

5. Begin construction of public access to the lower reaches of the Creek (Canal Road to Bernard Bayou). Public access should accommodate the following activities: bird watching, canoeing, walking, biking and science education.
   Outdoor Environmental Classroom
   - Timeline: Completed Summer 2006!
   - Lead organization: Harrison County School Board, North Gulfport 7th & 8th Grade School, Visions Service Adventures)

Mt. Pleasant UMC's Turkey Creek Nature Area (Audubon Birding Site #24)
- Proposed Timeline -: begin summer 2006
- Lead organizations: Mt. Pleasant UMC, TCCI, Audubon

6. Provide interpretation at public access points: (coordinated visual cues: brochures, maps, and signage for recreational activities such as canoeing, fishing, bird watching).
   - Proposed Timeline: Spring 2007
   - Possible Lead organizations: TCCI, Audubon Mississippi

7. Provide public fishing piers on the Creek.
   - Proposed Timeline: Begin Fall 2006
   - Possible Lead organization: TCCI and MS Wildlife Fisheries and Parks

8. Provide enhanced public access to Turkey Creek by creating walking trails to connect schools, parks, neighborhoods and businesses. Leverage Mississippi Tidelands Funds already allocated to Turkey Creek (for example, at the Forrest Heights levee).
   - Possible Timeline: Summer 2006
   - Possible Lead organizations: Gulfport Airport, City of Gulfport, TCCI

9. Work with Forrest Heights Boys and Girls Clubs, Harrison County and City of Gulfport to maximize connectivity between the new clubhouse, the Youther Lee Keyes Park and the proposed levee trail. Painted bicycle crossing at Ohio.
   - Proposed Timeline: Begin in 2007.
   - Possible Lead organization: Forrest Heights Homeowners and Renters Association, TCCI

10. Provide signage where federal, state, county and city roads cross into the Turkey Creek Watershed (see EPA program). "You are entering the Turkey Creek Watershed".
    - Possible Timeline: 2007
    - Lead organizations: MDEQ, EPA and MDOT

11. Identify other signage needs and messages that will provide long-term watershed education and promote Personal Responsibility in a Desirable Environment (PRIDE).
    - Timeline: ongoing.
    - Lead organizations: Mt. Pleasant UMC Environmental Ministry and Mississippi Gulf Coast Affiliate of Keep Mississippi Beautiful

12. Make Turkey Creek a Gateway for visitors to City of Gulfport and Mississippi Gulf Coast. Beautify Hwy 49 corridor. Tie-in to the native nursery goal.
    - Timeline: Begin Fall 2006
    - Lead organization: North Gulfport Community Land Conservancy, Land Trust for Mississippi Coastal Plain, Audubon Mississippi, NRCS, City of Gulfport

13. Schedule the Watershed Harmony Puppet show for Turkey Creek community (at the 7th and 8th grade school. Charles Dubra is the principal).
    - Timeline: fall 2006
    - Lead organization: MDEQ

14. Expand the "Turkey Creek Cane Pole Derby" and "Creek Sweep" for 2006.
    - Timeline: summer 2006

- Lead organization: TCCI

15. Create the first Turkey Creek Heritage Festival (possibly to coincide with annual Mt. Pleasant Anniversary, first weekend in August).
    - Timeline: summer 2007
    - Lead organization: TCCI in partnership with Mt. Pleasant UMC and South Mississippi Heritage Program (DMR)

II. RESTORATION GOAL

To actively initiate or accelerate the recovery of the ecological and cultural health, integrity and sustainability of the Turkey Creek Watershed wherever it has been degraded, damaged or destroyed.

A. Management: Restoration strategies listed below. (Not in order of priority.)

1. Forrest Heights levee restoration and re-engineering of levees. (restored and approved and tied to the greenway concept). The community wants it to be an ecologically functional, visibly appealing and publicly accessible component of the Turkey Creek Greenway.
    - Timeline: begin in second round of MSCIP projects
    - Lead organizations: NRCS, City of Gulfport, NGCC, TCCU

2. Proactively guide the post-Katrina debris removal on Turkey Creek for canoeing and fishing passage. Work with the three agencies assigned to the debris removal to assure that all actions taken are administered in an environmentally friendly manner: Harrison County Board of Supervisors, Mississippi Department of Marine Resources and Natural Resources Conservation Services
    - Timeline: begin springs and summer 2006
    - Lead organization: Turkey Creekkeeper, MDMR, NRCS, Army COE

3. Design and implement bayhead swamp restoration project at Mt. Pleasant UMC's Turkey Creek Nature Area (Audubon Birding Site #24). This identified restoration project will provide flood storage during storm events and reduce non-point source pollution by filtering storm water. Ecological restoration of this area will enhance the recreational fishing opportunities at this historic fishing hole. It will also provide important wildlife habitat, particularly bird habitat for the Audubon Coastal Birding Trail site located here.
    - Timeline: planning to begin winter 2007

- Lead organizations: Mt. Pleasant UMC, Audubon and MDMR (proposal to Coastal Preserves)

4. Establish an aggressive cogongrass eradication program at "Camp Cogon", an area between Rippy Road, Three Rivers Road, Airport Crash Zone and fuel storage tanks. This cogongrass infestation not only degrades wildlife habitat and biodiversity, it also poses a major public safety threat because of the increased risk of higher intensity wildfires. Work with Airport, NRCS, City and County Public Safety Officials to recognize and mitigate the public safety concerns raised by the cogongrass fields.
   - Timeline: Spring 2006
   - Lead organizations: NRCS, Airport

5. Design and implement an urban forest renewal program (tree planting plan) focused on tree plantings same comments as before (such as live oak, cypress, cedar, magnolia, bay, green ash, red maple, cherry bark oak.) at the following sites:
   a. Forrest Heights Baptist Church, on the creek's south bank
   b. Forrest Heights levee,
   c. Forrest Heights Boys and Girls Club
   d. North Gulfport 7th and 8th Grade School
   e. Will Skinner's land, south side of the creek,
   f. Derrick Evan's vacant 7 acres from Rippy Road south (200' x 1600'),
   g. MLK Boulevard,
   h. North Gulfport side streets,
   i. LC Jones Public Housing Project,
   j. Mt. Pleasant UMC's Turkey Creek Nature Area (Audubon Birding Site #24),
   k. Sites at Gulfport/Biloxi Airport, as identified by airport,
   l. Louisiana Avenue drainage project,
   m. Three Rivers – Creosote Road corridor.
   - Timeline: begin in fall 2006
   - Lead organizations: Audubon, LTMCP and MS Urban Forestry Council

6. Work with the Airport to reforest the RPZ Zone and other properties with native shrubs and grasses (trees where allowable). Currently airport has funding for noise reduction – trees and shrubs would certainly reduce noise pollution. An on-going productive dialogue with the airport could be a key element to success of the Turkey Creek Watershed Implementation Plan.
   - Timeline: begin discussions with airport in 2006
   - Lead organizations: LTMCP, TCCI and NGCC

   Also, work with the airport to mitigate within the watershed. Consider asking COE to establish an in-lieu program?

7. Expand and utilize Turkey Creek Native Plant Nursery to promote and facilitate urban reforestation.
   - Timeline: begin in fall 2006
   - Lead organizations: Audubon, MS Urban Forestry Council and NRCS

8. Clean-up neighborhood ditches and restore filtering function with native vegetation such as duck potato. Install screens on culverts to trap trash and keep it out of the Creek. Stencil storm drains.

