

NONPOINT SOURCE MANAGEMENT PLAN
FOR
THE GRAND TRAVERSE BAND OF OTTAWA AND
CHIPPEWA INDIANS (GTB)

FINAL

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Prepared for – Grand Traverse Band of Ottawa and Chippewa Indians
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ACRONYMS AND ABBREVIATIONS LIST

BIA	Bureau of Indian Affairs
BMP	Best Management Practices
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
CWA	Clean Water Act
EQIP	Environmental Quality Incentives Program
FMP	Forest Management Plan
FSA	Farm Service Agency
GAP	General Assistance Program
GTB	Grand Traverse Band of Ottawa and Chippewa Indians
HD	Health Department
HUC	Hydrologic Unit Code
IHS	Indian Health Service
ITCM	Inter-Tribal Council of Michigan
MDARD	Michigan Department of Agriculture and Rural Development
MDEQ	Michigan Department of Environmental Quality
MDNR	Michigan Department of Natural Resources
MDOT	Michigan Department of Transportation
MSU	Michigan State University
NPS	nonpoint source
NRCS	Natural Resources Conservation Service
NRD	Natural Resources Department
TAS	treatment as state
TDS	total dissolved solids
TN	total nitrogen
TP	total phosphorus
TSS	total suspended solids
µg/L	micrograms per liter
U.S. EPA	United States Environmental Protection Agency

SECTION 1 – OVERVIEW

The Grand Traverse Band of Ottawa and Chippewa Indians (GTB) currently administers a nonpoint source (NPS) management program under the federal Clean Water Act (CWA) Section 319 to address NPS pollution within GTB's Section 319 Management Program boundaries. To qualify for Section 319 funding, tribes must meet four criteria (USEPA 2010):

1. Be a federally recognized tribe
2. Complete an approved CWA section 319(a) NPS Assessment Report
3. Complete an approved CWA section 319(b) NPS Management Program Plan
4. Be CWA section 518(e) approved for treatment, similarly to a state ("treatment as a state" or TAS)

In 2002, the GTB completed an initial NPS Assessment Report that summarizes and characterizes the condition of Tribal water resources. GTB NRD staff developed an updated NPS Assessment Report in July 2013 that includes water quality data from the GTB 2012 Section 106 Water Quality Assessment Report, as well as historical water quality data, to support the development of this Section 319 NPS Management Program Plan. Approval of the updated NPS Management Program Plan will allow the GTB to continue to pursue federal grant funding to implement structural and non-structural best management practices (BMPs) and reduce NPS pollution impacts.

The GTB Section 319 NPS Management Program will focus on the GTB Section 319 NPS Management Program boundary established by the Tribal Council in October 2001. As approved by the Tribal Council, the Section 319 NPS Management Program boundary includes all Tribally-owned parcels purchased prior to October 10, 2001 in the six-county service area. The six-county service area and the location of the parcels that fall under the GTB Section 319 NPS Management Program boundaries are shown in Figure 1. BMP implementation on these parcels will contribute to reductions in NPS pollutants affecting Tribal water resources, but the GTB recognizes that these parcels are a small fraction of the land uses contributing NPS pollutants to Tribal waters. There are other Tribally-owned parcels that the GTB purchased after October 10, 2001 that have the potential to contribute NPS pollution due to the nature of the activities on the parcels (e.g., casino, golf courses), and provide an opportunity for additional NPS BMP implementation activities. If the GTB would like to include these additional parcels under the Section 319 NPS Management Program boundary, GTB staff could work with U.S. Environmental Protection Agency (EPA) to amend the existing TAS documentation that will expand the Section 319 NPS Management Program boundary definition. Doing so would allow GTB to obtain Section 319 funding to conduct NPS management activities on these additional Tribally-owned parcels. GTB staff would then work with EPA to provide an addendum to this Section 319 NPS Management Program Plan to highlight the additional parcels included in the GTB Section 319 NPS Management Program boundary definition through the TAS amendment.

The 2013 NPS Assessment Report links Section 106 water quality data collected by the GTB to possible NPS sources by watershed/subwatershed, with an emphasis on GTB-owned parcels that currently fall under GTB's Section 319 NPS Management Program boundary definition. Table 1 summarizes the findings of GTB's water quality data compared to target GTB goals. According to this analysis, most samples at GTB sites met recommended water quality criteria though nutrients, turbidity, and sediment are sometimes higher than desired. The NPS Assessment suggests needed priority management of Belanger and Mitchell Creeks as well as Tribal lands draining to the Grand Traverse Bay watershed.

Table 1. Level of Goal Attainment Status Exceedances

Sampling site ID	Parameter of Concern:	Chlorophyll a (mg/L)	Cond. (mS/cm)	E. Coli (MPN/100 mL)	Habitat Assessment	NO ₂ NO ₃ (mg/L)	Temperature (F)	TN (mg/L)	TP (µg/L)	Turbidity (NTUs)
	Goal Target:	R: > 1.03 LK: > 2.02	> 0.5	TBC S: 300	Marginal	R: > 0.13 LK: > 0.008	Varies	R: > 0.71 LK: > .81	R: > 28.75 LK: > 20	> 0.84
	Sampling Site Location/Waterbody									
325	East Jordan Tourist Park Beach			L						
1799	Bayside Acme Township Park			L						
BER	Betsie River								H	H
BMK	Belanger Creek at McKeese Rd					H				H
BOM	Belanger Creek at Omena Rd				M	L	H			L
BOR	Boardman River				L		L			L
BPD	Belanger Creek at Pobuda Rd					H				H
BPT	Belanger Creek at Peshawbestown Rd					H				H
CLR	Clam River									
CRR	Crystal River				L		L			L
ECH	Ennis Creek					H			L	H
ELK	Elk Lake					H			L	
ELR	Elk River									L
ERP	Elk Rapids					M			L	L
LEE	Grand Traverse Bay at Lee Point					H			L	L
LEN	Lake Michigan at Leland North					H			L	
LER	Leland River									
LES	Lake Michigan at Leland South					H			L	L
MEC	Meber Creek						H			M
MIC	Mitchell Creek	L	M	L*			H	M	M	M
NPT	Grand Traverse Bay at Northport					H			L	
OMN	Grand Traverse Bay at Omena Bay					H			L	L
PBT	Grand Traverse Bay at Peshawbestown Near Shore					H			L	L
SKG	Skegemog Lake	L				M			L	L
SUT	Grand Traverse Bay at Suttons Bay	L				H			L	L
TOR	Torch River									L
VIC	Victoria Creek						H			L

Notes: *E. coli is a partner parameter of concern for this watershed

H= High, M= Medium, L= Low, GM= geometric mean, NTE= Total body contact not to exceed standard, CWS = Variable by month coldwater stream standard, TBCS= Total body contact standard, Marginal = Better than marginal rating desired, LK = lake target, R= river/stream target

Based on the water quality data and an analysis of Section 319 NPS Management Program boundary parcel-specific land uses, the 2013 NPS Assessment Report identifies key findings and recommendations for the GTB Section 319 NPS Management Program and Section 106 water quality monitoring. Table 2 presents a summary of these key findings and recommendations by watershed and associated GTB-owned parcels currently within the Section 319 NPS Management Program boundary definition.

Table 2. GTB 2013 NPS Assessment Report Key Findings and Recommendations for Section 319 NPS Management Program and Section 106 Water Quality Monitoring Program by Watershed/Subwatershed and GTB Section 319 Parcels

Watershed/Subwatershed	Associated GTB Parcels	Key Findings	Recommendations
Betsie River	24, 33, 50, 59	Both turbidity and sedimentation are a high level GTB priority	Focus BMPs on lawns, urban runoff, roads, and septic systems. Future sampling of Betsie River should include <i>E. coli</i> sampling that meets the MDEQ five-day geometric mean criteria, and continued annual sampling to determine Tribal standards.
Glen Lake/Crystal River	N/A GTB currently samples here	Sedimentation and improved habitat are GTB priorities for this watershed	GTB does not currently own land in this watershed, management efforts of watershed partners should be monitored. Crystal River would benefit from <i>E. coli</i> sampling that meets the MDEQ five-day geometric mean criteria, and continued annual sampling to determine Tribal standards.
Grand Traverse Bay	Parcels 0-22b, 25-29, 31-32, 34-36, 38-40b, 41-47, 51-53, 57, 58, 60, 61, 63-69, 71, 72	Nitrogen, turbidity and sedimentation are high level GTB priorities in this watershed	Focus BMPs on agriculture, construction, marinas, hydrologic/Habitat modifications, flow regulation/modification, septic systems, urban runoff, and transportation Continued sampling of all parameters in the Grand Traverse Bay watershed is recommended to further analyze beneficial use attainment.
Boardman River	N/A GTB currently samples here	Sedimentation and improved habitat are GTB priorities for this watershed	GTB does not currently own land in this watershed, management efforts of watershed partners should be monitored. Boardman River would benefit from <i>E. coli</i> sampling that meets the MDEQ five-day geometric mean criteria, and continued annual sampling to determine Tribal standards. GTB should continue to monitor temperature to decide if this site should meet coldwater stream standards.

Watershed/Subwatershed	Associated GTB Parcels	Key Findings	Recommendations
Elk River Chain of Lakes	11, 12, 45, 68	Sedimentation and nitrogen are GTB priorities for this watershed	Focus BMPs on urban runoff and transportation. Continued sampling of all parameters in the Elk River Chain of Lakes watershed is recommended to further analyze beneficial use attainment. Future sampling of Spencer Creek is recommended.
Mitchell Creek	43, 41	Sedimentation and nitrogen are GTB priorities for this watershed	Focus BMPs on urban runoff. An upstream hydrogeologic study is desired by watershed partners. Continued sampling of all parameters on Mitchell Creek is recommended to further analyze beneficial use attainment. Mitchell Creek would benefit from <i>E. coli</i> sampling that meets the MDEQ five-day geometric mean criteria. GTB should continue to monitor temperature to decide if this site should meet coldwater stream standards.
Lake Charlevoix	23, 28, 30, 48	Sedimentation is a high level GTB priority	Focus BMP efforts on urban runoff, agriculture, and septic systems. GTB does not currently sample in the Lake Charlevoix watershed.
Lake Leelanau	N/A GTB currently samples here	Sedimentation and nitrogen are GTB priorities for this watershed	GTB does not currently own land in this watershed, management efforts of watershed partners should be monitored. Continued sampling of all parameters in the Lake Leelanau watershed is recommended to further analyze beneficial use attainment.
Lake Michigan	54, 55, 62, 70 *All parcels eventually drain to Lake Michigan	Nitrogen, turbidity and sedimentation are high level GTB priorities in this watershed	Focus BMPs on construction and marinas on Beaver Island. Continued sampling of all parameters at the LER sampling site is recommended to further analyze beneficial use attainment. This site would benefit from <i>E. coli</i> sampling that meets the MDEQ five-day geometric mean criteria

Based on the key findings for the watersheds, it appears that nutrients, sediment, and turbidity are priority pollutants across Tribal lands. To a lesser extent *E. coli* is a priority pollutant at East Jordan Tourist Park Beach and Bayside Acme Township Park beaches and Mitchell Creek. The NPS categories that are likely to contribute to elevated nutrients and turbidity include urban and agricultural runoff, and failing or antiquated on-site wastewater systems. NPS contributing to elevated *E. coli* levels could include failing or antiquated on-site wastewater systems, urban runoff, agricultural practices associated with livestock on pasture lands (e.g., access to streams and manure management) and crops (e.g., land application of manure). Based on the assessment results, priority watersheds for BMP implementation include Belanger

Creek, Mitchell Creek, and the Grand Traverse Bay subwatersheds. Spencer Creek is a future monitoring priority.

With an understanding of these identified NPS pollution concerns and priority watersheds, the GTB and non-tribal partners can select and implement appropriate, targeted structural and non-structural BMPs throughout the GTB's established section 319 management boundaries. The GTB is committed to early and meaningful collaboration with federal, state, and local agencies and organizations. This collaborative approach will continue to leverage established programs, effectively share resources, and minimize potential implementation redundancy or conflict.

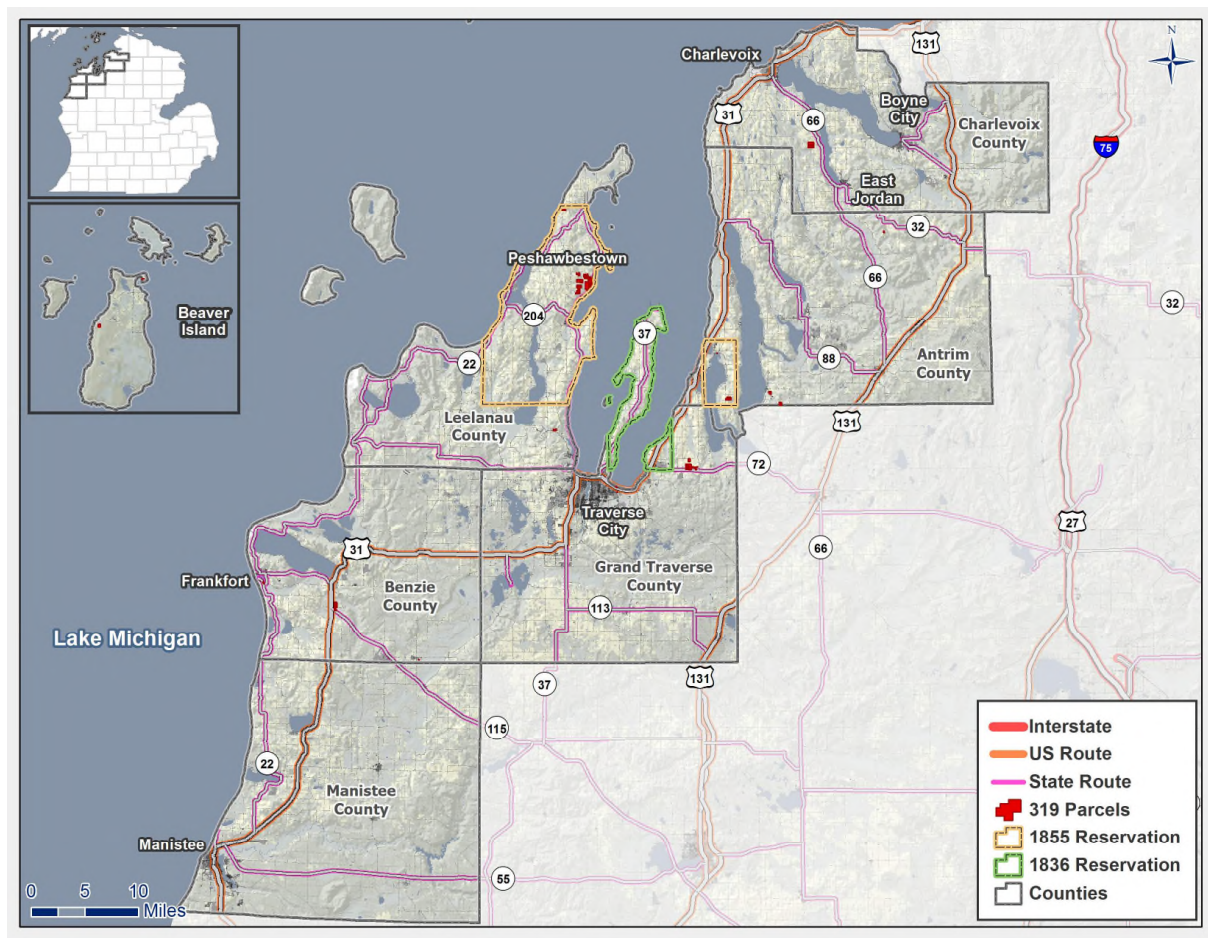


Figure 1. Location of GTB owned parcels purchased before October 10, 2001 that fall within the Section 319 NPS Management Program boundaries established by the GTB Tribal Council within the GTB six-county service area

SECTION 2 – INTRODUCTION

The GTB's Section 319 NPS Management Program initially started in 2002, with the development of the 2002 Section 319 NPS Assessment Report and the 2001 Section 319 NPS Management Program Plan amended in 2002. During the first five/ten years of the GTB NPS Section 319 NPS Management Program, NPS implementation activities focused on education and outreach to GTB staff and Tribal residences, as well as working with federal and local partners on road-stream crossing restoration projects. In addition, GTB's past Section 319 NPS Management Program efforts have focused on conducting annual stormwater inventories to identify stormwater maintenance needs on key parcels.

As the GTB's Section 319 NPS Management Program enters the next phase, this plan establishes a roadmap for moving the program forward over the next five years and beyond. Education and outreach remain a priority, but the Section 319 NPS Management Program will look at the different land uses on Tribally-owned parcels to identify restoration and protection opportunities and work with non-tribal partners to implementing innovative projects, such as Green Infrastructure/Low Impact Design retrofitting on existing impervious surfaces like tribal facility parking lots. In addition, the GTB Section 319 NPS Management Program will improve inter-departmental communication and collaboration to ensure that decisions affecting NPS pollution and needed management activities are better coordinated. This includes review of proposed development plans, construction projects, and maintenance practices. During this phase of the Section 319 NPS Management Program, GTB staff also intends to continue participating in ongoing watershed management planning efforts with local watershed stakeholders and organizations in the six-county service area. The vision for this phase of the GTB Section 319 NPS Management Program is to integrate effective NPS management in all Tribal decisions that affect Tribal water resources through collaborative project planning, BMP implementation, and evaluation at both project- and program-levels.

The primary goal of the GTB Section 319 NPS Management Program is to achieve Tribal water quality goals and targets identified in the 2012 Water Quality Assessment report and the 2013 NPS Assessment Report by controlling and preventing NPS pollution through a suite of implementation activities selected by Tribal and key non-tribal partners. The GTB Section 319 NPS Management Program will be implemented within the GTB's current Section 319 NPS Management Program boundaries, defined as all Tribally-owned land parcels purchased before October 10, 2001. However, GTB is examining the potential economic and water quality benefits of expanding the Section 319 NPS Management Program boundaries to allow for a more seamless programmatic approach that considers pollution sources from both Tribal (i.e., fee, trust, and other Indian land) and non-tribal land within GTB's six-county service area. At this point in time, using existing GTB Section 319 NPS Management Program boundaries, NPS pollution originating on Tribally-owned parcels will fall under the jurisdiction of the GTB staff administering the tribe's NPS Management Program. GTB staff responsible for administering the Section 319 NPS Management Program will work with other Tribal departments and associated contractors responsible for activities on Tribally-owned parcels under the Section 319 NPS Management Program boundaries to identify and implement appropriate NPS control measures through voluntary measures, cost-share funding from Tribal and other sources, and, where necessary, management measures established through Tribal ordinance.

