

STATE OF GEORGIA
TIER 2 TMDL IMPLEMENTATION PLAN **REVISION** ___
Tributary to Flat Shoal Creek
Chattahoochee River Basin

Local Watershed Governments: Meriwether County

I. INTRODUCTION

Total Maximum Daily Load (TMDL) Implementation Plans are platforms for evaluating and tracking water quality protection and restoration. These plans have been designed to accommodate continual updates and revisions as new conditions and information warrant. In addition, field verification of watershed characteristics and listing data has been built into the preparation of the plans. The overall goal of the plans is to define a set of actions that will help achieve water quality standards in the state of Georgia.

This implementation plan addresses the general characteristics of the watershed, the sources of pollution, stakeholders and public involvement, and education/outreach activities. In addition, the plan describes regulatory and voluntary practices/control actions (*management measures*) to reduce pollutants, milestone schedules to show the development of the management measures (*measurable milestones*), and a monitoring plan to determine the efficiency of the management measures.

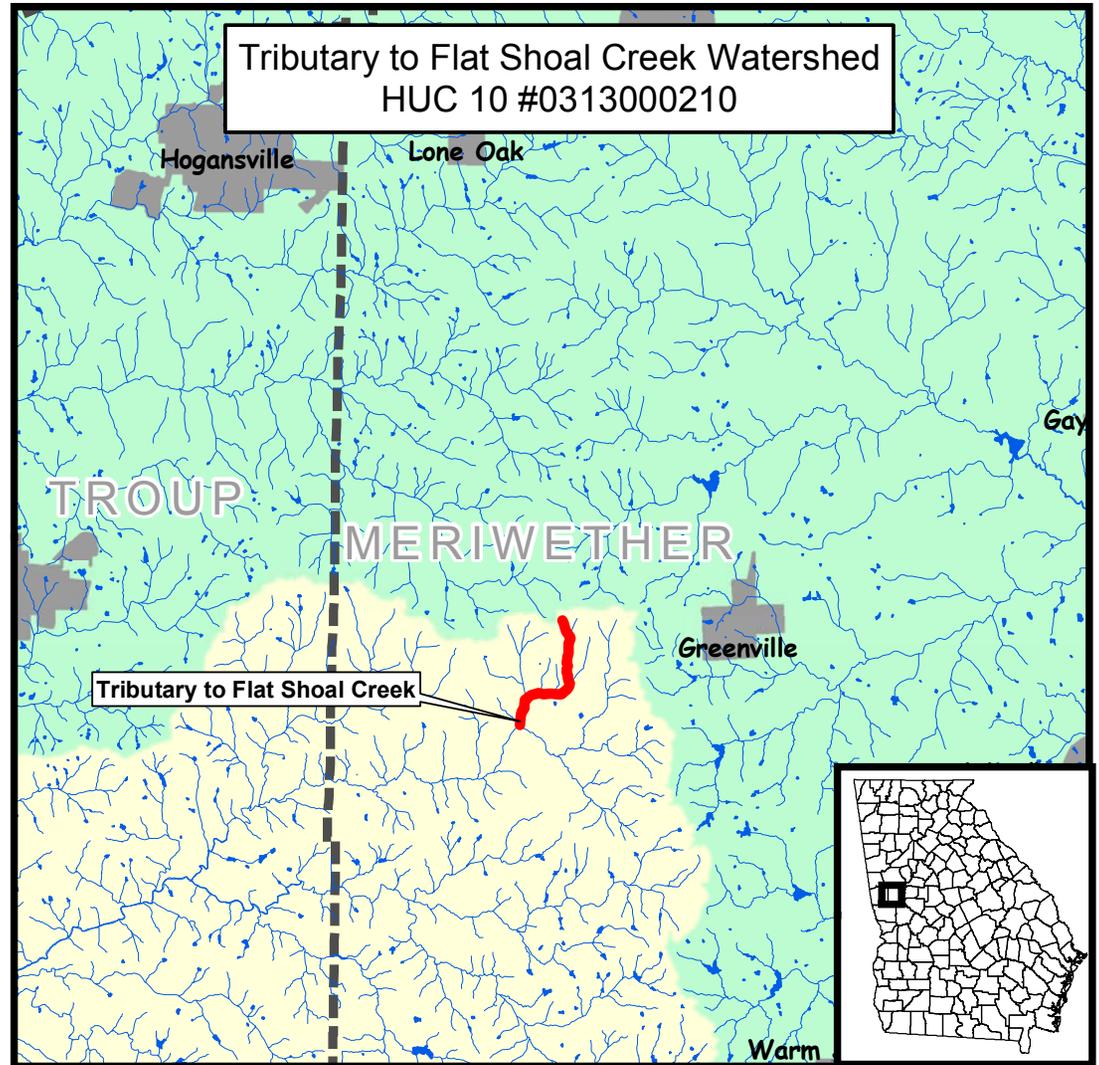


Table 1. IMPAIRMENTS

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT
Tributary to Flat Shoal Creek	Headwaters to Flat Shoal Creek	Biota(sediment)
Mt. Hope Branch*	Meriwether County	Biota(sediment)