Timeline: First annual, "Remarkable Riches of Splendid Ditches" celebration and watershed-wide creek and ditch clean-up. May 2007
Lead organization: TCCI

9. Work to meet the TMDL for fecal coliform by removing point sources (get the Canal Road Mobile Home Park to connect to public sewerage.) Timeline: on-going discussion
   - Lead organizations: Harrison County. MS Health Department. MDEQ

10. Advocate for cleaner water: We need to meet or exceed the TMDL for fecal coliform by minimizing non-point sources (reducing the number of failing septic systems). Private entities do not have the ability to take direct action on failing septic systems; they can however work diligently to keep the issue and desired future condition in the minds and actions of politicians and regulatory agencies. Specifically, public infrastructure needs to be created and regulations enforced to (a) get Ridgecrest Estates to stop discharging into a sewerage lagoon, (b)get City of Gulfport to reduce accidental spills during flood events, (c) stop new septic systems from going online.
    - Timeline: on-going advocacy, decision-maker education
    - Lead organizations: Turkey Creekkeeper with MS Health Department. MDEQ. Harrison County Board of Supervisors, City of Gulfport

11. Take action for cleaner water: We need to meet or exceed the TMDL for pH by increasing riparian buffer zones and reducing storm-water runoff.
    - Timeline: on-going advocacy, decision-maker education
    - Lead organization to increase riparian buffer zones: LTMCP, Harrison County Board of Supervisors

12. Take action for cleaner water: We need to meet the TMDL for pH by reducing pine needle litter resulting in higher soil pH in addition to reducing fire hazard and increasing wildlife habitat.
    - Timeline: on-going advocacy, decision-maker education
    - Lead organization: MS Forestry Commission, NRCS, Prescribed Fire Cooperative

13. Assess geomorphic stability of Turkey Creek, identify stream bank/channel restoration demonstration areas and implement a one-mile passive stream restoration project. Identify areas to restore tidal marshes and wetlands creating additional storm water storage capacity in riparian zone. Rip rap is ugly: Design and construct more effective and aesthetic bank stabilization methods. Identify areas where rip-rap needs to be removed and natural stream stabilization technology utilized.
    - Timeline: begin winter 2007
    - Lead organizations: possible – TCCI or LTMCP with funding from MDEQ/EPA

14. Work to complete proposed "green design" subdivision model in Bayou Bernard headwaters near County Farm Road and implement a native vegetation restoration. The tract was recently cutover and is now slated for a residential development. It needs restoration and long-term protection of wetlands through fee simple donation or conservation easement donation. Project to serve as a model project for future development in the Turkey Creek Watershed, particularly on the 28th street corridor. Ref: the items under protection.
    - Timeline: 2006 and early 2007
    - Lead organization: LTMCP. Work in progress

B. Education and Outreach Strategies for Restoration are listed below. (Not in order of priority.)

1. Expand "CreekSweep" 2006 (September coastal cleanup).
   - Timeline: September 2006
   - Lead organization: TCCI

2. Advocate for the completion of clean-up at primary brownfield restoration sites: creosote plant, Seabee base (agent orange contamination), Teledyne Irby Steel, ChemFax, WC Fore Trucking, public dump off Canal Road and Stanbro site on creek at Washington Avenue.
   - Timeline: ongoing discussion
   - Lead organization: Turkey Creek Keeper, Sierra Club, Gulf Restoration Network (GRN), TCCI

3. Advocate to minimize/reduce impact of Airport's expansion plans, especially car wash/car rental (12 acres).
   - Timeline: ongoing discussion
   - Lead organization: Turkey Creekkeeper

4. Advocate for light industrial zoning as opposed to heavy industrial zoning, for example Arkansas Avenue.
   - Timeline: now with Smart Code discussions with City of Gulfport
   - Lead organization: Turkey Creekkeeper and City of Gulfport

5. In a productive manner, address the public's concern about air and water quality issues caused by the concrete plant on Creosote Road.
   - Timeline: ongoing discussion
   - Lead organizations: Turkey Creekkeeper, MDEQ and EPA

6. Plan the first annual "Remarkable Riches of Splendid Ditches" celebration and watershed-wide ditch clean-up to be held in May 2007.
   - Timeline: planning new event should begin in late winter 2007
   - Lead organization: TCCI

7. Advocate for DEQ to change use designation of Turkey Creek from Fish and Wildlife Support to Recreation, making it safer for those swimming/immersion.
   - Timeline: begin discussion with this watershed implementation plan
   - Lead organization: Turkey Creek Keeper and TCCI

8. Provide educational opportunities to private landowners about (1) Best Management Practices such as forestry, construction and streamside management (2) Conservation options for landowners, such as conservation easements, transfer of development rights, fee simple donations.
   - Timeline: begin planning a series of workshops for 2007 or 2008
   - Lead organizations: LTMCP, NRCS and TCCI


FEMA

VI. WATERSHED IMPLEMENTATION PLAN – BUDGET ESTIMATES

Rough Budget estimates
Turkey Creek Watershed Implementation Plan

$70,000.00 for *1 New capacity Turkey Creekkeeper

$108,500.00 for *2 New Capacity Education staff

I. PROTECTION GOAL:

A1.	acquire identified conservation areas, TC Greenway		$1,470,000.00	
	CIAP I acquisitions. Work not completed	funding already allocated	$60,000.00	
A2.	Green subdivision model; conservation easement, 28th st		$2,500.00	
A3.	Green subdivision model; conservation easement, Bernard Bayou		$2,500.00	*2
A4.	Education about conservation options for Landowners		$1,200.00	
	Support statewide legislative action to allow TDRs		$1,300.00	
A5.	Advocate and support City tree protection ordinance - Creekkeeper		$2,500.00	*1
A6.	Education about streamside buffer and urban forests		$2,500.00	*2
A7.	New capacity: Creekkeeper to review wetland permits		$25,000.00	*1
A8.	Promote walking/biking paths for Long Beach canals		$25,000.00	*2
		Subtotal:	$1,592,500.00	
B1.	New capacity: environmental science education coordinator		$25,000.00	*2
B2.	passive education thru website		$6,000.00	
B3.	Wetlands 101workshop		$850.00	
B4.	Creekkeeper to monitor water quality		$25,000.00	*1
B5.	Greenways construction of public access		$95,000.00	
B6.	Interpretation of Greenway and public access: maps, signage		$10,000.00	*2
B7.	Fishing piers - included in B5		$0.00	
B8	Coordinate building of walking,biking trails		$7,500.00	*2
B9	Build and enhance connectors, walk/bike on levees		$15,000.00	
B10	Highway signage: "you are entering…"		$7,500.00	
B11	Printing: signage and other educational materials		$2,500.00	
B12	Create Gateway to City of Gulport		$15,000.00	
B13	MDEQ Puppet Show		$2,500.00	
B14	Turkey Creek Cane Pole Derby		$1,000.00	*2
B15	Develop a Turkey Creek Heritage Festival		$35,000.00	
		Subtotal:	$247,850.00	