If GTB's Tribal Council modifies the GTB Section 319 NPS Management Program boundaries, GTB staff responsible for administering the Section 319 NPS Management Program would then work as appropriate with non-tribal resource agencies, stakeholders, and property owners to address NPS pollution sources originating on private non-tribal land and develop workable solutions to the NPS challenges identified. In these cases, if funding is needed (i.e., where landowners or cooperators are unable to implement NPS control measures using their own resources), GTB staff responsible for administering the Section 319 NPS Management Program will work cooperatively with Tribal and non-tribal entities to identify relevant and available funding sources that can be leveraged to address the NPS issues regardless of where they are found.

Figure 2 shows the location of Tribal waters within the GTB's six-county service area and associated water quality monitoring locations. The GTB NPS Management Program focuses on BMP implementation and strategies to address NPS pollution affecting Tribal waters within these specific boundaries established by the GTB Tribal Council in October 2001.

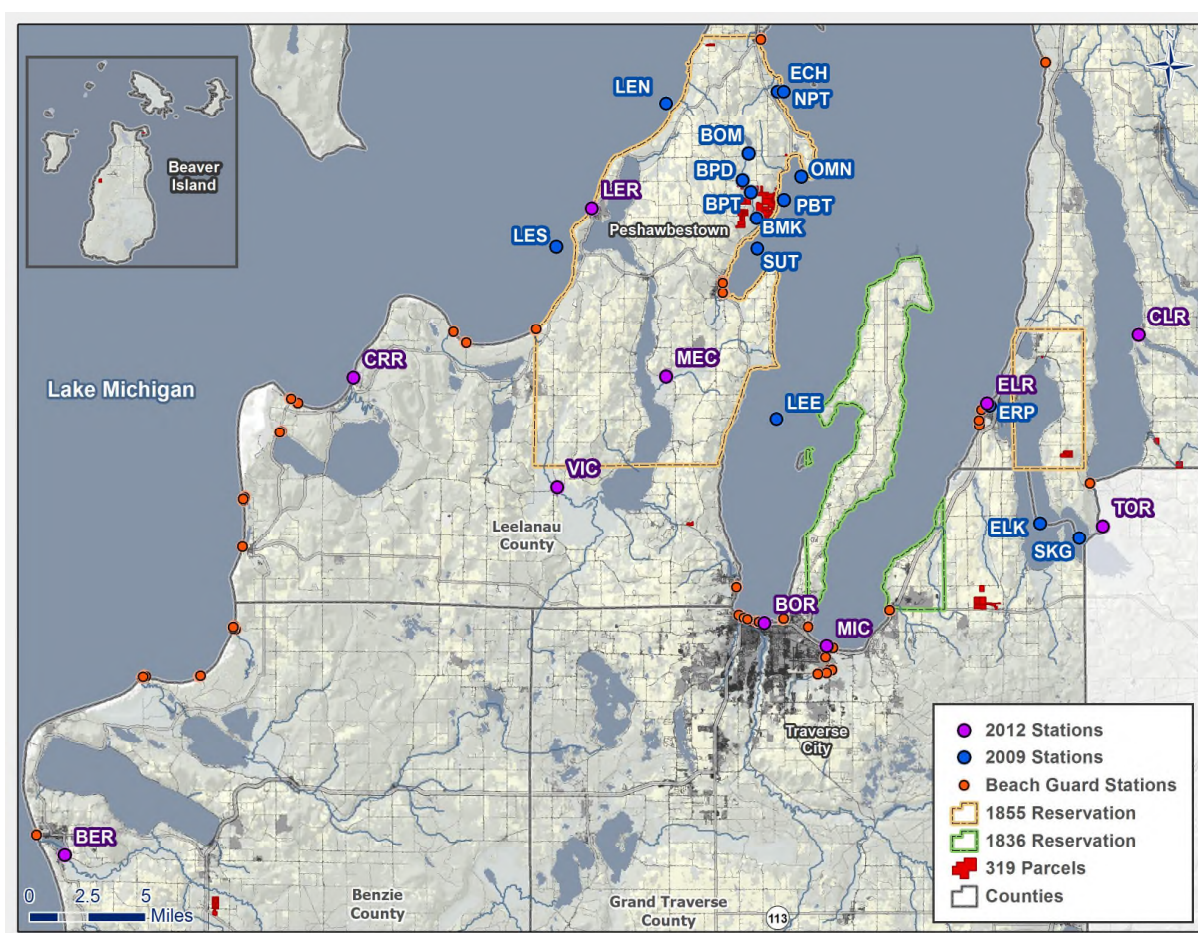


Figure 2. Location of GTB Tribal waters and parcels under the Section 319 NPS Management Program boundaries and associated GTB Section 106 water quality monitoring locations.

In addition to the development of the Section 319 NPS Management Program Plan, the GTB is also participating in the development and implementation of watershed management plans with local partners. Watershed management plans that fall within GTB's six county service area include:

- Betsie River
- Boardman River
- Elk River Chain of Lakes
- Glen Lake/Crystal River
- Grand Traverse Bay
- Herring Lake
- Jordan River
- Lake Charlevoix
- Lake Leelanau
- Little Manistee River
- Little Traverse Bay
- Long Lake

- Manistee River
- Mitchell Creek (Grand Traverse County draining to East Arm of Grand Traverse Bay)
- Platte River
- Portage Lake
- Upper Manistee River

The GTB intends to continue to collaborate with non-tribal partners on the development and implementation of watershed management plans as resources allow. The goal is to ensure that the GTB's Section 319 NPS Management Program and related watershed management plans are aligned in terms of goals and objectives. As mentioned in the 2013 NPS Assessment Report, any BMP mentioned in an MDEQ-approved nine element watershed management plan in the six-county service area will be considered a potential BMP for implementation under GTB's Section 319 NPS Management Program. If GTB's Tribal Council modifies the GTB Section 319 NPS Management Program boundaries to incorporate areas that have existing watershed management plans, GTB staff will conduct a comprehensive review of these existing plans to identify each specific priority NPS BMP that is applicable for implementation by GTB. It is GTB's understanding that any BMP mentioned in these approved watershed management plans within the six-county service area would be eligible for funding under GTB's Section 319 NPS Management Program, if Tribal Council approves the expanded Section 319 Program boundaries. Figure 3 and Figure 4 illustrate the relationship of existing Section 319 and Clean Michigan Initiative (CMI) watershed management plans to GTB-owned parcels under the current GTB Section 319 NPS Management Program boundaries within GTB's six-county service area. During the June 27, 2013 partner meeting, participants (see Appendix A) stated that expanding the GTB Section 319 NPS Management Program boundaries to allow for implementation of priority BMPs identified in other existing watershed management plans should be a top priority for Tribal Council consideration.

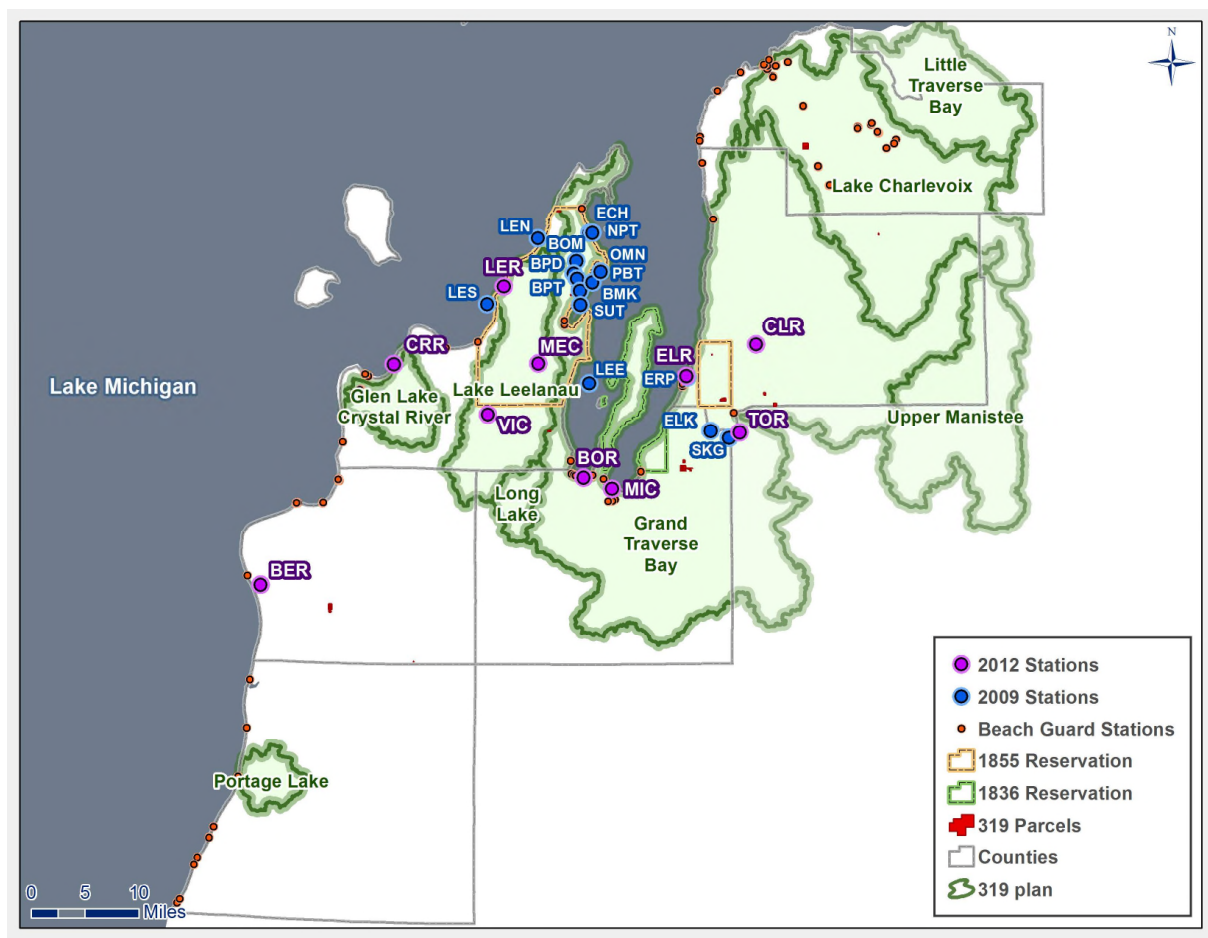


Figure 3. Relationship of existing CWA Section 319 Watershed Management Plans to GTB-owned parcels under GTB's Section 319 NPS Management Program boundary and GTB's Section 106 monitoring sites

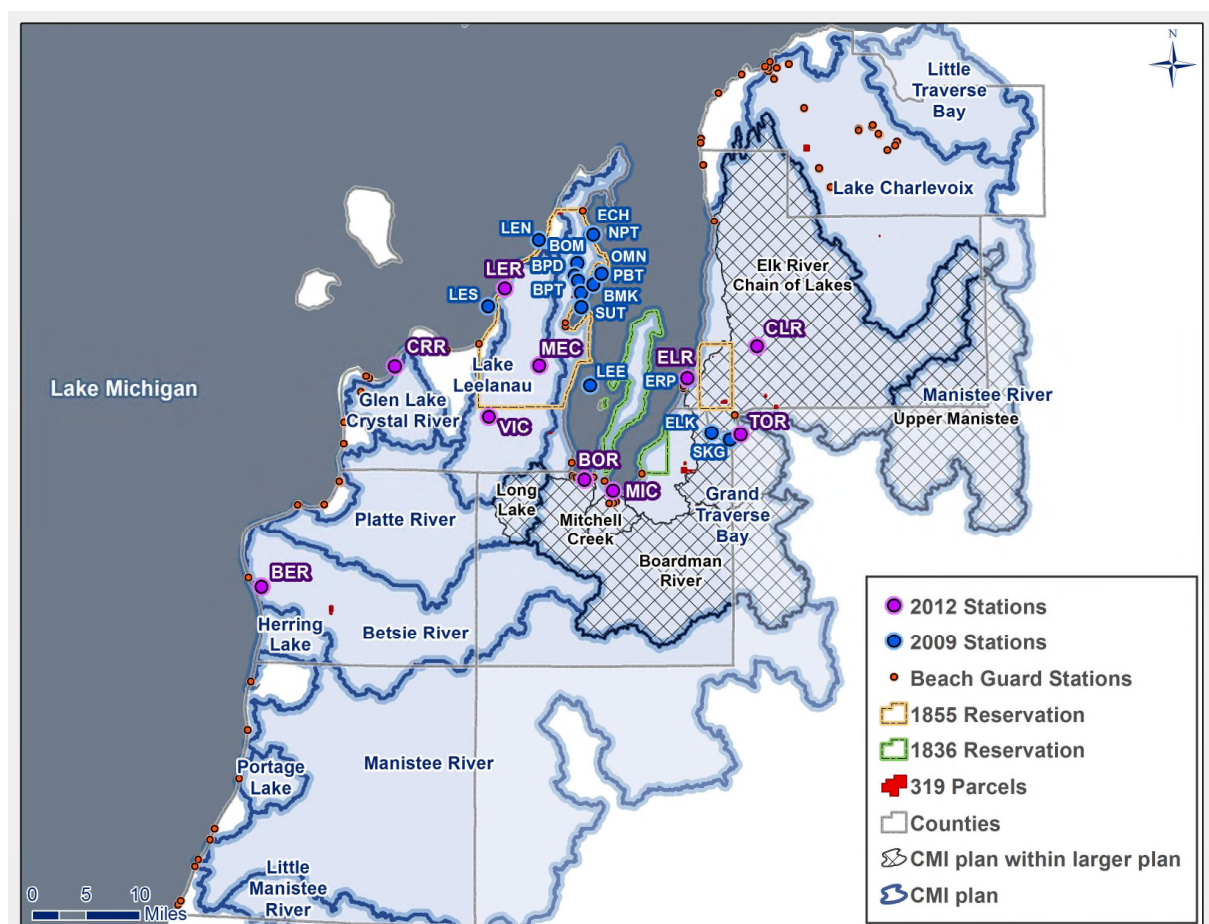


Figure 4. Relationship between Clean Michigan Initiative (CMI) watershed management plans and GTB-owned parcels under GTB's Section 319 NPS Management Program Plan

The GTB recognizes the importance of working with the state, counties, cities, and townships within the six-county service area as it develops and implements the Section 319 NPS Management Program Plan as many of the NPS pollutant issues and contributions affecting Tribal waters go beyond the parcels encompassed in the current Section 319 NPS Management Program boundary definition.

To begin development of the Section 319 NPS Management Program and initiate work to address the overarching NPS pollution reduction goals, the GTB proposes to use its Section 319 NPS Management Program funding to address the following objectives:

- Wetland creation, restoration, and protection
- Partnering on coordinated watershed restoration projects
- Tribal property storm water management improvements

Section 4 details further specific goals and objectives based on the results of the 2013 NPS Assessment Report, and GTB staff and non-tribal partner input provided during the development process for this Section 319 NPS Management Program Plan.

However, as noted above, the GTB recognizes the need to collaborate with non-tribal partners to ensure that NPS pollution upstream of Tribal waters is also effectively addressed. To successfully implement the Section 319 NPS Management Program, the GTB intends to continue collaborating with key non-tribal partners on NPS issues affecting Tribal waters within the GTB's six-county service area.

To ensure the GTB's Section 319 NPS Management Program goals are met, this plan identifies feasible and appropriate BMPs selected with Tribal and key non-tribal partner input, a detailed schedule of management activities, appropriate programs, and partnership opportunities.

SECTION 3 – MANAGEMENT PLAN SUMMARY

This section describes the fundamental components of how the GTB intends to implement the Section 319 NPS Management Program. Discussions include how the GTB will administer the Section 319 NPS Management Program in the context of the existing Tribal governance structure, Tribal authority for the Section 319 NPS Management Program, the process for working with local experts and partners on BMP geographic scale and selection, program monitoring and assessment activities, as well as coordinated reporting.

Implementing the NPS Management Program in the Existing Tribal Governance Structure

Under the GTB's Division III Government Support Services, the GTB Natural Resources Department (NRD) will have primary responsibility for implementing GTB's Section 319 NPS Management Program implementation. This department includes the Environmental Services Coordinator, supported by a Water Quality Specialist, an Environmental Response Coordinator, and an Aquatic Biologist. In addition to Division III NRD staff, departments under Division II Administrative Services will also play a role in GTB's Section 319 NPS Management Program on an as-needed basis. Departments under Division II include public works, facilities maintenance, and GTB auto. These departments are likely to have responsibility for participating in staff training on how management efforts to minimize NPS pollution associated with departmental activities and implementing these management efforts on a day-to-day basis. The Water Quality Specialist and Environmental Response Coordinator, as well as the Aquatic Biologist, will be dedicated to administering the Section 319 NPS Management Program in addition to their current duties. Their positions will be supported by CWA 319 and CWA 106 funding. Figure 5 illustrates the overall GTB Tribal governance. Figure 6 and Figure 7 illustrate the proposed program implementation in the context of the overall Tribal government structure with participation from key non-tribal partners at the federal, state, and local levels.