* Plan will be written by GA EPD

II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed. Include an updated overview of watershed characteristics. Identify new conditions and verify or correct information in the TMDL document using the most current data. Include the size and location of the watershed, political jurisdictions, and physical features that could influence water quality. Describe the source and date of the latest land cover/use for the watershed. Describe and quantify major land uses and activities that could influence water quality. See the instructions for more information on what to include.

Watershed Characteristics, Size and Location: The tributary is located in western Meriwether County in the Piedmont Region of Georgia. The entire 2 miles of the segment is affected. The watershed encompasses 1.53 square miles. Soils of the Piedmont are acid and low in nitrogen and phosphorus. In many cases, much of the original topsoil has been eroded leaving the clayey subsoil exposed. Although row crops can be productive in this region, the area is better adapted to pasture production. Erosion control is critical when these soils are cultivated or exposed through construction activity (*West Georgia Watershed Assessment and Management Plan 2004*). There are no hazardous waste sites; NPDES permitted sites or drinking water intakes in the watershed. The tributary is in a groundwater recharge area, which is an area through which precipitation and surface water infiltrate to groundwater.

Land Use Land Cover: The most recent land use data is the data collected for the TMDL. During this study 1999 aerial photos were used to verify land use. The county is currently gathering data for an Existing Land Use Map, which will be completed by late 2004. This information can be used to update the Implementation Plan.

Relevant Watershed Planning and Management Activities:

E & S Program: Meriwether County is revising their Soil Erosion & Sedimentation Control Ordinances to meet new state rules that require land disturbing permits of activities over 1 acre. The Ordinance is administered by the zoning administrator who reviews E&S plans & conducts preliminary site visit for developments. Violations are either reported to zoning administrator or observed during inspections. Because there has been little development, there has never been a fined violation. The County plans to hire a certified inspector in the next 3-5 years.

Georgia Forestry Commission Activities: In an effort to minimize erosion and stream sedimentation from forestry practices, the GFC has an agreement with the Georgia Department of Natural Resources Environmental Protection Division (GADNR EPD) to educate the forest community and promote the use of forestry Best Management Practices (BMPs). A specially trained forester located in each of the 12 district offices statewide carries out this service.

Since January 2003, the GFC is conducting monthly BMP Assurance examinations in an effort to provide "reasonable assurance" that forestry operations are complying with the BMPs and meet any TMDL requirements. Active sites are identified through aerial or ground observations, requests by landowners, companies or operators, or by county tax records and then inspected for BMP implementation with the landowner's permission. This effort will hopefully educate landowners about BMPs and their responsibilities and liabilities with state water quality laws and also provide on-the-ground assistance to loggers or operators before potential problems occur.

TRIBUTARY TO FLAT SHOALS CREEK
COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Tributary to Flat Shoals Creek	Meriwether County	2 mi/ 1.53 sq mi.	Fishing	PS

III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLs

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard violated. See the instructions for the water quality standards. Describe the sources and causes of each violation identified in the TMDLs.

Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLs

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT AS PERCENTAGE OF TOTAL LOAD	NEEDED REDUCTION FROM TMDL
Biota	No degradation to fish community	Row Crops 80.16% , Roads 17.01 % , Pasture 1.88% , Evergreen Forest .34%, Decid. Forest .32%, Mixed Forest .26% Com/ Ind .03%	20 %

IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT

INVESTIGATE AND EVALUATE the sources of impairment for each parameter listed in Table 2. Write a narrative describing efforts made or procedures used to verify the significance and extent of the sources or causes of each impairment listed in the TMDLs. Include:

- Involvement of stakeholder group
- Field surveys
- Review of land cover data
- Evaluation of sources

NOTE: The *Total Maximum Daily Load Evaluation Thirty-One Stream Segments in the Chattahoochee River Basin For Sediment (GAEPD, 2003)* states that based on findings, "it was determined that most of the sediment in the Chattahoochee River Basin streams is due to 'legacy' sediment. Therefore it is recommended that there be no net increase in sediment ...in order that these streams recover over time" (pg. 64). This indicates that it emphasis should focus on avoiding future and current erosion rather than to determining the cause of the existing impairment, which probably occurred because of past land use. This is germane to this segment, where conditions appear to be quite stable.