II. RESTORATION GOAL:

A1..	Restore Forrest Heights levee		$45,000.00	
A2.	Guide debris removal from Creek		$2,500.00	*1
A3.	Bayhead reforestation at Mt. Pleasant/Audubon site		$250,000.00	
A4.	Cogongrass eradication program		$18,000.00	*2
A5.	Urban Forest Renewal Program		$7,500.00	*2
A6.	Airport revegetation		$25,000.00	
A7.	Native plant nursery		$10,000.00	
A8.	Ditch cleanup		$3,500.00	*2
A9:	TMDL	fecal	$2,500.00	*1
A10	TMDL	fecal	$2,500.00	*1
A11	TMDL	PH (buffer zone creation funded under protection)	$5,000.00	
A12	TMDL	PH	$15,000.00	
A13	Gemorph assessment and bank stabilization, 1 mile		$240,000.00	

A14	Restoration of native vegetation on easement: bernard bayou		$25,000.00	
		Subtotal:	$651,500.00	
	Creeksweep -			
B1	Creekkeeper		$5,000.00	*2
B2	Advocate for brownfield restoration - Creekkeeper		$10,000.00	*1
B3	Advocate for reduced airport impacts		included in B2	
B4	Advocate for light industrial zoning		included in B2	
B5	Advocate for cleaner water/air at concrete plant		included in B2	
B6	Remarkable riches of splendid ditches		$1,000.00	*2
B7	Change use designation		included in B2	
B8	Educational ops for private landowners		$5,000.00	
		Subtotal:	$21,000.00	
			$2,512,850.00	

VII. WATERSHED IMPLEMENTATION PLAN – SCHEDULE AND MILESTONES

Proposed timeline for discussion is listed with each strategy. Before timeline and budget can be refined, lead organizations need to be confirmed or identified. Lead organizations would need to provide final timelines and budget estimates.

However, completion of several strategies hinge on the establishment of two programs within the TCCI: (1) an environmental education/stewardship program at an estimated cost of $90,500 per year, and a (2) Creek Keeper program at an estimated cost of $30,000 per year. The establishment of both these programs is recommended in order to assure completion and semi-annual review and revision of the watershed implementation plan.

VIII. EVALUATION

A. Monitoring and Assessment of progress

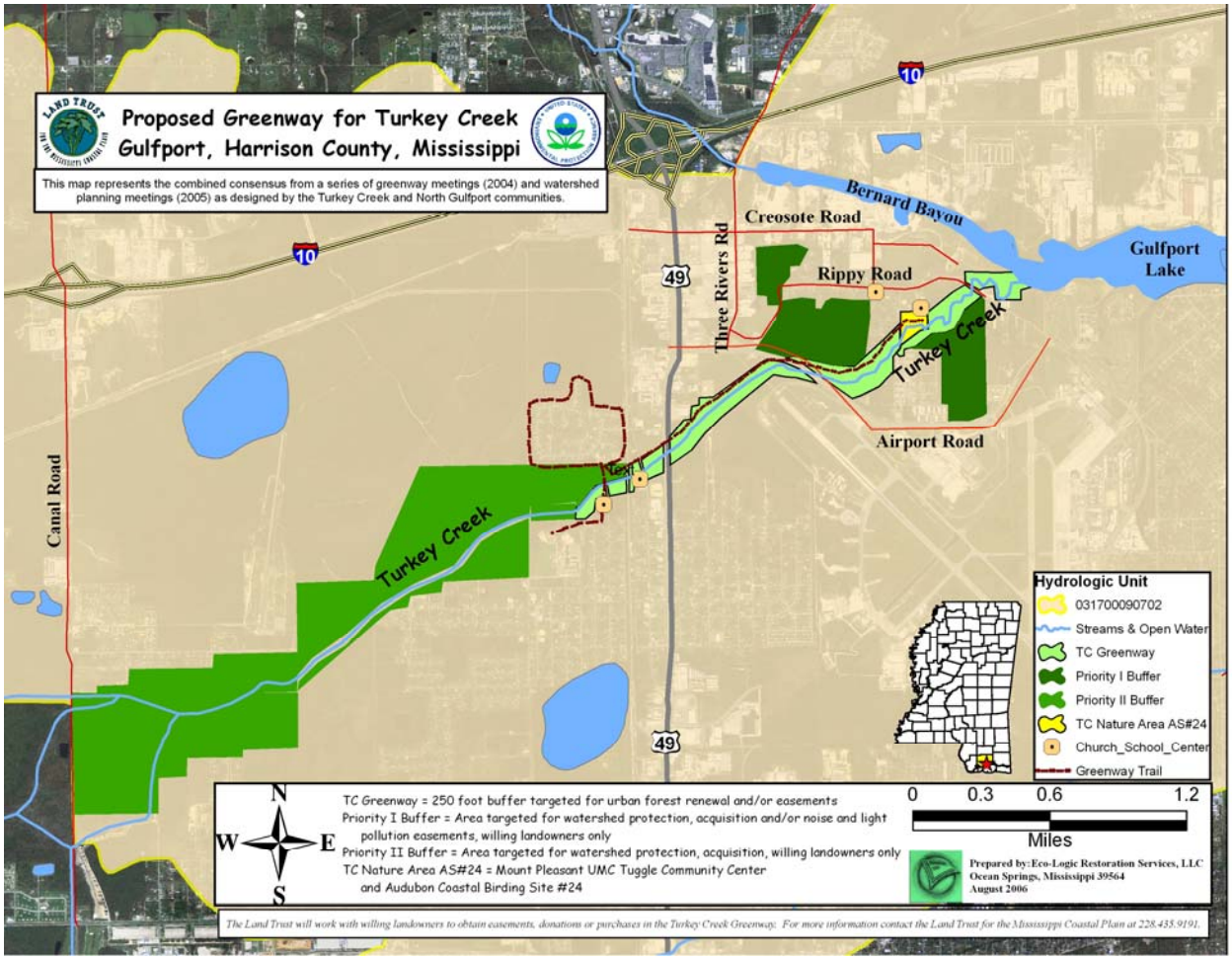
Interim milestones must be established to determine whether management measures are being implemented.

Each strategy shall be assessed semi-annually by the steering committee (watershed implementation team). The lead organization and primary partners for each strategy shall identify the measures of success and methods of evaluation for each strategy.

B. Evaluation, Adaptations and Revisions of Plan

- Specific evaluation tools must be developed to measure progress toward reducing pollutant loads and meeting watershed goals
- Evaluation tool for every event.
- Semi-annual evaluation of progress on timeline. Education, Recreation and Health committee will review plan and recommend plan revisions to the steering committee.

Appendix A


Proposed Greenway for Turkey Creek
Gulfport, Harrison County, Mississippi
This map represents the combined consensus from a series of greenway meetings (2004) and watershed planning meetings (2005) as designed by the Turkey Creek and North Gulfport communities.
Bernard Bayou
Creosote Road
Three Rivers Rd
Rippy Road
Gulfport Lake
Turkey Creek
Airport Road
Canal Road
Turkey Creek
10
49
Hydrologic Unit
031700090702
Streams & Open Water
TC Greenway
Priority I Buffer
Priority II Buffer
TC Nature Area AS#24
Church_School_Center
Greenway Trail
N
W
E
S
TC Greenway = 250 foot buffer targeted for urban forest renewal and/or easements
Priority I Buffer = Area targeted for watershed protection, acquisition and/or noise and light pollution easements, willing landowners only
Priority II Buffer = Area targeted for watershed protection, acquisition, willing landowners only
TC Nature Area AS#24 = Mount Pleasant UMC Tuggle Community Center and Audubon Coastal Birding Site #24
0 0.3 0.6 1.2
Miles
Prepared by: Eco-Logic Restoration Services, LLC
Ocean Springs, Mississippi 39564
August 2006
The Land Trust will work with willing landowners to obtain easements, donations or purchases in the Turkey Creek Greenway. For more information contact the Land Trust for the Mississippi Coastal Plain at 228.435.9191.