Tribal Manager Organization Structure

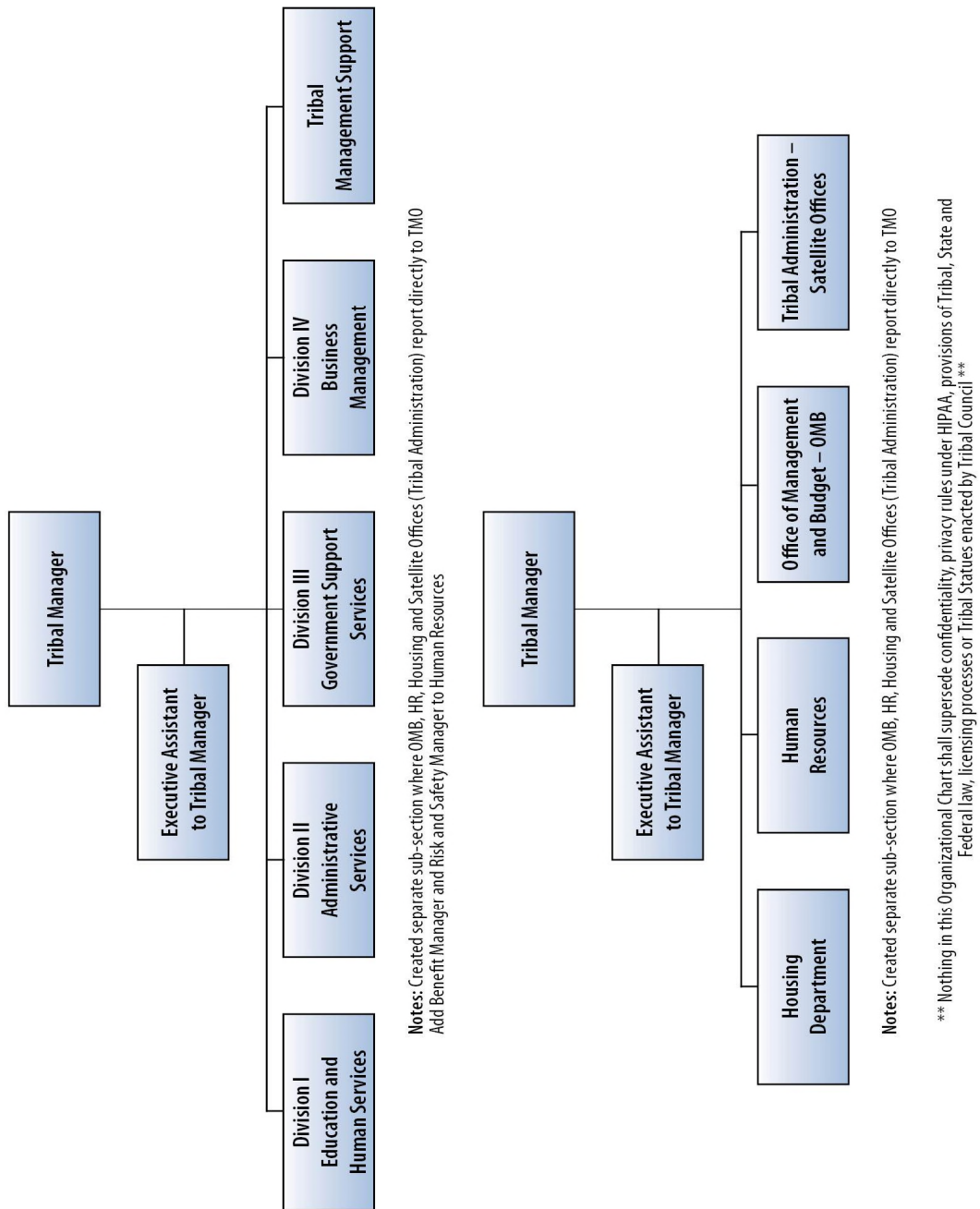
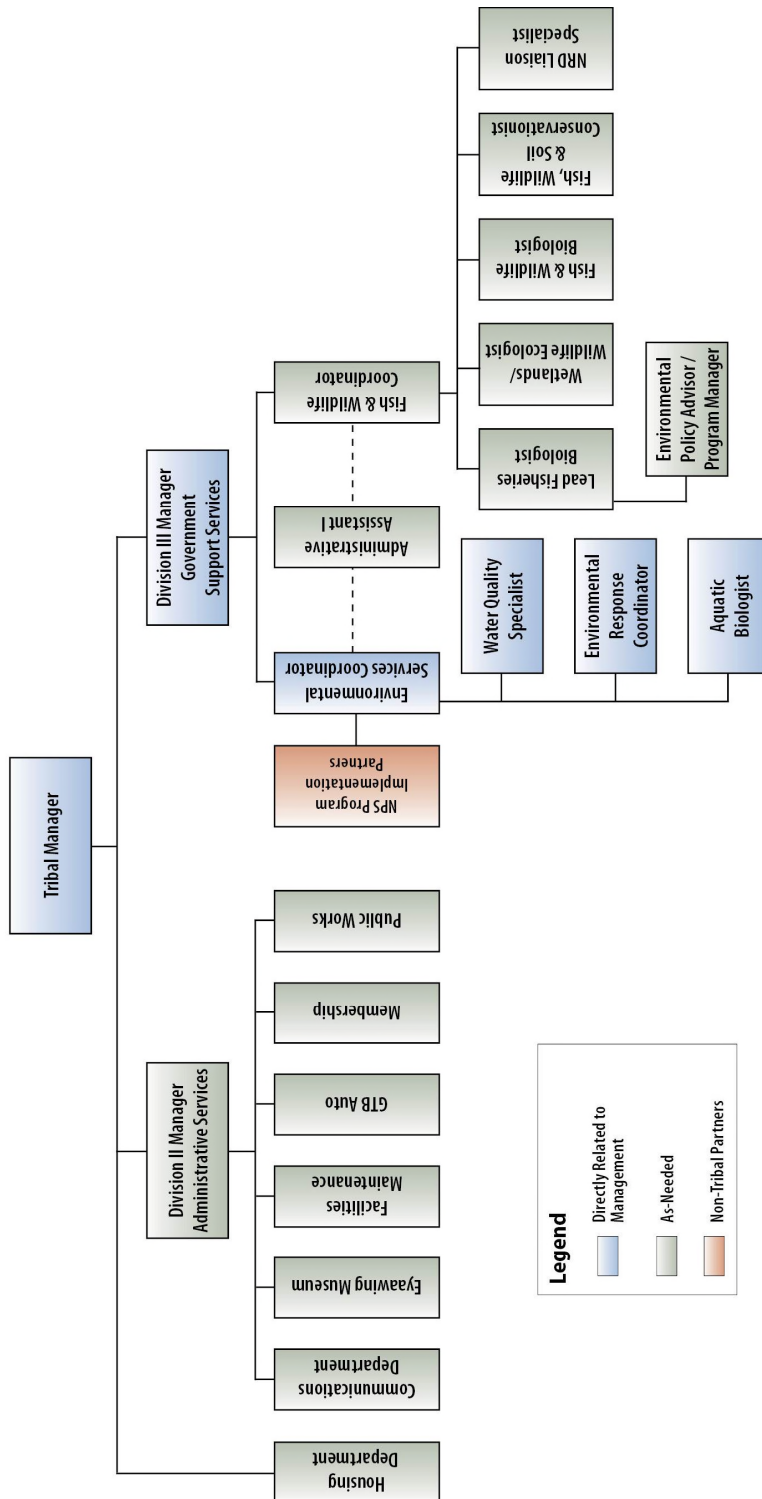


Figure 5. Overall GTB Tribal governance highlighting key departments and programs that will play a role in the GTB Section 319 NPS Management Program.

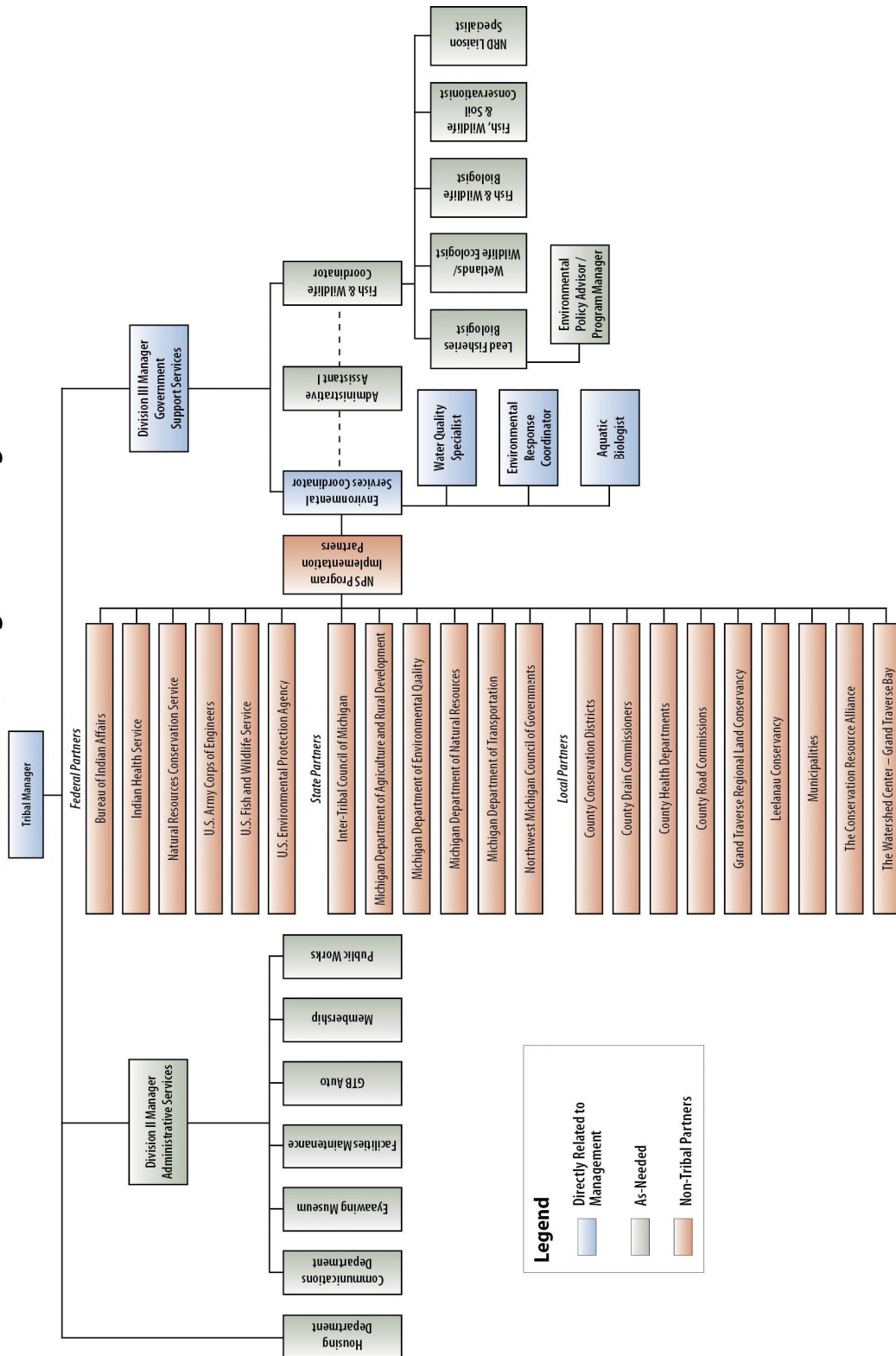
Key GTB Divisions for CWA Section 319 NPS Management Program Implementation



** Nothing in this Organizational Chart shall supersede confidentiality, privacy rules under HIPAA, provisions of Tribal, State and Federal law, licensing processes or Tribal Statutes enacted by Tribal Council **

Figure 6. Anticipated roles and relationships among Tribal departments and programs and non-tribal partners to implement the GTB Section 319 NPS Management Program.

GTB's CWA Section 319 NPS Management Program Partners



** Nothing in this Organizational Chart shall supersede confidentiality, privacy rules under HIPAA, provisions of Tribal, State and Federal law, licensing processes or Tribal Statutes enacted by Tribal Council **

Figure 7. Detail on the key non-tribal partners that will participate in the GTB Section 319 NPS Management Program

Working with Local Partners to Select Appropriate BMPs

GTB staff, in conjunction with a wide array of local experts and partners, collaborated to discuss and select a suite of BMPs that have the potential to achieve the GTB's goals and objectives. A working session for implementation partners took place on June 27, 2013 at the Eyaawing Museum and Cultural Center. For the working session, implementation partners were provided with informational handouts summarizing the findings of the 2012 GTB Water Quality Assessment report, NPS Assessment Report findings to date, and a map of the GTB six-county service area showing the location of Tribally-owned parcels purchased before October 10, 2001 that fall under the current GTB Section 319 NPS Management Program boundary. The GTB staff and non-tribal partners discussed NPS issues surrounding GTB owned parcels, including existing BMP activities within and upstream of the parcels, as well as the need for other BMPs to address water quality issues. As mentioned in the GTB NPS Assessment Report, participants at the working session emphasized the importance of addressing sediment. In addition, participants also emphasized the need for the GTB to consider expanding the GTB Section 319 NPS Management Program boundaries to allow GTB to pursue funding to implement BMPs in key areas throughout GTB's six-county service area. Participants encouraged GTB to review the BMPs currently identified in existing approved watershed management plans that fall within the GTB's six-county service area and identify BMPs that the GTB could potentially implement if GTB Tribal Council considered and approved an expansion of GTB Section 319 NPS Management Program boundaries. The working session helped to refine preliminary information for the NPS Assessment Report, identify other ongoing work by local partners, and initiate a discussion of potential priority BMPs. Appendix A contains a summary of the partner working session and participants. A discussion of the suite of BMPs discussed during this working session is provided in Section 4. Final BMP selection and program development depends on land ownership, jurisdiction, and funding.

NPS Management Program Monitoring and Assessment

Although the 2013 NPS Assessment Report indicates where many of the NPS pollution problems occur, it will be important to continue monitoring and to expand monitoring efforts to the unassessed subwatersheds. These monitoring efforts will be covered by the Clean Water Act section 106 funds. The GTB will use the new data to assess the effectiveness of the Clean Water Act section 319 program and to re-prioritize areas for management. In addition, the GTB will use Section 319 funds to assess the effectiveness of innovative BMP projects. Table 3 provides an overview of the GTB's Section 319 NPS Management Program monitoring and assessment activities, including the frequency and associated funding needs.

Table 3. NPS Management Program Monitoring and Assessment Activities

Activity	Frequency
Establish additional monitoring sites	Annually
Monitor effectiveness of structural and non-structural BMPs using different assessment methods tailored to the BMP type	Project-dependent
Reassess water quality data against GTB goals and targets	Every five years
Review program priorities	Annually
Review program process	Annually
Review and revise NPS Management Program	Every five years

Funding plays a crucial role in overall Section 319 NPS Management Program administration and BMP implementation. The GTB's water quality activities, such as monitoring, are mostly grant funded. As a result, resources are often limited and GTB will have to pace activities accordingly. It is possible that GTB BMP priorities won't always align with available funding. Funding under CWA Section 106, General Assistance Program (GAP), and Brownfields Section 128 (funds a position for the Environmental Response Program Specialist) are currently used to develop environmental programs, monitor, and implement water pollution control projects. Continued reliance on outside sources of funding for NPS program implementation is expected.

NPS Management Program Coordinating Reporting

The success of the GTB Section 319 NPS Management Program relies on broad participation from a variety of Tribal departments and non-tribal partners. A first priority is to establish an internal GTB system for sharing and documenting information related to Section 319 NPS Management Program implementation over time. At this point in time, a formal framework for coordinated tracking and reporting does not exist. GTB staff within the NRD responsible for administering the GTB Section 319 NPS Management Program will work to develop a more formalized tracking and reporting approach that involves all Tribal departments with a role in program implementation. GTB anticipates asking EPA for technical assistance in developing a more formalized tracking and reporting approach to support inter-departmental communication and collaboration on NPS-related activities.

GTB staff participate in regular meetings with local watershed partners. If the GTB Tribal Council considers and approves expansion of the GTB Section 319 NPS Management Program boundaries beyond Tribally-owned parcels purchased before 2001, GTB staff will develop a process for coordinated tracking and reporting to assist with NPS Management Program implementation will build on existing communication and information sharing to create a more formal framework to facilitate coordinated reporting of NPS management related activities. Coordinated reporting will seek to track the effectiveness measures identified for each proposed activity under each NPS category objective on a regular basis for interested partners and stakeholders.

SECTION 4 – MANAGEMENT PROGRAM

This section of the GTB's Section 319 NPS Management Program Plan provides details on the program scope, structure, and function. To provide context for proposed BMPs, this section also provides a brief overview of the NPS categories and subcategories.

Tribal water quality within the GTB six-county service area is affected by several NPS categories, including agriculture, land disposal (septic systems), hydrologic/habitat modification, construction, urban runoff. Table 4 presents the primary NPS categories and subcategories, with associated impacts and pollutants. Table 5 indicates which of the watersheds are affected by the NPS categories and subcategories.

Table 4. Primary NPS Categories and Subcategories Addressed by the GTB Section 319 NPS Management Program

NPS Category	Associated Impacts/ Pollutants	Affected Watershed/Subwatershed								
		Betsie River	Grand Traverse Bay	Grand Traverse Bay /Boardman River	Grand Traverse Bay /Elk River Chain of Lakes	Grand Traverse Bay /Mitchell Creek	Lake Charlevoix	Lake Charlevoix/Jordan River	Lake Leelanau	Lake Michigan (Beaver Island and Western Leelanau County Shore)
Agriculture	erosion, nutrients, sedimentation, pesticides, herbicides, bacteria		X		X		X			
Specialty Crop Production	erosion, nutrients, sedimentation, pesticides, herbicides		X							
Construction	sediment, debris, and chemicals		X							X
Forestry	erosion, nutrients, sedimentation	X	X				X			
Harvesting and Management Activities	increased stream temperatures, erosion of banks, siltation of stream beds, increased temperature due to loss of shade	X	X				X			
Hydrologic/ Habitat Modifications	Erosion, sediment, litter, bacteria		X							

NPS Category	Associated Impacts/ Pollutants	Affected Watershed/Subwatershed							
		Betsie River	Grand Traverse Bay	Grand Traverse Bay /Boardman River	Grand Traverse Bay /Elk River Chain of Lakes	Grand Traverse Bay /Mitchell Creek	Lake Charlevoix	Lake Charlevoix/Jordan River	Lake Leelanau Lake Michigan (Beaver Island and Western Leelanau County Shore)
Flow Regulation/ Modification	increased stream bank erosion, increased litter, increased bacteria, increased stream bed siltation		X	X		X			
Land Disposal	nutrients, bacteria, chemicals	X	X		X		X	X	
Septic Systems	nutrients, bacteria, chemicals	X	X		X		X	X	
Natural Resource Extraction*	chemicals								
Urban	nutrients, bacteria, sedimentation, erosion	X	X		X	X	X		
Surface Runoff	nutrients, bacteria, sedimentation, erosion	X	X		X	X	X		
Transportation	increased sedimentation and erosion		X						
Road Construction, Maintenance, and Runoff	increased sedimentation and erosion	X	X		X			X	
Marina	Chemicals, sedimentation, and erosion		X						X
Railroads	increased sedimentation and erosion		X						
Snow maintenance	increased sedimentation and erosion		X						

Notes: This table addresses NPS categories on GTB 319 parcels, not all existing NPS categories in the non-tribally managed portions of the watersheds/subwatersheds

*While Natural Resource Extraction is not currently an issue it is a potential one in the GTB six-county service area.