Evaluation of Sources Found in the TMDL:

Row Crops: the TMDL attributes 3.21% of land use and 80.16% of the sediment load to row cropping. Landowners and other stakeholders agree that there is no row cropping in the watershed.

Roads: the TMDL attributes 17 % of the sediment load to roads. All roads within the watershed are dirt roads with the exception of a small stretch of highway 109 at the headwaters. During a site visit in May 2004, CFRDC staff found the roads in very poor condition. One area on Billy Favor Terrell Road was completely washed out and impassible. Based on this observation, it is likely that dirt roads contribute more than 17% to the sediment load.

Pasture: the TMDL attributes 19.38% of land use and 1.88% of the sediment load to pasture. The TMDL 1999 Biomonitoring report states that parts of the stream are flanked by pasture and that animal production has an impact on the sediment load. During the 2004 field survey CFRDC staff noted that pasture is the predominate land use in the watershed, possibly higher than 19%. Grazing practices within the watershed appear to be exceptional. Animals appeared to be fenced out of the stream in all observable areas. Property owners had also maintained a significant buffer along the stream.

Forest: the TMDL attributes 77% of land use and less than 1% of the sediment load to forest. More information is needed to make a determination on the impact.

Commercial/ Industrial: the TMDL attributes .12% of land use and less than 1% of the sediment load to commercial and industrial land use. More information is needed to make a determination on the impact.

To the extent possible, identify sources and quantify the extent of pollution in the stream segment for each of the parameters listed in Table 2 and evaluate the likely impact on the parameter load to the stream. This should follow research performed and described in preceding narrative and should correct or add information to the TMDLs. **The SOURCES SHOULD BE RANKED** from those having the most impact to those having the least impact. The estimated extent of contribution can be expressed as the area of the watershed effected, the stream miles effected, or the number of activities contributing to the problem. The magnitude of contribution should be estimated to be large, moderate, small, or negligible.

Table 3. CONCLUSIONS MADE OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
Biota	Roads	Upper watershed	Large	Road washed out
	Pasture	Throughout	Small	BMPS in place
	Commercial / Industrial	None	Negligible	None observed in watershed
	Forest	None	Negligible	No active forestry observed
	Row Crops	None in watershed	Negligible	None in watershed

V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities which may be employed to reduce the impacts of the causes of impairment.

Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

Stakeholders were notified of the project by mail. An article describing the project also appeared in all the local newspapers. The letter received by individual stakeholders and the article described three ways for interested parties to engage in the process; 1) attend one of five county stakeholder meetings, 2) contact CFRDC staff directly through e-mail or by phone, and 3) view and comment on the draft plans on the CFRDC website between June 28th and July 14th2004.

Meetings: Meetings were held in each of CFRDC's five counties (see attachment). CFRDC staff developed presentation boards for the meetings that contained a map of each of the nine affected streams, land use data that had been provided in the TMDL, and preliminary findings, if any. Sampling data was also provided for all the streams. After a short presentation, participants were asked to examine and comment on the data and offer insight into current watershed conditions. Participants were supplied with comment sheets. Several landowners attended the Meriwether meeting. Stakeholders from Meriwether County, the Georgia Forestry Commission, and the County Extension with an interest in tributary to Flat Shoals Watershed attended the Meriwether County Meeting. Information about all nine watersheds was presented at each meeting because many stakeholders had an interest in watersheds in more than one county.

Press Releases: Two Press Releases ran in local newspapers during the course of the project. The first ran in early May 2004. It alerted readers to the project, meeting times and ways to participate. The second ran in early October 2004. It gave an update on the project and asked for participation through direct contact with staff or by reviewing the plans on CFRDC's website.

Comments from Website: the nine TMDL Implementation Plans were posted on CFRDC's website on June 28th 2004 for the purpose of receiving comment. Stakeholders who attended meeting of contacted CFRDC staff directly were asked to visit the website and comment on the drat plans.

Advisory Group: CFRDC formed a Water Issues Committee (WIC) in 2000 for the purpose of guiding the agency on TMDL, Source Water Assessment Plans and other water issues. The WIC consists of two or more representatives from each county who were appointed buy the local governments. During this TMDL process, this group met in mid July 2004 to review draft plans and develop public outreach activities.

Major Findings and Comments from Stakeholder Involvement:

1. Newspaper articles are the most effective method for public outreach. Educating children, public meetings, events and Adopt-a-Stream were also mentioned.