Appendix B

2004 Turkey Creek Watershed Greenway Public Education and Input Summary Report December 20, 2004

Background

In response to concerns regarding stormwater management and natural resource conservation expressed by numerous Harrison County residents and business owners, the Harrison County Board of Supervisors authorized the Land Trust for the Mississippi Coastal Plain to provide a public education program about greenways and to identify whether citizens of the Turkey Creek Watershed are interested in establishing one as a framework for addressing shared public policy concerns.

Through a series of public forums and individual stakeholder meetings conducted in the Fall of 2004, representatives of the Land Trust shared information about the general purposes of greenways, the various processes for establishing them, and the benefits such organizations offer communities. Through guided discussions and written surveys, Harrison County citizens reached a consensus about what they believe are Turkey Creek Watershed's most critical needs and then they identified workable solutions to address these problems in ways that will support balanced development.

Stakeholder Meetings

To insure a broad base of support for the public education program, Land Trust representatives began the process by meeting with stakeholders in both Long Beach and Gulfport as well as unincorporated parts of Harrison County. Long Beach's Mayor Skellie asked several aldermen and key members of his staff to attend an informational meeting with the Land Trust and George Carbo, Urban Development Director for the City of Gulfport, met with Land Trust early in the process to familiarize himself with the objectives of the program and to share information. Gulfport-Biloxi International Airport officials expressed support and a willingness to participate in the greenway program, as did Turkey Creek Community Initiatives members. The Land Trust also met with numerous property owners to discuss the benefits of establishing a greenway and to encourage their participation in the public forums.

Windshield Survey

Over a one-week period in October 2004, the Land Trust conducted a windshield survey of the Turkey Creek Watershed to identify existing land uses and to document through photographs assets and liabilities. These photographs were incorporated into powerpoint presentations at each of the public forums to help citizens better understand how residential, commercial and industrial land uses impact one another within the relatively small geographic area of the watershed.

Public Forums

A series of three public forums was conducted by the Land Trust, with the times, dates and locations determined by input from citizens and public officials to encourage the broadest participation of stakeholders.

- The first forum was held at 6 p.m., Thursday, October 14 at the West Harrison County Community Center on Espy Avenue in Long Beach.
- The second forum was held at 6 p.m., Thursday, October 21 at the same location.
- The third forum was conducted at 4 p.m., Tuesday, October 26 at North Gulfport Middle School.

A fourth meeting was held at 6 p.m., Monday, December 13 at the Isiah Fredericks Community Center in Gulfport, to present a summary of citizen input from the forums and to discuss the formation of the Turkey Creek Watershed Coalition.

Public Notice

Fliers promoting each of the forums were posted throughout Harrison County in places such as the courthouse, Long Beach and Gulfport City Halls, libraries and chambers of commerce, public schools, churches and community centers. Press releases were published in the Sun Herald and meeting notices ran daily in the newspaper's community calendar one week before each meeting. A postcard detailing the time and location of the fourth forum was mailed to each person who signed in at the first three meetings.

In addition to the citizens who live and/or work in the watershed, participants in this public process including elected officials and employees of both city and county government, state agency representatives from the Mississippi Department of Environmental Quality, Mississippi Museum of Natural Science, Mississippi Department of Wildlife, Fisheries and Parks, Mississippi State University Extension Service, Mississippi Department of Marine Resources, and representatives from the U.S. Corps of Engineers, Southern Mississippi Planning and Development District, and the Sierra Club.

A copy of the fliers, meeting notices and sign-in sheets from each of the public forums is included as an attachment.

Principles for Conduct

At the beginning of each meeting, participants were asked to review and agree to abide by the principles identified below to insure a civil discourse and effective exchange of information and ideas about establishing a Turkey Creek Watershed Greenway.

- Create a process open to all
- Recognize and preserve every idea
- Rely on the wisdom of the community
- Respect both the simplicities and the complexities of the process
- Eliminate all barriers to sincere and honest dialogue
- Create cooperation among diverse groups
- Develop workable solutions through the creation of real projects
- Insist on diversity
- Accept responsibility for the consequences of the vision
- Establish trust

Agenda

A written agenda was distributed at each forum to provide focus to the public education and input process. At all of the meetings, information about the mission and goals of the Land Trust for the Mississippi Coastal Plain was shared through a powerpoint presentation to define the nonprofit's role as an educational facilitator.

During the first three meetings, the Land Trust identified what a greenway is and how such a program may help address local land use concerns. The process for establishing a greenway was discussed, along with information about the variety of greenway programs currently operating across the country.

At the **first two forums**, participants were asked to prioritize the issues that they would like to see addressed through a greenway program and to identify reasonable ways to address these concerns. After much discussion, consensus was reached that the following are the watershed's top four critical needs:

1. Enhanced recreational opportunities

2. Opportunities for environmental preservation & conservation
3. Improved stormwater management
4. Balanced residential growth with industrial & commercial development

At the **third forum**, these top needs were reviewed and participants were asked if they concurred with the consensus reached by participants in the first two meetings. Consensus was confirmed and then the Land Trust facilitated a discussion to identify citizens' top five preferred ways to address these needs, with the following results.

1. Top 5 ways to enhance recreational opportunities:
   - provide nature trails
   - improve water quality
   - provide boardwalks
   - link recreational activities to schools & communities to expand usage
   - improve safety & security

2. Top 5 opportunities for environmental preservation & conservation:
   - improve water quality
   - replant native trees
   - seek grant money to fund the greenway
   - use best management practices
   - lobby for local environmental protection, policies & ordinances

3. Top 5 ways to improve stormwater management:
   - reduce impervious paved surfaces
   - maintain natural flow of Turkey Creek
   - restore native vegetation on creek banks
   - implement smart growth
   - no more drainage routed into the creek from other agencies

4. Top 5 ways to balance residential growth with industrial & commercial development:
   - utilize abandoned buildings to reverse sprawl
   - create natural areas that link the greenway while buffering industrial land uses
   - re-address zoning
   - implement smart growth to create a balance among land uses
   - update & review existing plans for future growth

At the **fourth meeting**, the Land Trust presented a summary of the Turkey Creek Watershed critical needs and the public's top priorities for addressing them. Establishment of a greenway coalition, to provide an organizational structure for citizen input and participation in addressing the watershed's critical needs, was identified as the next step in the process. Proposed committees were discussed and are as follows:

> **Steering Committee** - comprised of a geographically-balanced group of interested citizens each of whom has a vested, long-term interest in the Turkey Creek Watershed and has agreed to spearhead the effort to establish a Turkey Creek Watershed Greenway. The Land Trust for the Mississippi Coastal Plain will continue to work in support of the Greenway in an advisory capacity to the Steering Committee, which will work to:
>
> * Develop the general vision for the Greenway and a long-term masterplan for implementing it, with specifically identified short-term objectives
>
> * Establish a working structure for the Greenway coalition, including selecting a Steering Committee chair and Standing Committee chairs and scheduling regular public meetings
>
> *Adopt policies to protect the rights of property owners, promote public safety, address general liability issues, and conserve the Greenway's natural resources through a comprehensive Greenway operations and maintenance plan

*Promote cooperative working relationships between state and local governments, private citizens, property owners, nonprofit agencies, and persons living, working or attending school in or near the Greenway

* Access public and private funding sources that are available for planning and implementing the Greenway master plan

* Develop design guidelines for signage and adopt a logo for the Greenway

Standing Committees

While the Standing Committees will work in coordination and support of one another, each must have specific objectives in order to achieve the comprehensive benefits of an integrated greenway. Each Standing Committees will be comprised of private citizens and representatives from government and nonprofit agencies, and at least one member of the Steering Committee. Each committee chair shall be appointed by and shall report to the Steering Committee.

Community Outreach & Education Committee: to research and recommend to the Steering Committee ways of educating, informing and inspiring the public about the Greenway's multiple benefits and ongoing progress. This includes recruiting volunteers, working with schools, churches, civic groups, residents and land owners, organizing special events and conducting regularly scheduled greenway programs and activities for community's benefit.

Compatible Planning and Growth Committee: to research and recommend to the Steering Committee ways of balancing residential land use with commercial and industrial development in the Greenway. This includes supporting the enforcement of local and state government smart growth regulations and policies and creating natural areas that link the Greenway while buffering it from industrial development. This committee also is responsible for researching and making recommendations to the Steering Committee about encouraging the reutilization of abandoned buildings to reverse sprawl, amending local zoning regulations, and updating/reviewing existing local government plans for future land use. It also is charged with working with the Harrison County Smart Growth Initiative as it applies to the Turkey Creek Watershed area.

Stormwater Management Committee: to research and recommend to the Steering Committee ways of assisting other agencies in identifying alyternmatives to routing increased drainage loads into Turkey Creek. This inclides researcxhing and advocating the minimization of impervious surfaces in the Greenway; maintaining the natural flow of Turkey Creek; restoring native vegetation on creek banks, wetlands, etc; and supporting local and state government regulations, smart growth policies and Best Management Practices related to stormwater management.

Natural Resource Conservation Committee: to assess and evaluate the Greenway's natural resources, identify opportunities for conservation and/or restoration, advocate and incorporate the use of Best Management Practices in the Greenway, support local and state policies and regulations that protect the environment, and promote the above means as important and effective ways of improving stormwater management, water quality and other desirable public benefits

Written Surveys

To supplement verbal input recorded at the first two forums, participants were encouraged to complete a written survey that ranked individual priorities and provided basic demographic information. Respondents had the options of completing the survey at the forum, turning it in at the next meeting, or mailing it to the Land Trust office.

A total of 27 completed surveys were submitted during the process, with the following responses. A copy of a blank survey form is attached.

Survey Summary:

Scale:

1 This item is important to me
2 This item is less important to me
3 This item is not important to me

1	2	3	
27			protect water quality of streams and wetlands
25	1		protect wildlife and native habitats
17	8	1	provide recreation areas to canoe, fish and hike
20	6		acquire land to be conserved as natural areas
25	1	1	protect floodplain areas
21	5		preserve archaeological and cultural heritage resources
18	6	1	provide opportunities for ongoing environmental education
6			other, please specify & rank:

- encourage residents' participation
- provide outdoor recreation of all kinds
- plant more native trees
- provide campsites, outdoor classrooms
- prevent flooding by preserving rather than developing
- preserving cultural heritages, history & communities is very important
- stabilize or improve the water quality
- construct bicycle trails
- prevent further soil contamination from creosote plant

Recreational Areas

How many times have you or your family used the following types of recreational space in the last six months?

picnic facility 1 survey 8 times; 1 – 5 times; 6 - 3 times; 2 – 2 times; 4 - 1 time

fishing area 1 survey 15 times**;** 2 -13 times; 2 - 12 times; 2 - 4 times; 2 – 3 times; 3 - 2 times; 3 - 1 time

canoeing/boating 1 survey 180 times; 1 – 15 times; 1 – 12 times; 1 – 10 times; 4 – 3 times; 2 – 2 times; 2 – 1 time

playground 2 surveys 10 times; 1 – 8 times; 1 – 6 times; 1 – 3 times; 1 – 2 times; 3 – 1 time

hiking trail 1 survey 30 times; 1 – 10 times; 4 – 6 times; 2 – 4 times; 1 – 3 times; 2 – 2 times; 4 – 1 time

waterfront boardwalk 2 surveys 20 times; 1 – 14 times; 1 – 10 times; 1 – 5 times; 3 – 4 times; 2 – 3 times; 2 – 2 times; 3 – 1 time

campground 1 survey 4 times; 1 - 2 times; 1 -1 time

other, please identify: 2 surveys: parks for tree identification, bird watching & star gazing
1 survey: walking trai

What would encourage you to use public recreation space more often?

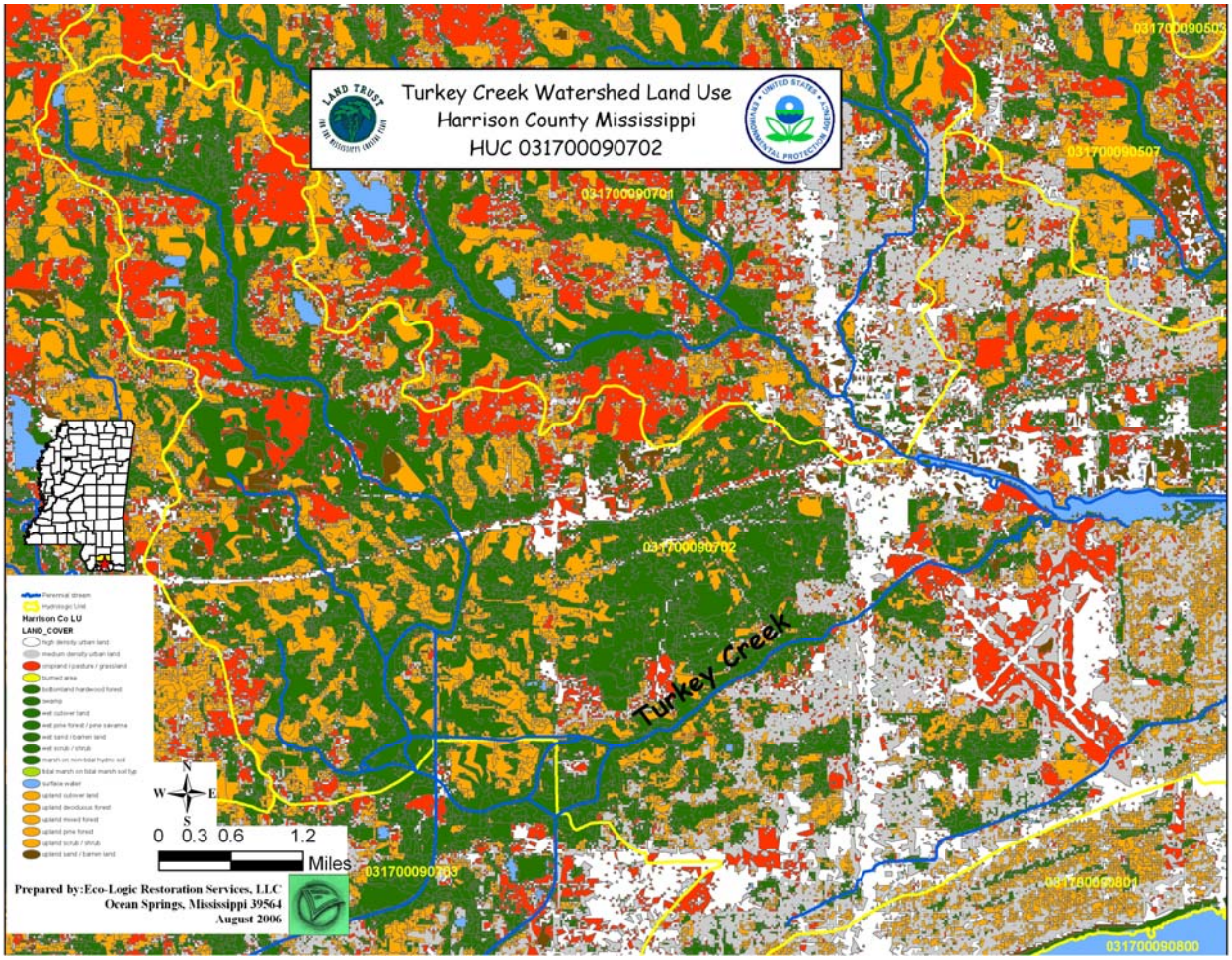
13 responses **closer proximity to your home**
10 responses **better maintenance of areas**
15 responses **improved security/safety**
12 responses **additional recreation choices** (canoeing & hiking written in on 1 survey)
5 responses **other, please explain:**