Table 5. Primary NPS Issues and Pollutants Addressed by the GTB NPS Management Program

NPS Issues/ Pollutants of Concern	Affected Watershed/Subwatershed									
	Betsie River	Glen Lake/Crystal River	Grand Traverse Bay	Grand Traverse Bay/Boardman River	Grand Traverse Bay/Elk River Chain of Lakes	Grand Traverse Bay/Mitchell Creek	Lake Charlevoix	Lake Charlevoix/Jordan River	Lake Leelanau	Lake Michigan (Beaver Island and Western Leelanau County Shore)
Bacteria			X				X			
Chlorophyll-a			X		X	X				
Conductivity			X			X				
Habitat		X	X	X						X
Nitrates			X		X					X
Sedimentation	X	X	X	X	X	X	X	X	X	X
Spring Temperatures	X	X	X	X						X
Total Nitrogen			X			X			X	
Total Phosphorus	X		X		X	X				X
Turbidity	X	X	X	X	X	X			X	X
Macroinvertebrates			X							

Based on the key findings from the GTB's 2013 Section 319 NPS Assessment Report for the watersheds, it appears that nutrients and turbidity are priority pollutants across Tribal lands. To a lesser extent *E. coli* is a priority pollutant at East Jordan Tourist Park Beach and Bayside Acme Township Park beaches and Mitchell Creek. The NPS categories that are likely to contribute to elevated nutrients and turbidity include agricultural and urban runoff, failing or antiquated septic systems, and construction. NPSs contributing to elevated *E. coli* levels in Tribal waters could include agricultural practices associated with livestock on pasture lands (e.g., access to streams and manure management) and crops (e.g., land application of manure), failing or antiquated septic systems, and urban runoff. Based on the assessment results, priority watersheds for NPS BMP implementation include Belanger Creek, Mitchell Creek, and the Grand Traverse Bay subwatersheds.

BMP Selection

The GTB facilitated a working session with key federal, state, and local partners and experts in June 2013 to discuss potential BMPs for parcels under the GTB Section 319 NPS Management Program boundary. Details on the meeting agenda and participants are available in Appendix A. In addition, GTB NRD staff collaborated and consulted with GTB staff from other departments to obtain input on potential BMPs under each NPS category. The rest of this section presents details on the BMPs identified under each NPS category. In addition, this section presents goals, objectives, structural or non-structural BMPs to meet the objective, the implementation lead and, if applicable, key implementation partners. An overall implementation schedule for the proposed activities follows the NPS category-specific discussion.

It is important to note that the GTB NRD staff and key federal, state, and local partners and experts identified education as an integral component of the GTB's Section 319 NPS Management Program. Before the GTB NRD staff can encourage the use of BMPs, it will be necessary to educate other GTB staff and Tribal residents on the effects of NPS pollution, the necessary changes in behavior to reduce NPS pollution, and the wide array of benefits generated through BMP implementation. The BMPs presented under each NPS category will only be successful if key stakeholders are educated and motivated to change NPS-related behaviors. Table 6 summarizes the education activities identified under each NPS category in subsequent BMP tables, as well as the associated target audience.

Table 6. NPS Education Activities and Associated Target Audience

Activity	Target Audience
Develop outreach materials and training materials for Tribal members and GTB departmental staff that focus on ways to reduce NPS pollutants associated with specific types of facilities and practices	GTB Staff
Distribute educational materials to GTB members and departmental staff, including update on GTB website, publication of educational articles and brochures in the GTB Newsletter; development and distribution of educational materials at community events and meetings.	GTB Staff and Tribal Members
Provide GTB departmental staff training opportunities, including annual review of the NPS Management Plan with all NRD staff and other key GTB department staff	GTB Staff
Provide training to GTB staff, design engineers, and contractors on new site design requirements and procedures	GTB Staff, Design Engineers, Contractors
Provide training on the use of rain barrels, rain gardens, and other green infrastructure practices to promote infiltration and reduction of NPS pollutants from urban areas	GTB Staff, Tribal Members
Develop and provide soil and erosion control training to GTB staff and non-tribal staff involved in construction activities	GTB Staff and Contractors
Distribute educational materials on proper septic system maintenance to homes with septic systems	Tribal Residents
Increase awareness of GTB Housing Department's free pump-out program and dumping service for Tribal residents on septic systems	Tribal Residents

NPS Category: Urban Runoff

Urban NPS runoff has the potential to affect both water quantity and water quality. Approximately 8.3 percent of the GTB's six-county service area is developed, with 48 of the 71 parcels (approximately 1,056 acres) that fall under the GTB Section 319 NPS Management Program boundary associated with urban runoff. GTB-owned parcels under the urban category include Tribal government facilities, residential areas, commercial facilities, recreational facilities, and vacant lots. Table 7 provides a summary of GTB-owned parcels that fall under the urban category and the associated activities and watershed/subwatershed location. None of the communities and developed areas are subject to municipal separate storm sewer system (MS4) permit requirements under the NPDES Stormwater Program.

These parcels can contribute sediment, oil and grease, solid waste, nutrients, toxic substances, and other pollutants to surface waters. Urban runoff can also alter natural stream hydrology and morphology causing increased sediment erosion. Bacteria contributions from urban runoff in residential and park areas, specifically from pet waste and failing septic systems (see NPS Category: Land Disposal), could contribute to increased *E.coli* levels in Tribal waters.

Table 7. Description and Acreage of GTB Section 319 NPS Parcels in Urban NPS Category by Watershed/Subwatershed

Watershed/Subwatershed	Parcel ID #	Acres	Description
Betsie River	24	79.5	housing, pow wow center, community center (30 acres)
	33	6.64	vacant frontage
	50	22	storage building and land
	59	0.95	vacant residential lot
Elk River Chain of Lakes	12	27	rental house
	45	70	play area, basketball court, soccer field, baseball field, community garden going in, housing/subdivision may be on septic systems
	68	0.72	GTB community park (pavilion, sheds, beach)
Grand Traverse Bay	0	12.5	casino to administration buildings and elders park
	1	147.5	multiple parcels: elders complex (residential), SBR plant, casino, GTB marina
	2	2.46	Old school property. Vacant woods/shrub covered/lakeshore
	4	3.79	EDC building and small parcel across from M-22
	5	0.49	GTB museum parking lot
	6	10	rental houses
	7	84	rental houses
	8	10	rental houses
	9	1.37	Natural Resources Department building
	12	27	rental house
	13	27.4	Turtle Creek Casino and Hotel
	14	22	solar housing
	15	4.08	duplex housing
	16	36	behind LS Casino, Eagle's
	18	10.5	Youth Services building
	19	8.67	parking lot
	22a	0.5	EDC Chalet (rental property)
	22b	0.5	Residential house
	25	13	housing subdivision
	26a	148.5	Strongheart Center, Medicine Lodge, Daycare Center, Life Long Learning
	26b	22	Empty subdivision/woods
	28	2.9	house
	29	1.1	rental houses
	31	0.5	Eagletown Market (gas station)
	34	38.48	Turtle Creek (West of casino)
	35	1.6	Turtle Creek entrance
	39	0.92	GTB museum
	40a	13	duplex rentals
	40b	5	water tower
	41	1.15	Grand Traverse County Office - 3 mile office
	42	46.83	Turtle Creek SBR Plant
	44	10.81	rental house
	45	70	play area, basketball court, soccer field, baseball field, community garden going in, housing/subdivision may be on septic systems
	52	0.63	rental house, beach front
	53	0.53	EDC Chalet (rental property)

Watershed/Subwatershed	Parcel ID #	Acres	Description
	60	21.14	Turtle Creek Old M-72
	61	38.5	Turtle Creek (west of casino)
	64	2.68	rental house
	65	3.24	rental house
	68	0.72	GTB community park (pavilion, sheds, beach)
Lake Charlevoix	23	77.1	housing subdivision, community service center
	28	2.9	house
	30	4.5	empty parcel (had a trailer on it in the past)
Lake Michigan	54	12.95	House/trailer/overgrown field
	55	0.75	dock, marina building
Mitchell Creek	41	1.15	Grand Traverse County Office - 3 mile office

Developed sites should have effective stormwater management controls in place to address both runoff quality and quantity from a site. In 2003, GTB NRD staff created a comprehensive Stormwater Inventory report and initiated annual inspections of approximately 17 Tribally-owned parcels identified in the 2003 report. The annual inspections report contains recommendations to the GTB Facilities Maintenance staff on measures to correct any deficiencies identified at the time of the inspection. The GTB NRD staff last performed the inventory in 2012 and will continue to perform this annual inspection and reporting process. Findings from the 2012 Stormwater Inventory report show that most inspected sites are functioning properly when compared to the 2003 inventory due to improved vegetative cover (e.g., grassed slopes) and maintenance activities to clear sand and debris from stormwater infrastructure. The GTB Facilities Maintenance Department is responsible for sanding and snow removal from many of these parcels, contracting this activity out to a third-party.

While not discussed in the report, the inspected sites might be good locations to retrofit with Green Infrastructure/Low Impact Development techniques to reduce urban runoff from parking lots and other impervious surfaces. The Watershed Center Grand Traverse Bay expressed an interest in collaborating with GTB to develop and implement a Green Infrastructure/Low Impact Development retrofit project on GTB-owned parcels.

The GTB Peshawbestown Community Master Plan, completed in June 2012, identifies parcels for development and redevelopment to accommodate new residential housing and other Tribal services. The Community Master Plan contains recommendations for redesigning, renovating and/or replacing inefficient parking areas (e.g. Medicine Lodge, Police Station, Benodjehn Center, Strong Heart Center, Administration offices facilities, etc.). The Community Master Plan also recommends undeveloped land currently in Tribal ownership be developed for housing especially land on Fouch Road, Peshawbestown Road or within Eagle Valley.

For future development, the 1997 SESRC Ordinance addresses post-construction stormwater controls, stating "Stormwater conveyance, storage, and infiltration facilities shall be designed to provide for non-erosive velocities of stormwater runoff." At the present time, there is no GTB Land Use Committee or planning staff to review Tribal site development plans to ensure that stormwater controls are properly sited and adequate to meet SESRC Ordinance requirements. In addition, the SESRC Ordinance could benefit from a review to determine if the existing requirements could be updated to better promote on-site stormwater infiltration through the use of Green Infrastructure/Low Impact Development approaches. Updating the SESRC Ordinance to promote innovative stormwater management approaches will prepare the GTB to more effectively address urban runoff from developing and redeveloped Tribal lands.

Addressing NPS pollutants from urban runoff is the highest priority for the GTB Section 319 NPS Management Program due to the number of GTB-owned Section 319 parcels that fall under this category and the associated NPS contributions from these parcels. The GTB's long-term goal is to minimize the NPS pollutant contributions in urban runoff from governmental and Tribal community facilities, residential,

and commercial areas with a focus on potential sources of nutrients, sediment, and *E.coli*. In the near term, the GTB will focus on educating urban populations on the impacts of urban runoff on Tribal waters and on reviewing existing stormwater ordinances. Long-term and ongoing activities will include creating incentives to encourage the use of urban runoff BMPs, specifically green infrastructure to retrofit existing development where possible. Specific objectives and activities to address urban runoff are listed in Table 8.

Table 8. Goals, Objectives, and Activities for Urban Runoff

Goal for Urban Runoff NPS Category: Minimize the NPS pollutant contributions in urban runoff from Tribal government and community facilities, residential areas, and commercial areas with a focus on potential sources of nutrients, sediment, and <i>E.coli</i> .					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Objective 1: Provide NPS educational outreach and activities to Tribal Members and GTB Government staff.					
Develop outreach materials and training materials for Tribal members and GTB departmental staff that focus on ways to reduce NPS pollutants associated with specific types of facilities and practices	GTB NRD	MDEQ GTB Education GTB Communications	GTB six-county service area, with GTB-owned 319 parcels as highest priority	Potential in-kind GTB NRD staff MDEQ resources EPA HQ CWA section 319	Tailored outreach materials for each key target audience
Distribute educational materials to GTB members and departmental staff, including update on GTB website, publication of educational articles and brochures in the GTB Newsletter; development and distribution of educational materials at community events and meetings.	GTB NRD	GTB Education GTB Communications GTB Housing	GTB six-county service area, with GTB-owned 319 parcels as highest priority	Potential In-Kind by GTB NRD staff CWA section 319	1) Number of materials distributed 2) Changes in level of awareness about urban runoff 3) Changes in key behaviors

Goal for Urban Runoff NPS Category: Minimize the NPS pollutant contributions in urban runoff from Tribal government and community facilities, residential areas, and commercial areas with a focus on potential sources of nutrients, sediment, and <i>E.coli</i> .					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Provide GTB departmental staff training opportunities, including annual review of the NPS Management Plan with all NRD staff and other key GTB department staff	GTB NRD	GTB Public Works GTB Lands and Roads GTB Facilities Maintenance GTB Auto GTB Education GTB Communications GTB Housing	GTB six-county service area, with GTB-owned 319 parcels as highest priority	Potential In-Kind by GTB NRD staff CWA section 319	1) Number of staff trainings 2) Changes in level of awareness about departmental activities, NPS pollution, and urban runoff 3) Changes in key departmental activities
Objective 2: Provide clear, consistent, documented standards and specifications for stormwater management associated with new and redevelopment to reduce NPS pollution from urban runoff					
Review 1997 SESRC Ordinance to identify potential modifications for promoting infiltration and on-site stormwater management through Green Infrastructure and Low Impact Development	GTB NRD	The Watershed Center Grand Traverse Bay Leelanau County Drain Commissioner (and other county drain commissioners)	GTB six-county service area, with GTB-owned 319 parcels as highest priority	CWA section 319 Potential In-Kind from EPA and Center for Watershed Protection resources	Completed SESRC Ordinance review
Modify 1997 SESRC Ordinance to promote Green Infrastructure and Low Impact Development based on review findings and adopt updated ordinance	GTB NRD	GTB Legal The Watershed Center Grand Traverse Bay Leelanau County Drain Commissioner (and other county drain commissioners)	GTB six-county service area, with GTB-owned 319 parcels as highest priority	CWA section 319	Modified and adopted updated standards and specifications based on SESRC Ordinance review findings
Objective 3: Develop and implement Tribal protocols and processes for site plan review and approval for new and redevelopment to ensure compliance with SESRC Ordinance stormwater control requirements to reduce NPS pollution from urban runoff					

Goal for Urban Runoff NPS Category: Minimize the NPS pollutant contributions in urban runoff from Tribal government and community facilities, residential areas, and commercial areas with a focus on potential sources of nutrients, sediment, and <i>E.coli</i> .					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Develop GTB Project Review Team	GTB NRD	GTB Legal Tribal Manager GTB Public Works GTB Housing GTB Facilities Maintenance GTB Lands and Roads	GTB six-county service area, with GTB-owned 319 parcels as highest priority	CWA section 319	Formation of Project Review Team with documented GTB departmental participation
Develop site plan review process and checklist	GTB NRD	GTB Legal The Watershed Center Grand Traverse Bay Leelanau County Drain Commissioner (and other county drain commissioners)	GTB six-county service area, with GTB-owned 319 parcels as highest priority	CWA section 319	Completed and approved site plan review process and checklist
Provide training to GTB staff, design engineers, and contractors on new site design requirements and procedures	GTB NRD	GTB Legal The Watershed Center Grand Traverse Bay Leelanau County Drain Commissioner (and other county drain commissioners)	GTB six-county service area, with GTB-owned 319 parcels as highest priority	CWA section 319	Number of training participants
Conduct site plan reviews for new development and redevelopment on GTB parcels using approved site plan checklist to ensure compliance with updated SESRC Ordinance	GTB NRD	GTB Legal	GTB six-county service area, with GTB-owned 319 parcels as highest priority	CWA section 319	Number of site plan reviews conducted using new checklist annually
Objective 3: Promote the use of green infrastructure/low impact development techniques for urban runoff management					

Goal for Urban Runoff NPS Category: Minimize the NPS pollutant contributions in urban runoff from Tribal government and community facilities, residential areas, and commercial areas with a focus on potential sources of nutrients, sediment, and <i>E.coli</i> .					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Provide training on the use of rain barrels, rain gardens, and other green infrastructure practices to promote infiltration and reduction of NPS pollutants from urban areas	GTB NRD	GTB Public Works GTB Facilities Maintenance GTB Housing GTB Lands and Roads The Watershed Center Grand Traverse Bay	GTB six-county service area, with GTB-owned 319 parcels as highest priority	Potential In-Kind resources from MDEQ and EPA HQ CWA section 319	Number of training participants
Conduct GTB parcel stormwater retrofit opportunity audit	GTB NRD	GTB Public Works GTB Facilities Maintenance GTB Housing GTB Lands and Roads The Watershed Center Grand Traverse Bay	GTB-owned 319 parcels	CWA section 319	Completed stormwater retrofit opportunity audit with prioritized GTB parcels and associated retrofit options
Implement stormwater retrofit demonstration project to train GTB staff and engineers on green infrastructure/low impact development techniques based on retrofit opportunity audit findings	GTB NRD	GTB Public Works GTB Facilities Maintenance GTB Housing GTB Lands and Roads The Watershed Center Grand Traverse Bay	GTB-owned 319 parcels	CWA section 319	Completed stormwater retrofit opportunity audit with prioritized GTB parcels and associated retrofit options

Center for Watershed Protection Resources available online at: <http://cwp.org/>

NPS Category: Construction

Storm water runoff from unregulated construction activities (i.e., those with less than one acre of disturbed area that do not require coverage under an NPDES stormwater construction general permit) can have a significant effect on water quality. As storm water flows over a construction site, it picks up pollutants like sediment, debris, and chemicals. After construction, developed sites should have effective stormwater management controls, such as green infrastructure practices, in place to address both runoff quality and quantity from a site (see NPS Category: Urban).

Polluted storm water runoff from construction sites can harm or kill fish and other wildlife. Sedimentation can destroy aquatic habitat, and high volumes of runoff can cause stream bank erosion, which can contribute additional sediment to surface water.