2. More accurate data is needed to make a scientifically based determination on source and impairment.
3. No row cropping in watershed
4. Dirt roads contribute to sediment problem

Comments as received on Comment Sheets and on website:

QUESTION: Does the information provided about land use seem accurate? If not, how is it different?

“No, % of row crops seems high in both Meri. County Watersheds.”

Additional Comments:

I think the data needs to be updated and the causes determined, before making recommendations on how to improve.”

“More ground pounding needs to be done by the people that can get things done. Seeing the presence of GFC, EPD in a friendly way helps much. Too much of what is seen of EPD is only on TV or in a few law enforcement cases.

More ground pounding needs to be done by people gathering and using the data for watershed management plans. Using satellite imagery is great for figuring land use statistics only as long as it is checked on the ground.

Consideration has to be given to the fact that it took hundreds of years of human misuse to cause our problems we see today and no law or education is going to change things in only a few years. We as citizens need to get serious about solving the problems instead of just looking like we are solving them. There is more talk, monitoring, and laws about soil disturbances than ever, but nearly every construction site I see is still putting silt in streams because of improper installation or maintenance of sediment control structures. Sometimes just the installation of silt fence causes a major problem. These comment sheets are a good start if used.”

“County road maintenance contributes to sediment.”

“Good formatting for TMDL reporting. I note that we might add Georgia's Better Back Road Program (What is it?) to Management Measures for Town Creek, Cavender Creek, Long Branch Creek, and the Tributary of Flat Shoals Creek, especially if it addresses both public county and private unsurfaced roads. Primarily, unsurfaced county road crews must be educated. Are there no possible management measure for Off Highway Vehicle abuse of utility easements and elsewhere? There is a National Off Highway Vehicle Conservation Council (NOVHCC) and a Georgia Association of Recreational Trail Riders Association (GARTRA) that may address this as stakeholders. How might we review the GA EPD developed TMDL reports?”

List the watershed or advisory committee members of the stakeholder group for this segment in the following table.

Table 4. COMMITTEE MEMBERS

NAME/ORG	ADDRESS	CITY	ST	ZIP	PHONE (W)	PHONE (H)
Denny Ivey/CFRDC Water Issues Committee	103 Carroll Circle	Carrollton	GA	30117	770-832-2171	
Brenda Rice/CFRDC Water Issues Committee	300 Old Goldmine Road	Villa Rica	GA	30180	770-830-6673	
Loren McCune/CFRDC Water Issues Committee	PO Box 428	Newnan	GA	30264	770-253-2020	770-253-9357
David Brown/CFRDC Water Issues Committee	1770 Al Robert Road	Senoia	GA	30276		770-599-1830
Robert Blackburn/CFRDC Water Issues Committee	200 Joe Ben Lee Road	Newnan	GA	30263	770-253-6990	770-253-6728
Bob Jones/CFRDC Water Issues Committee	252 Jones Road	Franklin	GA	30217	706-675-3053	706-675-3049
Doug Craven/CFRDC Water Issues Committee	2404 Armstrong Mill Road	Franklin	GA	30217		770-854-8186
C.E. Withrow/CFRDC Water Issues Committee	940 Linda Lane	Manchester	GA	31816	706-846-3525	
Bill Tomlin/CFRDC Water Issues Committee	807 McCurdy Boulevard	Manchester	GA	31816		706-846-2717
A.J. McCoy/CFRDC Water Issues Committee	571 Alvaton Road	Gay	GA	30218	404-506-0919	772-927-9055
Arthur Holbrook/CFRDC Water Issues Committee	215 Cofield Road	LaGrange	GA	30240		706-884-7905
Buck Davis/CFRDC Water Issues Committee	1134 Young's Mill Road	LaGrange	GA	30240		706-884-1621
David Brown/CFRDC Water Issues Committee	Post Office Box 430	LaGrange	GA	30241	706-883-2000	

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

VI. MANAGEMENT MEASURES AND ACTIVITIES

Describe any management measures or activities that have been put into place or will be put into place including regulatory or voluntary actions or other controls by governments or individuals that specifically apply to the pollutant that will help achieve water quality standards. Include who will be responsible for the measure, how it will be funded, the status, the date it will be or was initiated, and a short description of how effective the measure is or will be.