- better information at trails; more detailed online information about resources
- boat ramp; cleaner water
- marked trails for length & plant species
- woods biking
- trails or pathways; sidewalks; bikeways to connect recreation areas

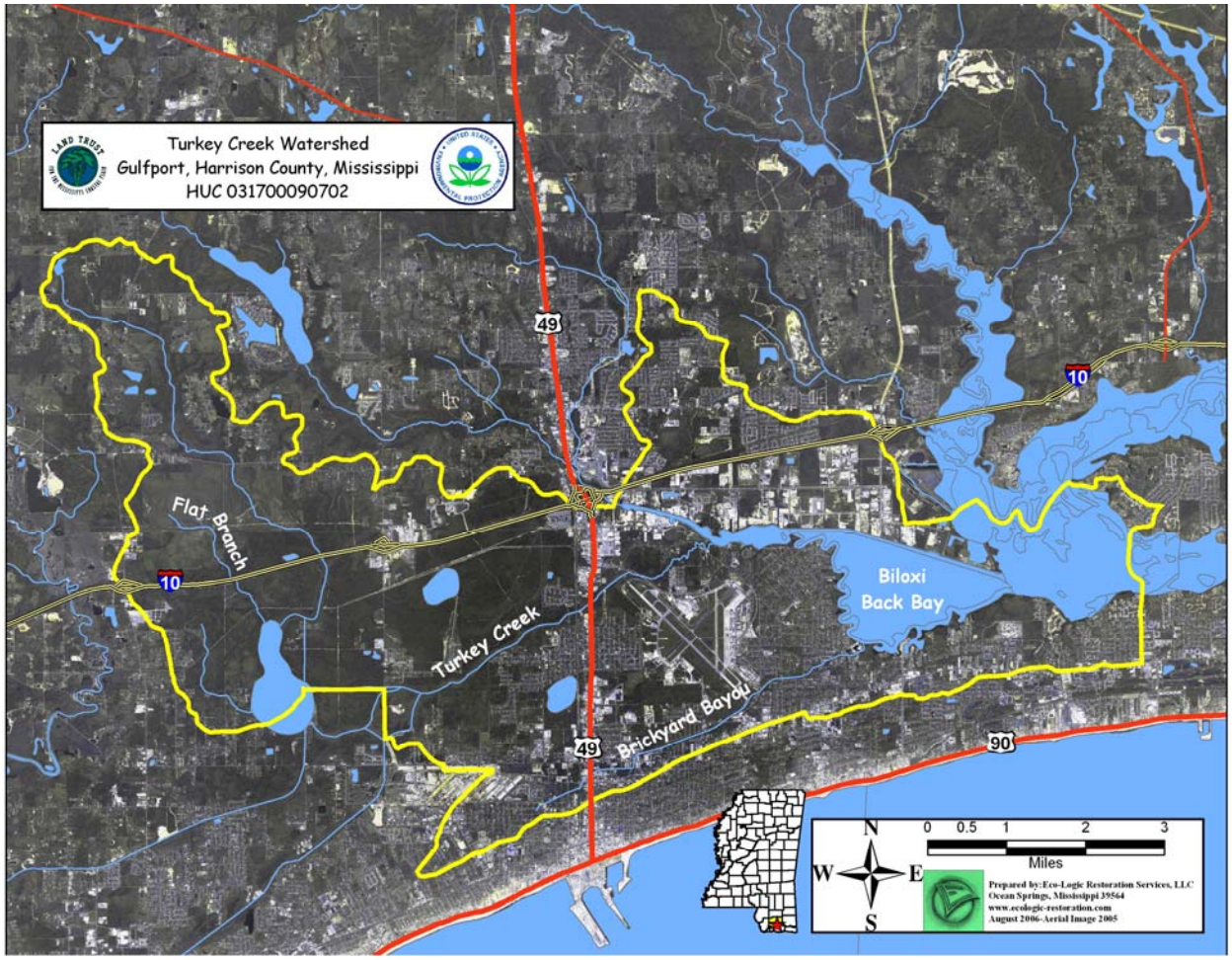
Appendix C


DRAFT
priority action plan
overview
turkey creek and north gulfport neighborhoods community plan
February 2006
prepared by Turkey Creek Community Initiatives and North Gulfport Community Land Trust
technical planning assistance and document production by Moore Iacofano Goltsman, (MIG) Inc.
DRAFT

Appendix D


Turkey Creek Watershed Land Use
Harrison County Mississippi
HUC 031700090702
031700090701
031700090702
031700090703
031700090800
Turkey Creek
Harrison Co LU
LAND_COVER
0 0.3 0.6 1.2
Miles
Prepared by:Eco-Logic Restoration Services, LLC
Ocean Springs, Mississippi 39564
August 2006

Appendix E


Turkey Creek Watershed
Gulfport, Harrison County, Mississippi
HUC 031700090702
49
10
Flat Branch
10
Turkey Creek
Biloxi
Back Bay
49
Brickyard Bayou
90
N
W
E
S
0 0.5 1 2 3
Miles
Prepared by: Eco-Logic Restoration Services, LLC
Ocean Springs, Mississippi 39564
www.ecologic-restoration.com
August 2006-Aerial Image 2005

Appendix F

NATURAL HERITAGE LIST

The tables below contain a Natural Heritage Inventory – Mississippi Museum of Natural Science representative of Harrison County and thus for the Turkey Creek watershed. This list is not meant to be comprehensive, but list species of "special concern".