Construction activities take place in existing subdivisions on a regular basis. Lands along Belanger Creek, Railroad Creek, and Grand Traverse Bay are the areas of primary concerns for development related impacts. The Tribal Council adopted the Grand Traverse Band of Ottawa and Chippewa Indians Soil Erosion and Stormwater Runoff Control (SESRC) Ordinance 97.001, on January 21, 1997. The purpose of the Ordinance is to prevent the pollution, impairment, or destruction of a natural resource or the public trust on Tribal lands. While the SESRC Ordinance is in place, GTB staff indicate that it isn't consistently

applied to all Tribal construction projects. In addition, there isn't a comprehensive approach to tracking all ongoing and planned construction projects within GTB's six-county service area among Tribal departments. Construction projects are contracted out; it is unclear if contractors are aware of the SESRC requirements and if GTB conducts inspections and enforcement of the SESRC requirements. GTB NRD staff intend to use upcoming road stream crossing projects within the six-county service area as an opportunity to increase surveillance of SESRC practices at construction sites and document how they perform over time. Upcoming road stream crossing improvement projects include Belanger's Creek X McKeese Road Road-Stream Crossing Project, McKeese Road Improvement Project, Mebert Creek X County Road 641 Road-Stream Crossing Improvement, and Mebert Creek X Maple Valley Road Road-Stream Crossing Improvement. These project sites will be monitored during and after construction activities. Technical assistance will be provided to the Leelanau County Road Commission to assist in reducing NPS pollution as much as possible in association with these important projects.

Addressing NPS pollutants from construction activities is a high-level priority for the GTB's Section 319 NPS Management Program. The GTB's long-term goal is to better integrate soil erosion and stormwater controls into construction planning and building activities to prevent sedimentation and ensure development projects incorporate effective stormwater management. In the near term, the GTB will focus on provide training for GTB staff on SESRC Ordinance requirements and implementation evaluation. Over the long term, the GTB will develop and maintain an inventory of Tribal construction activities across the six-county service area and improve SESRC Ordinance inspections and enforcement to ensure the consistent and effective use of soil erosion and storm water controls at construction sites. Specific objectives and activities to address these concerns are listed in Table 9.

Table 9. Goals, Objectives, and Activities for Construction

Goal for Construction NPS Category: Ensure Tribal construction projects use effective NPS pollution controls to minimize sedimentation and other construction waste entering Tribal waters during construction.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Objective 1: Provide training on soil and erosion control guidelines for all GTB staff and contractors to follow during construction activities to reduce sedimentation					
Develop and provide soil and erosion control training to GTB staff and non-tribal staff involved in construction activities	GTB NRD	GTB Lands and Roads GTB Housing GTB Public Works GTB Facilities Maintenance County Road Commissions	GTB six county-service area, with GTB-owned 319 parcels as highest priority	CWA section 319 Potential In-Kind from EPA HQ resources and other key non-tribal partners	Number of training participants
Provide technical assistance to the Leelanau County Road Commission during road stream crossing projects to reduce NPS pollution	GTB NRD	Leelanau County Road Commission (and other county road commissioners)	Leelanau County road stream crossing improvement projects	CWA section 319	Number of GTB NRD staff hours onsite at road stream crossing project locations with Leelanau County Road Commission staff to assist with and inspect soil erosion controls
Objective 2: Track and monitor construction activities within the GTB's six-county service area					

Goal for Construction NPS Category: Ensure Tribal construction projects use effective NPS pollution controls to minimize sedimentation and other construction waste entering Tribal waters during construction.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Develop system to track planned and ongoing construction activities	GTB NRD	GTB Lands and Roads GTB Facilities Maintenance Tribal Manager	Six-county service area, with initial priority on GTB-owned 319 parcels	CWA section 319	Completed Inventory
Review planned construction project soil erosion control plans under SESRC Ordinance requirements	GTB NRD	GTB Lands and Roads GTB Facilities Maintenance Tribal Manager	Six-county service area, with initial priority on GTB-owned 319 parcels	CWA section 319	Number of reviewed plans compared to number of tracked projects
Inspect ongoing construction activities to determine effectiveness of soil erosion controls	GTB NRD	GTB Lands and Roads GTB Facilities Maintenance Tribal Manager	Six-county service area, with initial priority on GTB-owned 319 parcels	CWA section 319	Number of inspected projects compared to number of tracked projects
Monitoring road stream crossing improvement project sites in Leelanau County during and after construction activity	GTB NRD	Leelanau County Road Commission (and other county road commissioners)	Leelanau County road stream crossing improvement projects		Documented soil and erosion control implementation

NPS Category: Transportation

Many waterbodies within the GTB six-county service area receive runoff from paved and unpaved roadways. The majority of the roads within the GTB six-county service area are county-owned, under the jurisdiction of the various county road commissions. In addition, Michigan is responsible for state-owned roads within the GTB six-county service area boundaries, including M-22, M-37, M-113, M-204, M-88, M-66, and M-32, with Michigan Department of Transportation having jurisdiction over these roadways. Cities within the GTB six-county service area have jurisdiction over city-owned roads. Other roads within the six-county service area are considered BIA roads because of the federal funding used to construct and maintain them. The GTB has agreements in place with the counties to conduct maintenance and snow removal on the BIA roads within the six-county service area, which includes sanding. According to the GTB Lands and Roads Management Department, new road construction varies on an annual basis, and GTB outsources new road construction. Catch-basin cleaning on residential roads with curb and gutter falls under the jurisdiction of the GTB Lands and Roads Management

In addition, there are approximately 68.5 acres attributed to transportation on three GTB parcels under the Section 319 NPS Management Program boundary definition: 40 acres of Alden Camp roads, 22.5 acres in the railroad corridor, and 6 acres of a former railroad bed.

The GTB marina is used by the GTB's commercial fishing fleet, fisheries program, and GTB conservation enforcement watercraft. The GTB fishery generates fish waste at the marina that requires analysis to determine potential impacts on Tribal water resources and alternative methods for handling the waste.

Addressing NPS pollutants from transportation is a high-level priority for the GTB NPS Management Program. The GTB's long-term goal is to minimize the NPS pollutant contributions from transportation from all roads within the reservation boundary with a focus on potential sources of sediment related to

road construction and maintenance. In the near term, the GTB will focus on working with state and local partners responsible for road construction and maintenance within Tribal boundaries, ensuring there is on-going communication and collaboration about these activities. Long-term activities will include ensuring proper site design for new road projects. Specific objectives and activities to address NPS from transportation-related activities are listed in Table 10.

Table 10. Goals, Objectives, and Activities for Transportation

Goal for Transportation NPS Category: Minimize the NPS pollutant contributions from transportation related activities, particularly road construction and maintenance activities within the GTB six-county service area, with a focus on reducing potential sources of sediment.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Objective 1: Inspect and report on conditions of road stream crossing sites					
Inspect and document a minimum of five road/stream crossings annually as part of the annual stormwater inventory process	GTB NRD	GTB Facilities Maintenance GTB Lands and Roads Management	GTB six-county service area with focus on road stream crossings in the 1855 Reservation boundary, and those upstream of Tribal waters	CWA section 319	Inspection reports on five road/stream crossings
Provide road stream crossing and other roads-related O&M needs (e.g., catch basin cleaning) to the GTB Facilities Maintenance Department. Report any road/stream crossings in need of repair to the Leelanau County Road Commission.	GTB NRD	GTB Facilities Maintenance GTB Lands and Roads Management Leelanau County Road Commission	GTB six-county service area with focus on road stream crossings in the 1855 Reservation boundary, and those upstream of Tribal waters	CWA section 319	Inspection reports on five road/stream crossings
Objective 2: Keep track of planned road construction and ongoing maintenance activities within GTB six-county service area					
Establish a list of road construction contractors constructing and maintaining roads within the six-county service area	GTB NRD	GTB Facilities Maintenance GTB Lands and Roads Management County road commissions Other municipalities	GTB six-county service area	Potential in-kind GTB and local partners CWA section 319	List of road construction contractors

Goal for Transportation NPS Category: Minimize the NPS pollutant contributions from transportation related activities, particularly road construction and maintenance activities within the GTB six-county service area, with a focus on reducing potential sources of sediment.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Develop and implement a plan for regular communication and information sharing among GTB departments, county road commissions, cities, and MDOT to keep track of proposed road construction and maintenance projects	GTB NRD	GTB Facilities Maintenance GTB Lands and Roads Management County road commissions Other municipalities	GTB six-county service area	Potential in-kind GTB and local partners CWA section 319	Communication plan and road construction/ maintenance project tracking protocol
Establish and maintain road construction/ maintenance project list to facilitate soil erosion control inspections	GTB NRD	GTB Facilities Maintenance GTB Lands and Roads Management County road commissions Other municipalities	GTB six-county service area	Potential in-kind GTB and local partners CWA section 319	List of road construction and maintenance projects with regular updates according to established protocols that ties to soil erosion control inspection information
Objective 3: Ensure implementation of BMPs to control erosion on road construction and maintenance projects.					
Require all road construction contractors working within GTB six-county service area to control soil erosion according to SESRC Ordinance and county standards/specifications.	GTB NRD	GTB Lands and Roads Management GTB Facilities Maintenance County road commissions	GTB six-county service area	Potential in-kind GTB staff and state/local partners CWA section 319	Documented soil erosion requirements for road contractors working within reservation boundaries
Work with road contractors on-site to ensure soil erosion BMP implementation	GTB NRD	GTB Lands and Roads Management GTB Facilities Maintenance County road commissions	GTB six-county service area	Potential in-kind GTB staff and state/local partners CWA section 319	Number of road construction and maintenance projects with soil erosion control inspection reports

NPS Category: Hydrologic and Habitat Modifications

Dams and stream channelization are present in the GTB's six-county service area. Dam removal and modification projects are currently underway on the Boardman River. The Sabin, Boardman and Brown

Bridge dam owners organized the Boardman River Dams Committee to assess the benefits and detriments of retaining, modifying and removing the Boardman River dams. The dam owners decided to remove the Sabin, Boardman and Brown Bridge dams and modify the Union Street dam on Boardman River. Mitchell Creek's natural channel has been modified by upstream wetland filling, sand clogging, and an old dam for a logging channel. MDEQ would like to perform a hydrogeologic study to determine if dam removal and upstream habitat improvements would bring back the streams natural channel.

The GTB works with the Leelanau Conservancy and the Grand Traverse Regional Land Conservancy to protect and preserve high-quality riparian habitat in and around the reservation. The GTB is committed to continuing this type of work with these land conservancies to protect habitat and prevent further habitat modification.

Through the annual stormwater inventory report, GTB inspects several parcels under the Section 319 NPS Management Program and identifies areas where stream bank erosion occurs. However, the stormwater inventory process doesn't assess all GTB-owned parcels under the Section 319 NPS Management Program. Through the GTB Section 106 monitoring program, habitat evaluations are conducted. These habitat evaluations don't identify and rank stream bank erosion sites in need of restoration. At this point in time, GTB does not have a comprehensive inventory of stream bank erosion sites within the six-county service area or adjacent to GTB-owned parcels.

As mentioned in the Section 319 NPS Assessment Report, 11 percent of the GTB six-county service area is wetlands. The Peshawbestown area property contains approximately 20 observed wetlands, composed of an estimated 40 acres related to Belanger Creek, a 5 acre pothole wetland near the Medicine Lodge off McKeese Road, and the Grand Traverse Bay shoreline, which is connected to approximately 300 acres of off-site wetlands. The Alden properties contain approximately 30 acres of on-site wetlands related to Spencer Creek, which is connected to approximately 60 acres of off-site wetlands. The remaining Tribal properties do not contain wetlands based on the NWI maps. Some wetlands in the six-county service area have been filled in over time. GTB NRD staff evaluate wetlands on Tribally-owned lands and riparian wetlands associated with the Tribe's Stream mouth habitat and small stream evaluation under the Section 106 monitoring strategy. In 2003, GTB developed and adopted the *Wetland Inventory and Management and Protection Plan*. Non-native species, particularly non-native plant species, have the potential to modify riparian and wetland health and functionality, which in turn can affect water quality and important wildlife habitat. In areas where non-native species choke out natural vegetation, there is the potential to promote erosion and affect natural hydrology.

The GTB's long-term goal is to restore and protect hydrologic and habitat conditions of watersheds within the reservation boundary to reduce turbidity and sedimentation, and restore flow, particularly in Mitchell Creek. In the near term, activities will focus on inventorying and stabilizing stream banks, conducting a hydrologic study of Mitchell Creek to understand changes in flow, and educating the public on the importance of preserving native riparian vegetation. Long-term activities will include stabilizing priority stream banks and, if possible, restoring flow Mitchell Creek.

Table 11 presents the goals, objectives, and activities identified by the GTB staff and non-tribal partners related to the hydrologic/habitat modification NPS category. Addressing NPS pollution from hydrologic and habitat modification is a first-tier priority for GTB due to the importance of hydrologic and habitat modification on the overall health of Tribal waters.

Table 11. Goals, Objectives, and Activities for Hydrologic/Habitat Modification

Goal for Hydrologic/Habitat Modification NPS Category: Restore and protect hydrologic and habitat conditions to reduce turbidity and sedimentation and restore flow, particularly in Mitchell Creek.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Objective 1: Locate, map, characterize, and rank stream bank erosion sites					

Goal for Hydrologic/Habitat Modification NPS Category: Restore and protect hydrologic and habitat conditions to reduce turbidity and sedimentation and restore flow, particularly in Mitchell Creek.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Add identifying and mapping stream bank erosion sites to existing field work (e.g., stormwater inventory, wetland assessment, road stream crossing inventory)	GTB NRD	County Conservation Districts	Stream banks within close proximity to GTB 319 parcels, eventually six-county service area	CWA section 319 College student interns Potential In-Kind	Completed field work with mapped stream banks and erosion sites
Develop criteria for ranking stream bank stabilization sites	GTB NRD	County Conservation Districts MDEQ NRCS	Stream banks within close proximity to GTB 319 parcels, eventually six-county service area	CWA section 319 Potential In-Kind from NRCS Stream Visual Assessment Protocol	Completed criteria
Rank stream bank stabilization sites from high to low restoration priority	GTB NRD	County Conservation Districts MDEQ NRCS	Stream banks within close proximity to GTB 319 parcels, eventually six-county service area	CWA section 319 College student interns Potential In-Kind from resource agencies	Prioritized list of sites
Identify outside funding sources for stream bank stabilization	GTB NRD	County Conservation Districts MDEQ NRCS	Stream banks within close proximity to GTB 319 parcels, eventually six-county service area	CWA section 319 NRCS	List of funding sources
Design stabilization plans for high-priority sites	GTB NRD	County Conservation Districts MDEQ NRCS	Stream banks within close proximity to GTB 319 parcels, eventually six-county service area	CWA section 319 TBD	Number of high-priority sites with plans

Goal for Hydrologic/Habitat Modification NPS Category: Restore and protect hydrologic and habitat conditions to reduce turbidity and sedimentation and restore flow, particularly in Mitchell Creek.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Contract to have stabilization activities completed	GTB NRD	County Conservation Districts MDEQ NRCS	Stream banks within close proximity to GTB 319 parcels, eventually six-county service area	CWA section 319 TBD	Number of projects implemented
Objective 2: Improve flow in Mitchell Creek based on understanding of changes to flow regime over time.					
Participate in a hydrologic study of Mitchell Creek with non-trial partners to determine the cause of flow changes and identify alternatives to restore	GTB NRD	Grand Traverse County Drain Commissioner The Watershed Center Grand Traverse Bay MDEQ MDNR USGS	Mitchell Creek	CWA section 319 TBD	Completed study
Develop flow restoration action items based on findings of hydrologic study	GTB NRD	Grand Traverse County Drain Commissioner The Watershed Center Grand Traverse Bay MDEQ MDNR USGS	Mitchell Creek	CWA section 319 TBD	Restoration action items
Implement flow restoration action items, if feasible	GTB NRD	Grand Traverse County Drain Commissioner The Watershed Center Grand Traverse Bay MDEQ MDNR USGS	Mitchell Creek	CWA section 319 TBD	1) Project implementation 2) Improved flow
Objective 4: Restore and protect native riparian habitat to reduce erosion and improve habitat health.					
Identify high-quality riparian acreage for protection via permanent conservation easements or other appropriate BMPs	GTB NRD	Leelanau Conservancy Grand Traverse Regional Land Conservancy	GTB-owned 319 parcels with eventual spread to six-county service area	CWA section 319 NRCS	List/map of potential parcels for conservation easements or other protection BMPs

Goal for Hydrologic/Habitat Modification NPS Category: Restore and protect hydrologic and habitat conditions to reduce turbidity and sedimentation and restore flow, particularly in Mitchell Creek.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Place high-quality riparian acreage into permanent conservation easements	GTB NRD	Leelanau Conservancy Grand Traverse Regional Land Conservancy	TBD, based on studies	CWA section 319 NRCS	Number of acres under permanent conservation easements
Continue to assess wetlands and update 2003 Wetland Inventory and Management and Protection Plan	GTB NRD	GTB Facilities Maintenance GTB Lands and Roads			
Identify areas with hydrologic and habitat modification that could promote spread of non-native species affect health of natural riparian vegetation and wetland function	GTB NRD	NRCS County drain commissioners Conservation Resource Alliance MDEQ		CWA section 319 Potential In-Kind from drain commission	Map/list of areas targeted for non-native species control near wetland and riparian areas
Conduct non-native species control in targeted areas	GTB NRD	NRCS County drain commissioners Conservation Resource Alliance MDEQ	TBD, based on studies	CWA section 319 TBD	Number targeted areas with completed control projects

NPS Category: Septic Systems

Although a significant number of facilities are connected to the SBR facilities in Peshawbestown and one in Williamsburg, there are several housing complexes that continue to rely on septic system for sanitary wastewater management. When a Tribal member requests a new septic system, the GTB Engineer is responsible for siting septic systems and the Wells and Septic Program covers the cost. The GTB Housing Department is responsible for maintaining septic systems at Tribal rental properties, but offers a grant septic pumping to all income-qualified Tribal Member homeowners in the six-county area. According to the Housing Department, septic systems on GTB owned-parcels are approximately 20 years or less in age. Approximately thirty Tribal and non-tribal septic systems are located in the Peshawbestown area, seven sites at the Alden properties, and the new homes at Charlevoix and Benzie parcels.

Some parts of the GTB six-county service area do not provide adequate conditions for the construction of on-site wastewater systems which would allow untreated contaminants such as solids, pathogens, nitrogen, and phosphorus to enter Tribal water resources. Tribal lands along Grand Traverse Bay do not demonstrate adequate percolation rates for on-site wastewater systems.