Table 5. MANAGEMENT MEASURES AND ACTIVITIES

MEASURES APPLICABLE TO BIOTA

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Implementation of E & S Ordinance	County	Requires erosion control plans for all new development over 1.1 acres	County	Underway	Summer 2004	Weak, little construction in watershed. Very effective if properly enforced.
NPDES Permitting	EPA Permittee	Permittee monitors discharges to determine if they are within allowable limits and files a report to EPD	EPD Permittee	Underway		Weak. No NPDES permit holders in watershed.
Georgia's Better Back Road Program	Two Rivers RC&D Council	Demonstration sites, Statewide training & publication of <i>Unpaved Road Maintenance Manual</i>	Federal & State	Underway	Project runs from spring 2004 to spring 2005	Very if implemented in the watershed.
Implementation of GFC's Forestry BMPs	GFC,	Inform landowners, foresters, timber buyers, logger site and reforestation effective practices contractors and others about commonsense, economical and effective practices to minimize nonpoint pollution	GFC	Underway	1997	Moderate to weak. EPA identifies siculture as the lowest contributor to np pollution. Also, no evidence of active forestry in watershed
GFC Monthly BMP Assurance Exams	GFC	GFC offers monthly assurance exams of active sites, particularly those located in impaired watersheds.	GFC	Current	Jan 2003	Moderate to weak. EPA identifies siculture as the lowest contributor to np pollution.
NRSC Programs	NRSC Property Owner	Various voluntary programs to assist landowners with BMPs	Federal Property Owner	Underway		Very, if programs are uses by watershed landowners
Public Outreach	CFRDC	CFRDC will distribute findings of Implementation Plans to local governments, agencies and citizen groups.	Local	Planned	Sept-Dec. 2004	Moderate

VII. MONITORING PLAN

The purposes of monitoring are to obtain more data, to determine the sources of pollution, to describe baseline conditions, and to evaluate the effects of management and activities on water quality. Describe any sampling activities or other surveys - active, planned or proposed - and their intended purpose. Reference the development and submission of a Sample Quality and Assurance Plan (SQAP) if monitoring for delisting purposes.

Table 6. MONITORING PLAN

PARAMETER(S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
			START	END	
ALL	Georgia EPD	Planned	2005	2005	Basin Monitoring

VIII. PLANNED OUTREACH FOR IMPLEMENTATION

List and describe outreach activities which will be conducted to support this plan and the implementation of it.

Table 7. PLANNED OUTREACH

RESPONSIBILITY	DESCRIPTION	AUDIENCE	DATE
CFRDC	TMDL section on CFRDC web page will contain all Implementation Plans, information about the TMDL process, links to other web pages and an area for comments	Local governments and some citizens	Starts July 2004 and continues indefinitely
CFRDC	News releases in all local papers when final plans are approved	Residents and stakeholders	December 2004

IX. MILESTONES/ MEASURES OF PROGRESS OF BMPs AND OUTREACH

This table will be used to **track and report progress of management measures including BMPs and outreach**. Record milestone dates for:

- accomplishment of management practices or activities - outreach activities
- installation of BMPs

to attain water quality standards. Comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used to report and track progress.

Table 8. MILESTONES

MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Implementation of E & S Ordinance	County	Revised 2004	Adopted 2004	
NPDES Permitting	EPD Permittee	N/A	N/A	Ongoing Program
Georgia's Better Back Road Program	Two Rivers RC&D Council			
Implementation of GFC's Forestry BMPs	GFC,	N/A	N/A	Ongoing
GFC Monthly BMP Assurance Exams	GFC	N/A	2002	On going
NRSC Programs	NRSC Property Owner	N/A	N/A	Ongoing
TMDL Section on CFRDC Website	CFRDC	May 2004	July 2004	On-going

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Date Submitted to EPD:	November 30 2004	Revision:	

APPENDIX A.

STAKEHOLDERS

List the names, addresses, telephone numbers, and e-mail addresses for local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Mr. Arthur H. Domby	1088 Oxford Road NE	Atlanta	GA	30306	-NA-	-NA-
Mr. Kippy M. Mayfield	4084 Stovall Road	Greenville	GA	30222	-NA-	-NA-
Ms. Bevery Gordon	P.O. Box 400	Greenville	GA	30222	-NA-	-NA-
Mr. Robert Hiss Meriwether County Government	P.O. Box 428	Greenville	GA	30222	-NA-	-NA-
Ms. A. Celeste Garrett Meriwether County Extension Service	555 South Talbotton Street	Greenville	GA	30222	-NA-	-NA-

APPENDIX B.

UPDATES TO THIS PLAN

Describe any updates made to this plan. Include the date, section or table updated, and a summary of what was changed and why.

Attachments

Meeting Time & Places Flier (hard copy only)
Sample Press Release # 1 (hard copy only)
Sample Press Release #2 (hard copy only)