Plant species

Scientific Name	Common Name	Global Rank	State Rank
AGALINIS APHYLLA	COASTAL PLAIN FALSE-FOXGLOVE	G3G4	S2S3
AGALINIS FILICAULIS	THIN STEMMED FALSE-FOXGLOVE	G3G4	S2?
AGRIMONIA INCISA	INCISED GROOVEBUR	G3	S3S4
ANDROPOGON PERANGUSTATUS	ELLIOTT'S BLUESTEM (VAR.2)	G5T3T4	S1?
ARISTIDA CONDENSATA	SANDHILLS THREE AWN	G4?	S3S4
BURMANNIA BIFLORA	NORTHERN BURMANNIA	G4G5	S3S4
CALOPOGON BARBATUS	BEARDED GRASS-PINK	G4?	S2S3
CAREX EXILIS	COAST SEDGE	G5	S2
CHAMAECRISTA DEERINGIANA	FLORIDA SENNA	G1G2	S1
CLEISTES DIVARICATA	SPREADING POGONIA	G4	S3
COREOPSIS BASALIS	GOLDEN-MANE TICKSEED	G5	S1?
DICHANTHELIUM ERECTIFOLIUM	ERECT-LEAF WITCHGRASS	G4	S3S4
ELYONURUS TRIPSACOIDES	PAN AMERICAN BALSAMSCALE	G5?	SH

EPIDENDRUM CONOPSEUM	GREEN-FLY ORCHID	G4	S2
ERIOCAULON TEXENSE	TEXAS PIPEWORT	G4	S2S3
GAYLUSSACIA FRONDOSA	DANGLEBERRY	G5	S2S3
HELIANTHEMUM ARENICOLA	GULF ROCKROSE	G3	S1S2
ILEX AMELANCHIER	JUNEBERRY HOLLY	G4	S3
ILEX CASSINE	DAHOON HOLLY	G5	S2
ILEX MYRTIFOLIA	MYRTLE HOLLY	G5?	S3S4
IPOMOEA PES-CAPRAE	RAILROAD VINE	G5	S2S3
ISOETES LOUISIANENSIS	LOUISIANA QUILLWORT	G3	S2
JUNIPERUS SILICICOLA	SOUTHERN RED CEDAR	G5T4T5	S2
LACHNOCAULON DIGYNUM	PINELAND BOGBUTTON	G3	S2
LILAEOPSIS CAROLINENSIS	CAROLINA LILAEOPSIS	G3G5	S2S3
LINDERA SUBCORIACEA	BOG SPICE BUSH	G2	S2
LINUM MACROCARPUM	LARGE FRUITED FLAX	G2?	S2
LYCOPODIUM CERNUUM	NODDING CLUBMOSS	G5	S2
MACRANTHERA FLAMMEA	FLAME FLOWER	G3	S3?
MELANTHIUM VIRGINICUM	VIRGINIA BUNCHFLOWER	G5	S2S3
MIKANIA CORDIFOLIA	FLORIDA KEYS HEMPVINE	G5	S3S4
PANICUM NUDICAULE	NAKED-STEMMED PANIC GRASS	G3Q	S2
PARONYCHIA ERECTA	BEACH SAND-SQUARES	G3G4	S1S2
PASPALUM MONOSTACHYUM	GULFDUNE PASPALUM	G4?	SU

PELTANDRA SAGITTIFOLIA	WHITE ARUM	G3G4	S2S3
PETALOSTEMON GRACILIS	PINE BARRENS PRAIRIE CLOVER	G5T3T4	S2S3
PHYSALIS ANGUSTIFOLIA	COAST GROUND-CHERRY	G3G4	S3S4
PINGUICULA PLANIFOLIA	CHAPMAN'S BUTTERWORT	G3?	S2
PINGUICULA PRIMULIFLORA	SOUTHERN BUTTERWORT	G3G4	S3
PLATANTHERA BLEPHARIGLOTTIS	LARGE WHITE FRINGED ORCHID	G4G5	S2
PLATANTHERA CRISTATA	CRESTED FRINGED ORCHID	G5	S3
PLATANTHERA INTEGRA	YELLOW FRINGELESS ORCHID	G3G4	S3S4
POLANISIA TENUIFOLIA	SLENDER-LEAF CLAMMY-WEED	G5	S1S2
POLYGALA HOOKERI	HOOKER'S MILKWORT	G3	S1S2
QUERCUS MYRTIFOLIA	MYRTLE-LEAF OAK	G5	S1?
RHYNCHOSPORA MACRA	LARGE BEAKRUSH	G3	S3
RHYNCHOSPORA STENOPHYLLA	CHAPMAN BEAKRUSH	G4	S1?
RUELLIA NOCTIFLORA	NIGHT-FLOWERING RUELLIA	G2	S2
RUELLIA PEDUNCULATA SSP PINETORUM	PINE BARREN RUELLIA	G5T3?	S3
SARRACENIA LEUCOPHYLLA	CRIMSON PITCHER-PLANT	G3	S2S3
SORGHASTRUM APALACHICOLENSE	OPEN INDIAN GRASS	G3Q	S3
SPIRANTHES LONGILABRIS	GIANT SPIRAL LADIES'-TRESSES	G3	S2S3
STEWARTIA MALACODENDRON	SILKY CAMELLIA	G4	S3S4

STYLISMA AQUATICA	WATER SOUTHERN MORNING-GLORY	G4	S1
SYNGONANTHUS FLAVIDULUS	YELLOW PIPEWORT	G5	S2?
UTRICULARIA PURPUREA	PURPLE BLADDERWORT	G5	S2S3
XYRIS CHAPMANII	CHAPMAN'S YELLOW-EYED GRASS	G3	S2?
XYRIS DRUMMONDII	DRUMMOND'S YELLOW-EYED GRASS	G3	S2
XYRIS FLABELLIFORMIS	FAN-SHAPED YELLOW-EYED GRASS	G4	SU
XYRIS SCABRIFOLIA	HARPER'S YELLOW-EYED GRASS	G3	S1S2