Sludge application represents another source of NPS to Tribal surface water and groundwater. A three acre strip of land purchased by the tribe was a former site for septage application by Houdek Pumping Services. The dumping of sludge was permitted by the Michigan Department of Natural Resources.

Nutrient enrichment, biological contamination, and chemical contamination of surface water and groundwater were concerns from this NPS pollution.

The GTB's near-term goal is to promote education of homeowners with septic systems to increase awareness of the GTB Housing Department's free pump-out service and to help homeowners recognize when a system is potentially failing. Long-term and ongoing activities will include creating an inventory of existing systems on Tribally-owned parcels and tracking maintenance activities, as well as flagging systems that are candidates for rehabilitation, as well as ensuring proper siting of new systems.

Table 12 presents the goals, objectives, and activities identified by the GTB NRD staff and GTB Housing Department staff related to the land disposal NPS category. Addressing NPS pollution from the land disposal is a first-tier priority due to the potential for failing and improperly managed septic systems to contribute nutrient and bacteria to surface and groundwater resources.

Table 12. Goals, Objectives, and Activities for Septic Systems

Goal for Septic Systems NPS Category: Reduce bacteria and nutrient contributions to Tribal waters from septic systems on GTB-owned parcels under the Section 319 NPS Management Program boundary					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Objective 1: Increase Tribal awareness of the need for regular septic system maintenance and the hazards associated with failing septic systems.					
Create a database of all septic systems on GTB-owned parcels. Septic systems will be identified by operator's name, address, and latitude/longitude.	GTB Housing Department	GTB NRD; GTB Public Works	GTB-owned parcels on septic systems	CWA section 319 IHS College student interns	Percent of GTB-owned parcels canvassed for information and entered into database
Distribute educational materials on proper septic system maintenance to homes with septic systems	GTB NRD	GTB Housing Department Watershed Center Grand Traverse Bay	GTB-owned parcels on septic systems	CWA section 319 County HDs MI Dept of Health EPA HQ	Number of septic system owners receiving educational materials
Increase awareness of GTB Housing Department's free pump-out program and dumping service for Tribal residents on septic systems	GTB NRD	GTB Housing Department	GTB-owned parcels on septic systems	CWA section 319 County HDs	1) Number of septic system owners using program to obtain maintenance services 2) Number of reported failed septic systems through maintenance program

Goal for Septic Systems NPS Category: Reduce bacteria and nutrient contributions to Tribal waters from septic systems on GTB-owned parcels under the Section 319 NPS Management Program boundary					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Determine need for potential Tribal ordinance to improve septic system inspection and maintenance authority	GTB NRD	GTB Housing Department; GTB Legal Department Watershed Center Grand Traverse Bay	Reservation wide	CWA section 319 Tribal legal staff IHS County HDs	1) Completed ordinance needs analysis 2) Development of ordinance, if determined to be needed
Objective 2: Rehabilitate failing individual septic systems or relocate poorly sited individual septic systems					
Establish criteria for determining and identifying poorly sited systems	GTB NRD	GTB Housing Department; GTB Public Works	GTB-owned parcels with septic systems	CWA section 319 EPA HQ protocols County HD	Completed criteria
Identify high risk areas to prioritize system replacement	GTB NRD	GTB Housing Department; GTB Public Works	GTB-owned parcels with septic systems	CWA section 319 Planning Dept staff time County HDs	List of high risk areas
Identify sources of funding and technical assistance for septic system improvements.	GTB NRD and GTB Housing Department	IHS ITCM BIA	GTB-owned parcels with septic systems	CWA section 319 TBD	List of funding and technical assistance sources
Objective 3: Ensure proper siting and environmental review for new septic system installation.					
Establish Tribal protocols on proper siting and environmental review of new septic system installation on GTB-owned parcels	GTB NRD	GTB Housing Department; GTB Public Works	GTB-owned parcels in six county service area	CWA section 319 Potential In-Kind	1) Protocols developed 2) GTB staff trained on protocols
Document procedures for using database to implement environmental review permits for new septic systems	GTB NRD	GTB Housing Department; GTB Public Works	GTB-owned parcels in six county service area	CWA section 319 Potential In-Kind	1) Completed procedures 2) Number of permits reviewed/tracked in database

NPS Category: Agriculture

As discussed in the GTB 2013 NPS Assessment Report, agriculture (e.g. orchards/crop production and pasture land) constitutes approximately 10 percent of the land use on all of the GTB six-county service area. Of the 71 parcels under the current GTB Section 319 NPS Management Program boundary definition, three parcels (approximately 114 acres) have been or are used for agriculture. NPS pollutants from agricultural acreage include nutrients associated with fertilizer, sediment, and the potential for pesticides and herbicides. Table 13 summarizes the GTB-owned parcels under the Section 319 NPS Management Program boundary associated with agriculture by watershed/subwatershed.

Table 13. Description and Acreage of GTB Section 319 NPS Parcels in Agricultural NPS Category by Watershed/Subwatershed

Watershed/Subwatershed	Parcel ID #	Acres	Description
Grand Traverse Bay	57	5.41	Vacant lot/old farm field/underbrush
	71	28.31	Abandoned house/barn/woods/field/creek
Lake Charlevoix	48	80	Barns, farm land

Orchards and Crop Production

Tourism is this region's primary economic resource followed by agriculture (primarily apples, cherries, and berries); however, specialty crop production on the GTB owned parcels is limited. The GTB currently leases a small portion of the 104 acre Parcel 79 for agricultural use to cherry grower Don Gregory of Cherry Bay Orchards. The lease includes approximately 2,500 tart cherry trees on a 3-4 year lease; the current lease expires in September 2013. In addition, the GTB leases a 10 acre apple orchard and 40 acres of farmland to local farmers. At the present time, these agricultural parcels are not included in the GTB Section 319 NPS Management Program boundaries. If Tribal Council expands the boundaries in the future, funding could be used to implement innovative agricultural BMPs on these parcels to control fertilizer, herbicide, and pesticide use. NPS pollutants from orchard activities can include nutrients, sediment, bacteria, and pesticides.

GTB intends to develop an Integrated Pest Management (IPM) program for leased agricultural lands. In addition, GTB staff in the Natural Resources Department will obtain commercial pesticide application training and licensure that will allow GTB staff to promote reduced pesticide use on agricultural lands and other parcels. GTB staff will also conduct an annual crop assessment to determine crop type, herbicide and fertilizer use, and planting and harvesting methods.

Pasture Land

Pasture lands make up a very small percentage of land use in the six-county service area (less than 1 percent). At the present time, there are no GTB-owned parcels under the Section 319 NPS Management Program boundary that contain pasture land. However, the potential for grazing-related NPS contributions exist if any of the leased agricultural lands contain livestock. NPS pollutants from pasture land in the GTB six-county service area could include nutrients, sediment, bacteria, increased temperature, and low dissolved oxygen. Specific activities contributing these pollutants include the following:

- Grazing on stream banks, which can contribute to increased sediment loads from stream bank erosion and removal of riparian vegetation, increased temperature (and corresponding decreases in dissolved oxygen) from removal of riparian vegetation, and increased nutrients and pathogens from manure deposition directly to surface waters and to riparian areas.
- Confinement of livestock can create areas of concentrated nutrients and pathogens from animal manure and can contribute to increased erosion from removal of vegetation in the confinement

area. Nutrients, pathogens, and sediment from these confinement areas can enter surface waters through runoff of stormwater and snowmelt.

- Overgrazing of pasture land can create denuded critical areas which can erode and cause rills and gullies to form. These areas can be significant sources of sediment loading.

GTB would work with county conservation districts and NRCS to identify and implement projects if grazing activities were to occur in the future.

Table 14 presents the goals, objectives, and activities identified by the GTB NRD staff and non-tribal partners related to the agricultural NPS category. Addressing NPS pollution from agriculture is the GTB's second-tier priority due to the limited extent of agricultural activity on GTB-owned parcels under the current Section 319 Management Program boundary definition. If the boundary definition expands in the future, the amount of agricultural acreage would increase and would possibly justify reprioritization to address nutrients, erosion, and pesticide, and bacteria contributions from agricultural activities.

Table 14. Goals, Objectives, and Activities for Agriculture

Goal for Agriculture NPS Category: Reduce bacteria, nutrients, sedimentation/erosion, and pesticide contributions to Tribal waters from agricultural activities on GTB-owned parcels.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Objective 1: Create incentives for agricultural conservation practices and NPS BMPs on GTB-owned agricultural parcels					
Work with NRCS to promote enrollment in farm bill conservation programs including CSP, WHIP, and EQIP	NRCS and FSA	County Conservation Districts MDARD MSU Ext MDEQ	Six-county service area, with GTB-owned parcels leased for agriculture as highest priority	CWA section 319 NRCS Farm Bill	Acreage of leased GTB-owned land enrolled under conservation contracts
Establish BMP requirements for GTB-owned parcels leased for agricultural purposes to control agricultural NPS runoff	GTB NRD	GTB Lands and Roads County conservation Districts MDARD MSU Ext NRCS	Six-county service area, with GTB-owned parcels leased for agriculture as highest priority	CWA section 319	Agricultural BMP requirements developed and approved by Tribal Council for use on leased-agricultural lands
Objective 2: Reduce pesticide use on leased agricultural lands.					
Train/license GTB NRD staff on Commercial Pesticide Application	GTB NRD	County conservation Districts MDARD MSU Ext NRCS	GTB-owned parcels leased for agricultural activity	CWA section 319 GAP	Number of trained/licensed GTB staff

Goal for Agriculture NPS Category: Reduce bacteria, nutrients, sedimentation/erosion, and pesticide contributions to Tribal waters from agricultural activities on GTB-owned parcels.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Conduct annual assessment crop types, planting and harvest methods, fertilizer and herbicide use, and impact to surrounding water resources prior to the implementation of a BMP program	GTB NRD	County conservation Districts MDARD MSU Ext NRCS	GTB-owned parcels leased for agricultural activity	GTB In-Kind GAP	Inventory and Evaluation Report produced on NRCS standard forms.
Develop an Integrated Pest Management Plan for GTB leased agriculture property	GTB NRD	County conservation Districts MDARD MSU Ext NRCS	GTB-owned parcels leased for agricultural activity	GTB In-Kind GAP	Completed Integrated Pest Management Plan for GTB leased agricultural property
Objective 3: Keep livestock away from Tribal waters					
Work with landowners and users to identify appropriate BMPs (fencing, stream crossings, alternative watering systems)	County Conservation Districts	NRCS MDARD MSU Ext MDEQ	Six-county service area where livestock have access	CWA section 319 NRCS	Number of landowners interested in BMP implementation
Work with landowners and users to identify additional funding sources	County Conservation Districts	NRCS MDARD MSU Ext MDEQ		CWA section 319	Amount of additional funding
Work with landowners and users to implement the identified BMPs	County Conservation Districts	NRCS MDARD MSU Ext MDEQ		CWA section 319	Number of projects funded and implemented
Objective 4: Promote improved manure management and land application practices					
Provide training to agricultural land users on sensitive land application procedures	GTB NRD	NRCS County Conservation Districts MDARD MSU Ext MDEQ	Reservation wide	CWA section 319	Number of training participants Surveyed changes in land application behavior

NPS Category: Forestry

Land cover on the GTB six-county service area is primarily forest (about 50 percent). In December 2010, the Department of Interior Bureau of Indian Affairs (BIA) developed a Forest Management Plan (FMP) for the Grand Traverse Reservation. The information contained in the FMP presents forested stand inventories organized by compartment. This information does not readily align with the GTB parcel information used to define the Section 319 NPS Management Program boundaries. In addition, it is likely that forested stands exist on GTB parcels that are classified under other uses, such as commercial or housing. For purposes of the NPS Assessment Report, approximately 17 Tribally-owned parcels (147 acres) readily identified as natural or wooded (or vacant). The FMP states that the GTB prefers to conduct no commercial harvesting at the reservation. However, the Tribe will conduct non-commercial harvesting

to treat infested stands, reduce fuel hazard conditions, and any other similar activities that will ensure the health and integrity of the forest. Therefore, forest management activities focus on fire protection and insect and disease protection.

Historical logging practices did not use erosion prevention BMPs which led to increased sediment and flow in the areas surface waters. Currently forestry practices include poor road design and maintenance as well as poor harvesting practices. Partner management plans in the six-county service area have suggested the use of maintained buffer strips and improved forestry BMPs as a medium priority for reducing sedimentation from logging activities. However, logging and forest management are not predominant activities on GTB-owned parcels under the current Section 319 NPS Management Program boundary definition.

Addressing NPS pollutants from forestry is a third-tier priority for the GTB Section 319 NPS Management Program given the lack of harvesting practices on GTB parcels, but could be re-prioritized in the future if program boundaries expand. The GTB's long-term goal is to minimize the NPS pollutant contributions from forestry activities with a focus on potential sources of sediment related to improper management activities on publicly and privately owned forested lands. In the near term, the GTB will focus on working with state and local partners to educate landowners about forest-related BMPs, including protecting riparian vegetation, roadway maintenance, harvesting techniques, and replanting. Specific objectives and activities to address NPS from forest-related activities are listed in Table 15.

Table 15. Goals, Objectives, and Activities for Forestry

Goal for Forestry NPS Category: Minimize the NPS pollutant contributions from publicly and privately owned forest lands within the Tribal boundaries with a focus on potential sources of sediment.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Objective 1: Restore areas degraded by historical logging activities to minimize sedimentation to Tribal water resources					
Identify and prioritize historically logged areas contributing sedimentation to Tribal water resources	GTB	The Watershed Center Grand Traverse Bay Conservation Resource Alliance	Six-county service area	CWA section 319	List of prioritized historically logged areas in need of restoration
Identify and implement restoration projects at priority sites with historical logging activities identified as contributing sediment to Tribal water resources	GTB	The Watershed Center Grand Traverse Bay Conservation Resource Alliance	Six-county service area	CWA section 319	Completed restoration projects at priority sites with historical logging activity
Objective 2: Increase forest land owners and managers about the forestry BMPs to minimize sedimentation from forested lands within reservation boundaries.					

Goal for Forestry NPS Category: Minimize the NPS pollutant contributions from publicly and privately owned forest lands within the Tribal boundaries with a focus on potential sources of sediment.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Provide input in local and regional watershed planning to ensure that the watershed plans include GTB's efforts to reduce NPS pollution and consider unique Tribal interests in water quality, particularly related to forestry BMP education and implementation intended to reduce sediment	GTB NRD	MDNR County Conservation Districts NRCS The Watershed Center Grand Traverse Bay Conservation Resource Alliance	Six-county service area	Potential in-kind Tribal Planning Department staff and state/local partners CWA section 319	Number of partner meetings attended where NPS from past and current forestry activities are a concern

NPS Category: Natural Resource Extraction

Sources of impact or threat from this category of NPS pollution have not been identified on Tribal lands to date. However, the area surrounding some of the Tribal lands have gas extraction wells and there is the possibility for gas extraction well development on Tribal lands in the future.

Addressing NPS pollutants from natural resource extraction is a third-tier priority for the GTB Section 319 NPS Management Program, but could be re-prioritized in the future if program boundaries expand to include lands within the six-county service area that have gas extraction wells in place. The GTB's long-term goal is to minimize the NPS pollutant contributions from gas extraction well development with a focus on potential sources of sediment. In the near term, the GTB will focus on developing a Tribal policy regarding gas extraction well development on Tribally-owned lands to ensure BMPs would be put in place if this activity were to occur in the future. Specific objectives and activities to address NPS from natural resource extraction activities are listed in Table 16.

Table 16. Goals, Objectives, and Activities for Natural Resource Extraction

Goal for Natural Resource Extraction NPS Category: Minimize the NPS pollutant contributions from potential gas extraction well development on Tribal lands in the future with a focus on potential sources of sediment.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Objective 1: Document Tribal position and policy on gas extraction well development on Tribally-owned land					

Goal for Natural Resource Extraction NPS Category: Minimize the NPS pollutant contributions from potential gas extraction well development on Tribal lands in the future with a focus on potential sources of sediment.					
Activity	Lead Entity	Partner	Suggested Location	Funding	Effectiveness Measure
Develop GTB policy and criteria on gas extraction well development on Tribally-owned land to guide future well development and ensure appropriate NPS BMPs are put in place	GTB NRD	MDEQ MSU Extension County Conservation Districts NRCS The Watershed Center Grand Traverse Bay Conservation Resource Alliance	Six-county service area	Potential in-kind Tribal Planning Department staff and state/local partners CWA section 319	Approved GTB policy on gas extraction well development on Tribally-owned lands

Administering the GTB NPS Management Program: Available Programs and Partners

A wide range of local, state, and federal programs exist that the GTB can consider using to help address NPS pollution on GTB-owned parcels that fall under the current Section 319 NPS Management Program boundary definition. Table 17 presents an overview of these programs and the source of NPS pollution addressed by each program. Key partners include local, state, and federal agencies that could provide technical assistance, consult, aid in education, implement demonstration projects, or provide financial assistance to promote BMP implementation. Table 18 presents the core participants, the mission of these agencies and organizations, and the role during BMP selection and implementation.

Table 17. NPS Related Programs

NPS Related Program Description	NPS Category							
	Agriculture	Construction	Forestry	Hydrologic/Habitat Modifications	Land Disposal	Natural Resource Extraction	Transportation	Urban
GTB Section 319 NPS Management Program. Staff from GTB's Government Support Services (Division III), under the direction of the Tribal Council and assisted by other Tribal departments as needed, is primarily responsible for developing and implementing GTB Section 319 NPS Management Program.	X	X	X	X	X	X	X	X
GTB Housing Department Septic system Pump-Out Program. Provides free system pump-out and dumping to Tribal residents.					X			
Bureau of Indian Affairs Water Resource Grants. This program, funded through the Indian Self-Determination and Education Assistance Act, provides grants for the collection and analysis of baseline data.	X				X			

NPS Related Program Description	NPS Category							
	Agriculture	Construction	Forestry	Hydrologic/Habitat Modifications	Land Disposal	Natural Resource Extraction	Transportation	Urban
Clean Water State Revolving Fund. The Clean Water SRF program was established to provide low-interest loans to governmental entities for clean water and NPS pollution control projects.	X			X	X			
Consolidated Water Facilities Construction Program. This program was established to provide grants and loans for water-related projects. The amount of funds available is dependent on the amount appropriated by the legislature and the amount of funds previously awarded.	X							
Corps of Engineers Section 404 Dredge and Fill Permit Program. This program regulates the discharge of fill or dredged material into lakes, rivers, and wetlands.	X							
Drinking Water State Revolving Fund. The Drinking Water SRF program was established to provide low-interest loans for drinking water projects. The amount of funds available is dependent on the amount of appropriations from the U.S. Congress and the amount of repayment of funds previously loaned.					X			
Michigan DEQ, MDARD, Michigan State University (MSU) Extension Biosolids Program. MDARD plays an educational and technical assistance role in the Michigan's Biosolids Program, which is administered by MDEQ. MDEQ and MDARD have partnered with Michigan State University Extension and the Michigan Water Environment Association to form a Michigan Biosolids Team to provide leadership and promote beneficial uses of biosolids and to make Michigan a national leader in environmentally sound biosolids processes and products.			X					
Michigan DEQ NPS Program. Michigan DEQ is responsible for addressing NPS issues on non-tribal lands in the areas surrounding GTB lands. GTB has good relationships with state DEQ staff, and will communicate with them as needed to address common interests regarding NPS control measures which affect water quality on Tribal lands.	X	X	X	X	X		X	X

NPS Related Program Description	NPS Category							
	Agriculture	Construction	Forestry	Hydrologic/Habitat Modifications	Land Disposal	Natural Resource Extraction	Transportation	Urban
Michigan DEQ Office of Oil, Gas, and Minerals. Michigan DEQ promotes the best use of Michigan's non-renewable geological resources for their social and economic benefits while protecting associated resource values, property rights, the environment, and public health and safety. Develops policies, issues permits, and provides technical assistance.						X		
Michigan DNR Gaylord and Traverse City Management Units. Manages state forest within the GTB six-county service area according to state requirements for timber sales. MDNR provides guidelines for timber sales on privately-owned forested lands.			X	X				
MDOT Soil Erosion and Sediment Control Program. MDOT administers a Soil Erosion and Sediment Control (SESC) Program that includes an environmental stewardship commitment throughout the agency, SESC training for staff, earth change planning requirements, and policies and procedures documented in MDOT's SESC Manual.							X	
Natural Resources Conservation Service Farm Bill Programs. NRCS has several funding programs, including, Wetland Reserve Program, conservation of private grazing lands, the Farmland Protection Program, and the conservation farm option.	X							
USDA, FSA Conservation Reserve Program (CRP) and the Conservation Reserve Enhancement Program (CREP). The CRP and CREP offer long-term rental payments and cost-share assistance to establish long-term, resource-conserving cover to reduce soil erosion and improve water quality.	X							
USDA, NRCS Environmental Quality Incentives Program. EQIP was created to provide a voluntary conservation program for farmers and ranchers that promotes agricultural production and environmental quality as compatible goals. The program offers technical, financial, and educational assistance for approved farm improvement practices	X							

NPS Related Program Description	NPS Category							
	Agriculture	Construction	Forestry	Hydrologic/Habitat Modifications	Land Disposal	Natural Resource Extraction	Transportation	Urban
USDA Rural Development Administration. The RDA supports the construction of new water and waste water systems and the improvement of existing systems	X				X			
USDA Sustainable Agriculture Research and Education. In the SARE program, the funding is aimed at reducing the use of chemical pesticides, fertilizers, and toxic materials in agricultural production.	X							
USDA, NRCS Forest Management Plan (FMP). The Environmental Quality Incentives Program (EQIP) has funding available to support the development of site-specific plans that are developed based on landowner's management objectives and professional expertise of a skilled forester to achieve long-term forest management goals.			X	X				
USEPA Section 106 Program. This program assists in establishing and maintaining adequate measures for preventing and controlling surface and groundwater pollution.	X		X	X	X	X	X	X
USEPA Section 319 Program. This program assists in implementing USEPA-approved section 319 NPS management programs.	X	X	X	X	X	X	X	X

Table 18. Core Participants, Mission, and Associated Role in GTB NPS BMP Selection

Participant	Mission	Role in BMP Selection and Implementation
Grand Traverse Band		
Tribal Council	Authorizes activities and establishes policies.	Final approval of BMP selection
Division III Manager, Government Support Services	Oversees staff responsible for administering GTB's surface water programs, as well as fish and wildlife programs	Lead role in final BMP selection, siting, coordination, and implementation
Environmental Services Coordinator	Oversees environmental protection efforts on lands within GTB's jurisdiction, including surface water monitoring and NPS Management Program.	Lead role in final BMP selection, siting, coordination, and implementation
Water Quality Specialist	Responsible for the CWA Sections 106 water quality and 319 NPS programs. No oversight.	Lead role in final BMP selection, siting, coordination, and implementation

Participant	Mission	Role in BMP Selection and Implementation
Environmental Response Coordinator	Manages GTB's Brownfields program	Provides input on BMP selection, siting, coordination, and implementation
Aquatic Biologist	Responsible for the CWA Section 106 Tribal Water Quality Program within the 1855 Treaty Ceded Territories. Also assists Water Quality Specialist with the CWA Section 319 program.	Lead role in final BMP selection, siting, coordination, and implementation
Legal Department	Handles all Tribal legal matters and oversees the development of Tribal ordinances and regulations	Lead role in development of BMPs involving new or revised ordinances
Public Works	Charged with providing reliable wastewater collection and treatment for discharge into the Grand Traverse Bay and ground water	Participant in BMP selection and implementation, where applicable
GTB Automotive	Provides quality automotive repair services for Tribal members and fleet repair services for the Government and EDC vehicles.	Participant in BMP selection and, as needed, implementation
Conservation	Issues fishing and hunting licenses; conducts fisheries habitat surveys; operates commercial marina; provides mapping and technical assistance	Participant in BMP selection, siting, and implementation by providing mapping support
Green Committee	Is comprised of voluntary GTB Governmental staff that provide "green" concepts, programs, and educational information to GTB staff via global e-mailings and to the GTB community via GTB newsletter articles.	Participant in BMP selection and implementation, where applicable.
Housing Department	Provides the people of GTB Community with quality services, housing opportunities, and community development with the goal of perpetual self-sufficiency. Provides support for well/septic applications.	Participant in BMP selection and implementation, where applicable
Communications	Provide GTB Member households with information about Department Operations, Membership Services, and overall Tribal Government. GTB Newspaper is a monthly publication of the Tribal Government for the purpose of informing Tribal members about department operations and membership services.	Participant in providing coverage on activities related to BMP selection and helping to implement BMPs, particularly those related to NPS education
Tribal Public Safety	Encompasses Tribal fire and police departments	Participant in BMP selection and, as needed, implementation

Participant	Mission	Role in BMP Selection and Implementation
Facilities Maintenance	Provide the highest quality services to insure the health, safety and well-being of Tribal Members, employees, community members and Tribal Property while preserving the integrity of our natural resources. Services 40 buildings and maintains approximately 60 acres of lawns	Participate in BMP selection and, as needed, implementation
Indian Education	Provides educational opportunities and guidance to be successful lifelong learners through parental, staff, and community involvement by preparing all Tribal members of all ages to be successful through support and promotion of the use of traditional culture and language.	Participant in BMP selection and implementation, particularly for BMPs related to NPS education
Eyaawing Museum and Cultural Center	To establish, gather, interpret, and maintain a record of the history of the Grand Traverse Band of Anishinabek with respect for the circle of life, honor for our families, and the telling of the tribe's true heritage	Participant in BMP selection and implementation, particularly for BMPs related to NPS education
Non-Tribal Partners		
Environmental Health Services Division, Health Department of Northwest Michigan	Responsible for evaluating proposed building sites and issuing construction permits for sewage systems and wells; plays a vital role in the planning of building sites. Covers Antrim and Charlevoix.	Technical assistance
Grand Traverse County Health Department	Responsible for evaluating proposed building sites and issuing construction permits for sewage systems and wells; plays a vital role in the planning of building sites. Covers Grand Traverse.	Technical assistance
Benzie – Leelanau District Health Department	Responsible for evaluating proposed building sites and issuing construction permits for sewage systems and wells; plays a vital role in the planning of building sites. Covers Benzie and Leelanau counties.	Technical assistance
District Health Department #10	Responsible for evaluating proposed building sites and issuing construction permits for sewage systems and wells; plays a vital role in the planning of building sites. Covers Manistee County.	Technical assistance
County Drain Commissioners	Administers Michigan laws related to flood protection, stormwater management, and erosion control within Leelanau, Grand Traverse, Antrim, Benzie, Charlevoix, and Manistee counties	Technical assistance, consultation

Participant	Mission	Role in BMP Selection and Implementation
Conservation Districts	Works in partnership with USDA NRCS to address soil conservation issues within Leelanau, Grand Traverse, Antrim, Benzie, Charlevoix, and Manistee counties	Technical assistance, consultation, landowner participation, and BMP education
County Road Commissions	Responsible for county road construction and maintenance within Leelanau, Grand Traverse, Antrim, Benzie, Charlevoix, and Manistee counties.	Technical assistance, BMP implementation
Conservation Resource Alliance	Mission is to foster locally-driven solutions that will preserve or develop land in a positive manner for all parties involved. Instead of promoting further regulations or lawsuits, aim to foster partnerships in order to understand consequences, alter behavior, and create win-win cooperative efforts. Established in 1968 as part of a nationwide network of Resource Conservation and Development Councils. Covers GTB six-county service area.	Technical assistance, BMP education
Grand Traverse Regional Land Conservancy	Protect significant natural, scenic, and farm lands, and advance stewardship, now and for future generations. Service area includes Antrim, Benzie, Grand Traverse, Kalkaska and Manistee Counties.	Technical assistance, BMP education, identification of potential sites/parcels for BMP implementation
Leelanau Conservancy	Nonprofit land trust established to support, in a balanced manner, the preservation of the natural beauty, ecological integrity and working farms of the Leelanau Peninsula	Technical assistance, BMP education, identification of potential sites/parcels for BMP implementation
Michigan Department of Agriculture and Rural Development (MDARD)	Priorities include assuring food safety, protecting animal and plant health, sustaining environmental stewardship, providing consumer protection, enabling rural development, and fostering efficient administrative operations.	Technical Assistance
Michigan DEQ Nonpoint Source Program	State water agency responsible for addressing NPS issues in areas surrounding GTB lands. Provides education, technical assistance, coordination, and other services.	Technical assistance, BMP education, consultation
Michigan DEQ NPDES Program	State water agency responsible for issuing permits to point sources of pollution. Regulates industrial and construction site stormwater discharges, conducts education and training programs.	Technical assistance, consultation
Michigan DNR Traverse City Forest Management Unit	Manages state forest lands in Benzie, Grand Traverse, Leelanau, and Manistee counties.	Technical assistance, consultation
Michigan DNR Gaylord Forest Management Unit	Manages state forest lands in Antrim and Charlevoix counties.	Technical assistance, consultation

Participant	Mission	Role in BMP Selection and Implementation
Michigan Department of Transportation (MDOT)	Responsible for Michigan's highway system, including U.S. Routes 22 and 204 that run through Tribal boundaries	Technical assistance, consultation, potential financial assistance, BMP implementation
Municipalities	Responsible for land and wastewater management	Technical assistance, financial assistance,
Northwest Michigan Council of Governments	Northwest Michigan Council of Governments is a regional organization serving units of government, businesses, non-profits, community organizations, and individuals. Provides a variety of programs and services within the region, with particular emphasis on partnerships, economy of scale, and leveraging resources to address common concerns among multiple organizations or across sectors. Primary service categories are: workforce development; business & economic development; regional planning & community development; community safety. Covers the GTB six-county service area.	Technical assistance, Education
Bureau of Indian Affairs	The Bureau of Indian Affairs (BIA) appropriates funds to tribes of Michigan under 25 CFR Part 150-250. Funds may be used for resource protection activities including water resources and environmental quality services. The BIA has access to Great Lakes Restoration Initiative funds that may be utilized for suitable GTB projects.	Technical assistance, funding
Indian Health Service	The Indian Health Service (IHS) provides support to federally recognized tribes related to NPS control. IHS can assist tribes with construction site assessments and septic system installations.	Engineering and technical assistance and funding for septic systems
Inter-Tribal Council of Michigan	The Inter-Tribal Council of Michigan, Inc. (MITC), Environmental Services Division, is organized to provide environmental and environmental health related technical assistance and consultation services. Environmental specialists from the council can work with GTB on wastewater, municipal water, environmental permitting, and funding issues.	Technical assistance, consultation
U.S. Department of Agriculture, Natural Resources Conservation Service	Works with landowners through conservation planning and assistance designed to benefit the soil, water, air, plants, and animals that result in productive lands and healthy ecosystems. Supports Resource, Conservation, and Development (RC&D) Councils	Technical and financial assistance, consultation
U.S. Department of Agriculture, Farm Service Agency	Works with agricultural landowners through conservation programs, such as the Conservation Reserve Program, to provide financial incentives to install specific conservation practices that help protect environmentally sensitive land, decrease erosion, restore wildlife habitat, and safeguard ground and surface water.	Technical and financial assistance, consultation

Participant	Mission	Role in BMP Selection and Implementation
U.S. Environmental Protection Agency Region 5	Oversight of water resources programs under the Clean Water Act in Michigan; administers the Section 319 Nonpoint Source Management program. USEPA also oversees the Section 106 Program. This program funds GTB's surface water monitoring program.	Technical and financial assistance. Oversight of water resource monitoring and drinking water programs.
U.S. Army Corps of Engineers	Promoting water resource protection and ecosystem restoration in the Great Lakes region.	Technical and financial assistance
U.S. Fish and Wildlife	Provide assistance to Tribes for development and implementation of programs that benefit fish and wildlife resources and their habitat, including: planning for wildlife and habitat conservation, fish and wildlife conservation and management actions, fish and wildlife related research, habitat mapping, field surveys and population monitoring, habitat protection, and public education.	Technical and financial assistance
The Watershed Center Grand Traverse Bay	Advocates for clean water in Grand Traverse Bay and acts to protect and preserve the Bay's watershed; developed and implements the Grand Traverse Bay Watershed Protection Plan	Technical assistance

Schedule for BMP Implementation

The initial five years of the GTB Section 319 NPS Management Program will focus on developing and implementing a comprehensive outreach and education program to support BMP implementation under all NPS categories, as well as review of the existing SESRC Ordinance to identify potential updates to better promote innovative stormwater management on new development and redevelopment of Tribally-owned parcels. The initial five years will also focus on continued work to conduct assess stormwater infrastructure on GTB-owned parcels as well as road-stream crossings to determine maintenance needs. A key component to the GTB Section 319 NPS Management Program will be improving inter-departmental communication and coordination on activities that will affect NPS pollution, including better coordination on proposed development/redevelopment projects and tracking construction activities on GTB-owned parcels. Table 19 presents the five-year implementation schedule for the activities under each NPS category of the GTB Section 319 NPS Management Program.

It is assumed that during Years 5-10 of the Section 319 NPS Management Program, the GTB will consider the development of Tribal water quality standards to guide future assessments and help guide the direction of the NPS Management Program during the next decade.

Table 19. BMP Implementation Schedule for the GTB NPS Management Program by NPS Category

BMP/Activity	NPS Management Program Year and Associated Funding Considerations	
	Year (Y)	Funding Consideration
NPS Category: Urban		
Develop outreach materials and training materials for Tribal members and GTB departmental staff that focus on ways to reduce NPS pollutants associated with specific types of facilities and practices	Y1	Base Section 319 funding

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BMP/Activity	NPS Management Program Year and Associated Funding Considerations	
	Year (Y)	Funding Consideration
Distribute educational materials to GTB members and departmental staff, including update on GTB website, publication of educational articles and brochures in the GTB Newsletter; development and distribution of educational materials at community events and meetings.	Y1-5	Base Section 319 funding
Provide GTB departmental staff training opportunities, including annual review of the NPS Management Plan with all NRD staff and other key GTB department staff	Y1-5	Base Section 319 funding Section 106
Review 1997 SESRC Ordinance to identify potential modifications for promoting infiltration and on-site stormwater management through Green Infrastructure and Low Impact Development	Y2	Base Section 319 funding Section 106 with technical assistance from the Watershed Center – Grand Traverse Bay
Modify 1997 SESRC Ordinance to promote Green Infrastructure and Low Impact Development based on review findings and adopt updated ordinance	Y2	Base Section 319 funding with technical assistance from the Watershed Center – Grand Traverse Bay
Develop GTB Project Review Team	Y2	GTB In-Kind
Develop site plan review process and checklist	Y2	Base Section 319 funding
Provide training to GTB staff, design engineers, and contractors on new site design requirements and procedures	Y3-5	Base Section 319 funding
Conduct site plan reviews for new development and redevelopment on GTB parcels using approved site plan checklist to ensure compliance with updated SESRC Ordinance	Y3-5	Base Section 319 funding Section 106 GTB In-Kind (as site plans need reviewing)
Provide training on the use of rain barrels, rain gardens, and other green infrastructure practices to promote infiltration and reduction of NPS pollutants from urban areas	Y3	Competitive Section 319 funding with partner collaboration
Conduct GTB parcel stormwater retrofit opportunity audit	Y2	Competitive Section 319 funding with partner collaboration
Implement stormwater retrofit demonstration project to train GTB staff and engineers on green infrastructure/low impact development techniques based on retrofit opportunity audit findings	Y3-5	Competitive Section 319 funding with partner collaboration
NPS Category: Construction		
Develop and provide soil and erosion control training to GTB staff and non-tribal staff involved in construction activities	Y1, 3, 5	Base Section 319 funding
Provide technical assistance to the county road commissions during road stream crossing projects to reduce NPS pollution	Y1-2	Base Section 319 funding
Develop system to track planned and ongoing construction activities	Y2	Competitive Section 319 funding
Review planned construction project soil erosion control plans under SESRC Ordinance requirements	Y1-5	Base Section 319 funding and GTB In-Kind (as project plans need reviewing)
Inspect ongoing construction activities to determine effectiveness of soil erosion controls	Y1-5	Base Section 319 funding and GTB In-Kind (as project plans need reviewing)
Monitoring road stream crossing improvement project sites in counties during and after construction activity	Y1-5	Base Section 319 funding Section 106 funding
NPS Category: Transportation		