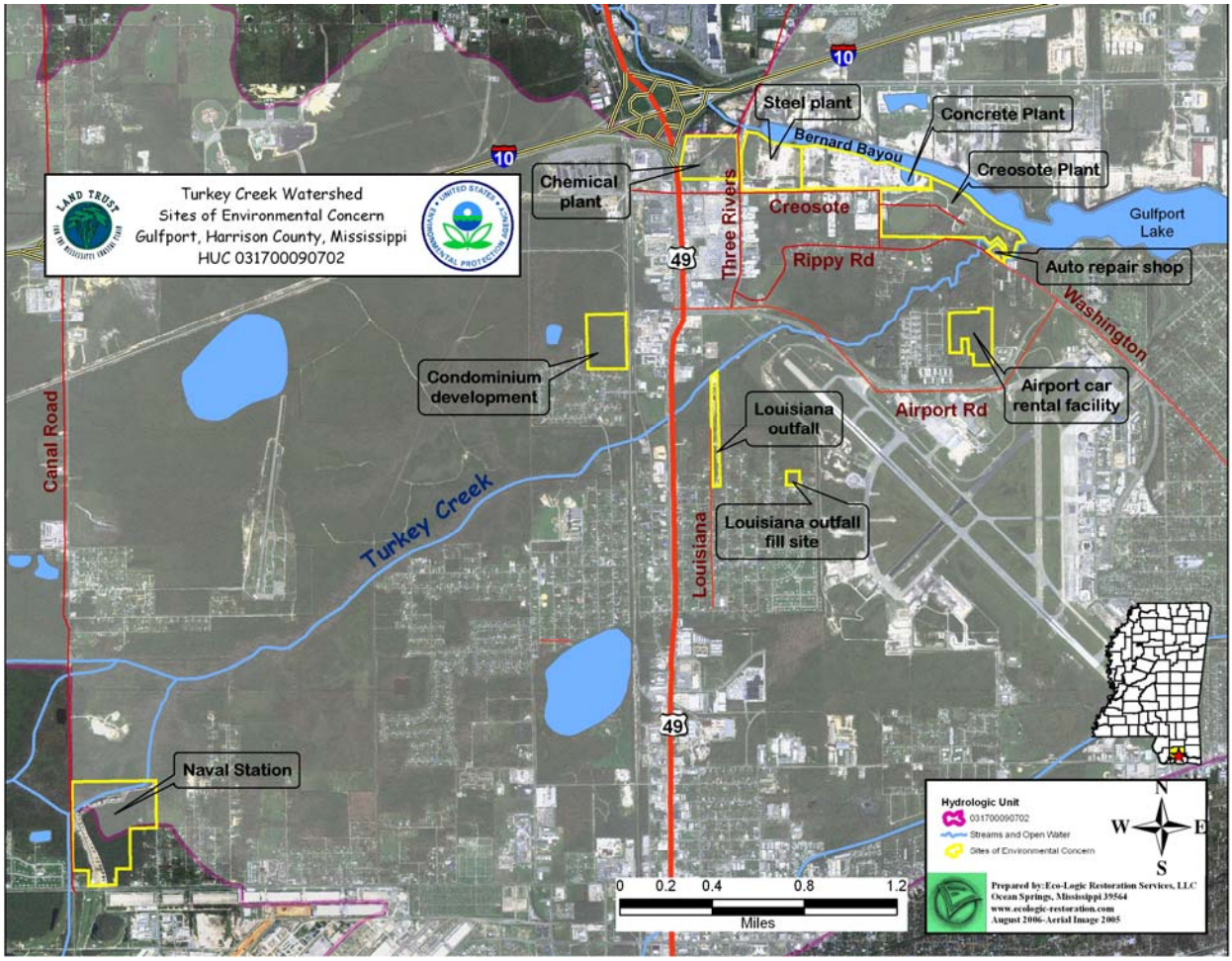
Animal Species

Scientific Name	Common Name	Global Rank	State Rank
ACCIPITER STRIATUS	SHARP-SHINNED HAWK	G5	S1?B,SZN
AIMOPHILA AESTIVALIS	BACHMAN'S SPARROW	G3	S3?B,SZN
ANAS FULVIGULA	MOTTLED DUCK	G4	S3B,S4N
CHARADRIUS MELODUS	PIPING PLOVER	G3	SZN
COTURNICOPS NOVEBORACENSIS	YELLOW RAIL	G4	S2N
DRYMARCHON CORAIS COUPERI	EASTERN INDIGO SNAKE	G4T3	S1
EGRETTA RUFESCENS	REDDISH EGRET	G4	SZN

ENNEACANTHUS GLORIOSUS	BLUESPOTTED SUNFISH	G5	S3
FALCO COLUMBARIUS	MERLIN	G5	SZN
FALLICAMBARUS BYERSI	LAVENDER BURROWING CRAYFISH	G4	S3
FALLICAMBARUS DANIELAE	SPECKLED BURROWING CRAYFISH	G2	S2
FUNDULUS JENKINSI	SALTMARSH TOPMINNOW	G2	S3
GOPHERUS POLYPHEMUS	GOPHER TORTOISE	G3	S2
HAEMATOPUS PALLIATUS	AMERICAN OYSTERCATCHER	G5	SPB,SZN
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	G4	S1B,S2N
HETERANDRIA FORMOSA	LEAST KILLIFISH	G5	S3
HETERODON SIMUS	SOUTHERN HOGNOSE SNAKE	G2	SH
LATERALLUS JAMAICENSIS	BLACK RAIL	G4	S2N
MACROCHELYS TEMMINCKII	ALLIGATOR SNAPPING TURTLE	G3G4	S3
MALACLEMYS TERRAPIN PILEATA	MISSISSIPPI DIAMONDBACK TERRAPIN	G4T3	S2
NERODIA CLARKII CLARKII	GULF SALT MARSH SNAKE	G4T3	S2?
NOTROPIS CHALYBAEUS	IRONCOLOR SHINER	G4	S2
NYCTICORAX NYCTICORAX	BLACK-CROWNED NIGHT-HERON	G5	S3?B,SZN
ONTHOPHAGUS POLYPHEMI	ONTHOPHAGUS TORTOISE COMMENSAL SCARAB BEETL	G?	S?

PANDION HALIAETUS	OSPREY	G5	S3B,SZN
PELECANUS ERYTHRORHYNCHOS	AMERICAN WHITE PELICAN	G3	S2N
PELECANUS OCCIDENTALIS	BROWN PELICAN	G4	S1N
PEROMYSCUS POLIONOTUS	OLDFIELD MOUSE	G5	S2S3
PICOIDES BOREALIS	RED-COCKADED WOODPECKER	G3	S1
PITUOPHIS MELANOLEUCUS LODINGI	BLACK PINE SNAKE	G4T3	S2
PROCAMBARUS FITZPATRICKI	SPINY-TAILED CRAYFISH	G2	S2
PSEUDOTRITON MONTANUS	MUD SALAMANDER	G5	S2S3
RANA HECKSCHERI	RIVER FROG	G5	S1
RANA SEVOSA	DARK GOPHER FROG	G1	S1
REGINA RIGIDA SINICOLA	GULF CRAYFISH SNAKE	G5T5	S3?
RHADINAEA FLAVILATA	PINE WOODS SNAKE	G4	S3?
STERNA ANTILLARUM	LEAST TERN	G4	S3B,SZN
STERNA MAXIMA	ROYAL TERN	G5	S1B,S4N
THRYOMANES BEWICKII	BEWICK'S WREN	G5	S2S3B,SZN
TRICHECHUS MANATUS	MANATEE	G2	SZ

Appendix G


Turkey Creek Watershed
Sites of Environmental Concern
Gulfport, Harrison County, Mississippi
HUC 031700090702
Steel plant
Concrete Plant
Bernard Bayou
Chemical plant
Creosote Plant
Three Rivers
Creosote
Gulfport Lake
Rippy Rd
Auto repair shop
Washington
Condominium development
Airport car rental facility
Airport Rd
Louisiana outfall
Canal Road
Turkey Creek
Louisiana outfall fill site
Louisiana
Naval Station
Hydrologic Unit
031700090702
Streams and Open Water
Sites of Environmental Concern
N
W
E
S
0 0.2 0.4 0.8 1.2
Miles
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Ocean Springs, Mississippi 39564
www.ecologic-restoration.com
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