BMP/Activity	NPS Management Program Year and Associated Funding Considerations	
	Year (Y)	Funding Consideration
Inspect and document a minimum of five road/stream crossings annually as part of the annual stormwater inventory process	Y1-5	Base Section 319 funding
Provide road stream crossing and other roads-related O&M needs (e.g., catch basin cleaning) to the GTB Facilities Maintenance Department. Report any road/stream crossings in need of repair to the County Road Commissions.	Y1-5	Base Section 319 funding
Establish a list of road construction contractors constructing and maintaining roads within the six-county service area	Y2	Base Section 319 funding
Develop and implement a plan for regular communication and information sharing among GTB departments, county road commissions, cities, and MDOT to keep track of proposed road construction and maintenance projects	Y2	Base Section 319 funding
Establish and maintain road construction/ maintenance project list to facilitate soil erosion control inspections	Y2-5	Base Section 319 funding GTB In-Kind
Require all road construction contractors working on GTB trust land within the six-county service area to control soil erosion according to GTB's SESRC Ordinance and county standards/specifications.	Y1-5	Base Section 319 funding GTB In-Kind
Work with road contractors on-site to ensure soil erosion BMP implementation	Y2-5	Base Section 319 funding GTB In-Kind
NPS Category: Hydrologic and Habitat Modification		
Add identifying and mapping stream bank erosion sites to existing field work (e.g., stormwater inventory, wetland assessment, road stream crossing inventory)	Y2-5	Base Section 319 funding Section 106 College student interns Potential In-Kind
Develop criteria for ranking stream bank stabilization sites	Y2	Base Section 319 funding Section 106 and GTB In-Kind
Rank stream bank stabilization sites from high to low restoration priority	Y3	Base Section 319 funding Section 106 and GTB In-Kind
Identify outside funding sources for stream bank stabilization	Y3	Base Section 319 funding GTB/Local partner in-kind
Design stabilization plans for high-priority sites	Y4-5	Competitive Section 319 funding
Contract to have stabilization activities completed	Y4-5	Competitive Section 319 funding
Participate in a hydrologic study of Mitchell Creek with non-tribal partners to determine the cause of flow changes and identify alternatives to restore	Y1-5	Base Section 319 funding (as part of ongoing partner/watershed meetings) and GTB In-Kind
Contribute to development of flow restoration action items with other local partners based on findings of hydrologic study	Y1-5	Base Section 319 funding (as part of ongoing partner/watershed meetings) and GTB In-Kind
Participate in implementing flow restoration action items as a partner, if action items are feasible	Y3-5	Competitive Section 319 funding (assuming leveraging resources from other federal/state/local partners)
Identify high-quality riparian acreage for protection via permanent conservation easements	Y2	Base Section 319 funding (with technical support from NRCS and local land conservancies) and GTB In-Kind

BMP/Activity	NPS Management Program Year and Associated Funding Considerations	
	Year (Y)	Funding Consideration
Place high-quality riparian acreage into permanent conservation easements	Y3	NRCS Leveraged resources from local land conservancies and/or GTB In-Kind
Continue to assess wetlands and update 2003 Wetland Inventory and Management and Protection Plan	Y1-5	Base Section 106, Base Section 319, and GTB In-Kind
Identify areas with hydrologic and habitat modification that could promote spread of non-native species that could affect health of natural riparian vegetation and wetland function	Y1-5	Section 106
Conduct non-native species control in areas targeted for wetland protection and restoration	Y2-5	Competitive Section 319 funding (related to wetlands protection and restoration projects)
NPS Category: Septic Systems		
Create a database of all septic systems on GTB-owned parcels. Septic systems will be identified by operator's name, address, and latitude/longitude.	Y1	GTB Housing Department
Distribute educational materials on proper septic system maintenance to homes with septic systems	Y1-5	In-Kind educational materials from The Watershed Center Grand Traverse Bay
Increase awareness of GTB Housing Department's free pump-out program and dumping service for Tribal residents on septic systems	Y1-5	GTB In-Kind County health departments In-Kind
Determine need for potential Tribal ordinance to improve septic system inspection and maintenance authority, including review of other Michigan tribal septic system maintenance ordinances	Y2	Base Section 319 funding Section 106 GTB In-Kind (Housing, Legal) The Watershed Center Grand Traverse Bay In-Kind
Develop Tribal septic system maintenance ordinance, if need is identified	Y3	Base Section 319 funding Section 106 GTB In-Kind (Housing, Legal) The Watershed Center Grand Traverse Bay
Establish criteria for determining and identifying poorly sited systems	Y3	GTB In-Kind (Housing, Legal) Indian Health Service The Watershed Center Grand Traverse Bay In-Kind
Identify high risk areas to prioritize system replacement	Y4-5	Base Section 319 funding Section 106 Indian Health Service
Identify sources of funding and technical assistance for septic system improvements.	Y4-5	Base Section 319 funding The Watershed Center Grand Traverse Bay In-Kind
Establish Tribal protocols on proper siting and environmental review of new septic system installation on GTB-owned parcels	Y2	GTB In-Kind (Public Works, Housing, Legal)
Document procedures for using database to implement environmental review permits for new septic systems	Y2	GTB In-Kind (Public Works, Housing, Legal)
NPS Category: Agriculture		
Work with NRCS to promote enrollment in farm bill conservation programs including EQIP (if GTB-owned parcels become active ag parcels)	Y1-5	Base Section 319 funding NRCS

BMP/Activity	NPS Management Program Year and Associated Funding Considerations	
	Year (Y)	Funding Consideration
Establish BMP requirements for GTB-owned parcels leased for agricultural purposes to control agricultural NPS runoff	Y3	Base Section 319 funding
Conduct annual assessment crop types, planting and harvest methods, fertilizer and herbicide use, and impact to surrounding water resources prior to the implementation of a BMP program	Y1-5	GAP funding
Develop an Integrated Pest Management Plan for GTB leased agriculture property	Y1	GAP funding and GTB In-Kind
Work with landowners and users to identify appropriate BMPs (fencing, stream crossings, alternative watering systems) as needed if GTB-owned parcels become actively ag	Y3-5	Base Section 319 funding NRCS
Work with landowners and users to identify additional funding sources	Y3-5	Base Section 319 funding NRCS
Work with landowners and users to implement the identified BMPs	Y3-5	Competitive 319 funding NRCS
Provide training to agricultural land users on sensitive land application procedures as needed if GTB-owned parcels become actively ag	Y3-5	Competitive 319 funding NRCS
NPS Category: Forestry		
Provide input in local and regional watershed planning to ensure that the watershed plans include GTB's efforts to reduce NPS pollution and consider unique Tribal interests in water quality, particularly related to forestry BMP education and implementation intended to reduce sediment	Y1-5	Base Section 319 funding (as part of participating in existing watershed planning efforts) and GTB In-Kind
NPS Category: Natural Resource Extraction		
Develop Tribal policies and protocols regarding fossil fuel extraction well development, including criteria for well siting to protect surface and groundwater resources	Y3-5	Base Section 319 funding, Base GAP funding, GTB In-Kind, and MDEQ technical assistance Local/watershed partners in-kind

The GTB and non-tribal implementation partners will work with an adaptive management approach in mind, sampling from the CWA Section 106 monitoring program will serve as a basis for assessing improvements in water quality, and will also serve as the basis for the need for additional implementation practices in the future. During Year 5 of the GTB's Section 319 NPS Management Program, GTB NRD staff will work with other GTB departments and non-tribal partners to conduct a comprehensive review of the overall program and make adjustments where needed.

Tribal Authority for Implementing the NPS Management Program

The GTB received Treatment as a State under the CWA for Section 106 in 1998 and Section 319 in 2004. In January 2002, the GTB Tribal legal counsel documented that the laws of the Tribe provide adequate authority to implement a NPS management program. This is provided to EPA Region 5 in various documents, such as the July 2002 GTB Section 319 NPS Assessment Report and the October 10, 2001 GTB Tribal NPS Management Plan. A copy of the January 2002 legal memorandum is attached in Appendix D, Legal Memorandum Documenting the CWA Section 319 Eligibility of GTB Tribal Law Soil Erosion and Stormwater Runoff Control Ordinance.

The Tribal Council adopted the GTB Soil Erosion and SESRC Ordinance 97.001, on January 21, 1997. The purpose of the SESRC Ordinance is to prevent the pollution, impairment, or destruction of a natural resource or the public trust on Tribal lands. Under the SESRC Ordinance, GTB NRD staff have the authority to issue SESRC permits, inspect, and involve Tribal Conservation staff for enforcement needs.

SECTION 5 – ADAPTIVE MANAGEMENT

To ensure the GTB Section 319 NPS Management Program effectively reduces NPS pollutant contributions to Tribal waters, GTB NRD staff will use an iterative process of planning, implementing, assessing, and adjusting referred to as *adaptive management*. Through a process that focuses on learning by doing, GTB staff can use data and information collected over time to improve decision-making.

To facilitate an adaptive management process, it's necessary to have an adaptive management plan that documents the procedures for assessing progress over time. Assessing progress of the GTB Section 319 NPS Management Program will involve both project-specific evaluation for both structural and non-structural BMPs, as well as program-level evaluation. Results from the evaluation process will help GTB NRD staff determine if adjustments are needed at both the project-level and the overall program-level to ensure NPS pollution is reduced to protect Tribal water resources and beneficial uses.

In addition to helping with program adjustments, the adaptive management approach will also help GTB NRD staff project programmatic needs beyond the five year time frame addressed under this version of the Section 319 NPS Management Program Plan. During year five of this plan, GTB will assess which activities were completed under each NPS category and which activities have yet to be completed. Any activities in need of implementation will be addressed during years 6-8 of the Section 319 NPS Management Program. Also during this mid-term phase of the program, GTB will focus on assessing BMP effectiveness, institutionalizing the review of site plans to ensure future development with innovative stormwater management approaches, and evaluation of changes in awareness due to ongoing NPS education and outreach efforts. The long-range forecast for the Section 319 NPS Management Program includes broader NPS implementation in the six-county service area with a shift in focus from restoration to protection activities and, as necessary, completing implementation activities remaining from the mid-term phase of the program.

SECTION 6 – PUBLIC NOTICE AND COMMENT

Achieving Tribal water quality goals/standards through the Section 319 NPS Management Program will require the support and involvement from key Tribal and non-tribal partners. Therefore, the GTB provided several opportunities for stakeholders to participate in the development of the Section 319 NPS Assessment Report and Management Program Plan.

As discussed in Section 3, key partners were invited to partake in a working session on June 27th to discuss potential priority areas and BMPs within the GTB Section 319 NPS Management Program boundary. This working session provided participants with the opportunity to comment on the preliminary findings of the draft Section 319 NPS Assessment Report and identify additional water quality concerns and priorities based on local knowledge. In addition, participants provided input on the relationship of the GTB Section 319 NPS Management Program to existing watershed management plan and BMPs identified through those plans. Appendix A provides the agenda, summary, and list of participants from this working session.

Both the Section 319 NPS Assessment Report and Management Program Plan were made available via the GTB website for a 30-day public review and comment period starting on August 1, 2013 and ending September 1, 2013. The GTB made copies of the draft Section 319 NPS Assessment Report and the NPS Program Management Plan available to local stakeholders via the GTB website, as shown in Figure 8.

To ensure partners and the public had an additional opportunity to comment, the GTB hosted a public meeting on August 13, 2013 at the GTB's Medicine Lodge in Peshawbestown. Participants at the public meeting heard presentations that summarized the findings of the Section 319 NPS Assessment Report and the recommended BMPs in the Section 319 NPS Management Program Plan. During these meetings, participants provided feedback and asked questions regarding the process, findings, and potential opportunities for future implementation. Appendix B provides a summary of the meeting and a list of public meeting participants.

In addition to public comments provided at the public meetings, Greg Goudy from MDEQ's Water Resources Division, Cadillac District Office, provided written comments on the NPS Management Program Plan to the GTB. Appendix C provides a summary of the comments received during the 30-day public comment period and responses to the comments.

As a result of the public comments, GTB made changes to the draft Section 319 NPS Management Program Plan. Appendix C provides more detail on how the GTB responded to each public comment.

The GTB is committed to providing continued opportunities for public participation in and feedback on the implementation of the Section 319 NPS Management Program.



The screenshot shows the official website of the Grand Traverse Band of Ottawa and Chippewa Indians. The header features a decorative floral banner and the tribe's logo. A navigation bar lists various departments: Tribal Council, Tribal Manager Office, Education & Human Services, Administrative Services, Government Support Services, Health Management, and Tribal Court. The main content area is titled 'GTB 319 NPS' and provides a detailed overview of the proposed Nonpoint Source Management Program. It explains the purpose of the program, the role of the Grand Traverse Band's Natural Resources Department (NRD), and the public comment process. Key information includes the public meeting date (Tuesday, August 13th, 9:30 AM - 11:30 AM) at the GTB Medicine Lodge, 2300 N. Stallman Rd., Peshawbestown, MI. The page also includes links to the Nonpoint Source Assessment Report and the Nonpoint Source Management Program Plan. A footer section contains contact information for the tribe, a news section, and links to various resources like the Events Calendar, Forms, and Member Login.

GTB 319 NPS

Grand Traverse Band of Ottawa and Chippewa Indians Proposed Nonpoint Source Management Program to Restore and Protect Tribal Waters

Protecting and restoring the Grand Traverse Band of Ottawa and Chippewa Indians' (GTB) water takes planning, coordination, funding, and involvement from everyone. With help from federal, state, and local partners, the GTB's Natural Resources Department (NRD) is developing a program restore and protect tribal waters from pollutants like the sediment, nutrients, and bacteria carried by rainfall, snowmelt, or irrigation water and washed into tribal waters. This type of pollution is referred to as nonpoint source pollution (NPS).

To be eligible for funding under the federal Clean Water Act Section 319 Nonpoint Source Program, the U.S. Environmental Protection Agency (EPA) requires tribes to develop a Nonpoint Source Assessment Report and a Nonpoint Source Management Program Plan. These documents identify the types of nonpoint source pollution affecting tribal waters and provide a roadmap for action to address the sources of nonpoint source pollution, including agricultural operations, septic systems, and stormwater management.

With the help of tribal and non-tribal partners, the GTB NRD has completed drafts of both the Nonpoint Source Assessment Report and the Nonpoint Source Management Program Plan. The next step for funding eligibility is public involvement. With Tribal Council approval granted on July 31, 2013, the GTB NRD is starting a 30-day public review and comment period on August 1, 2013. Each document is available for review until Friday, August 30, 2013. Provide your comments to Elizabeth Hiser at Tetra Tech via email Elizabeth.Hiser@tetratech.com or mail comments to: Elizabeth Hiser, Tetra Tech, 1468 W. 9th Street, Suite 620, Cleveland Ohio, 44113. You can also share your thoughts on the GTB's Section 319 Nonpoint Source Management Program during a public meeting scheduled for August 13th. Information on the documents and the community meetings are provided below.

Nonpoint Source Assessment Report

This document provides a detailed look at the health of tribal waters and describes the types of nonpoint sources of pollution affecting water quality and quantity.

[Link to: Nonpoint Source Assessment Report](#)

Nonpoint Source Management Program Plan

This document describes the proposed GTB Section 319 NPS Management Program, including the organizational structure, partners, and potential funding sources. Most importantly, this document identifies the potential actions that the GTB and federal, state, and local partners are proposing to implement to address and prevent further nonpoint source pollution.

[Link to: Nonpoint Source Management Program Plan](#)

Nonpoint Source Management Program Community Discussions

The GTB NRD is hosting a public meeting to exchange ideas and information about the GTB's Section 319 NPS Management Program. Tuesday, August 13th, from 9:30 AM – 11:30 AM, at the GTB Medicine Lodge, 2300 N. Stallman Rd., Peshawbestown, MI – Conference Room B

(First large conference room when you enter Medicine Lodge).

[Download the Agenda here](#)

For more information about the proposed GTB Section 319 NPS Management Program, the public meeting, or Tribal water resources, contact Desmond Berry, PPG program director by email at desmond.berry@gtbindians.com or phone at 231-534-7363.

This page last updated on 8/6/2013.

The Grand Traverse Band of Ottawa and Chippewa Indians
2605 N. West Bay Shore Dr.
Peshawbestown, MI 49682
Tribal Government Toll Free
Exchange: 1-866-534-7730

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Figure 8. 30 day public comment notice and links to NPS Management Program Plan and NPS Assessment Report

REFERENCES

BIA (Department of the Interior Bureau of Indian Affairs). 2010. *Forest Management Plan. Grand Traverse Reservation. Leelanau County, Michigan*. December 2010.

USEPA (U.S. Environmental Protection Agency). 2010. *Handbook for developing and Managing Tribal Nonpoint Source Pollution Programs Under Section 319 of the Clean Water Act*. (EPA 841-B-10-001). United States Environmental Protection Agency Office of Water Nonpoint Source Control Branch – 4503(T) 1200 Pennsylvania Avenue, NW Washington, DC 20460. Available online at http://www.epa.gov/owow/NPS/tribal/pdf/tribal_handbook2010.pdf

APPENDICES

Appendix A: Working Session information (agenda, summary, participants)

**The Grand Traverse Band of Ottawa and Chippewa Indians (GTB)
Clean Water Act Section 319 Nonpoint Source (NPS) Management Assessment and
Planning**

Partner Working Session

Thursday, June 27, 2013 • 1:00-4:45 pm

**Eyaawing Museum and Cultural Center • 2304 N. West Bayshore Drive, Peshawbestown, MI
(Off-site participants: 1-866-692-5721/Passcode: 6042327)**

Agenda

- 1:00 pm **Welcome, Introductions, and Meeting Goals** (*GTB staff*)
- 1:15 pm **Overview of draft GTB 2012 Water Quality Assessment Report and NPS Management Program Plan Report** (*Elizabeth Hiser and Kellie DuBay, Tetra Tech*)
- 1:30 pm **Working Session** (*Facilitated by Tetra Tech*)
- 1) Water Quality Data Summary and Associated NPS Source Identification**
- Construction/Post-Construction
 - Land Disposal/Septic Systems
 - Hydrologic/Habitat Modifications
 - Urban Runoff
 - Transportation
 - Forestry
 - Resource Extraction/Exploration Development
- 2) Current/Future Best Management Practices for Priority NPS Pollutants/Sources**
- 3) Critical Area Identification**
- 4:30 pm **Next Steps and Schedule for the Planning Process** (*Facilitated by Tetra Tech*)
- 4:45 pm **Adjourn**

Meeting Summary

Partners provided details on existing watershed management plans and ongoing implementation in the six-county service area. Each county was discussed in relation to GTB parcels and potential for GTB to work with partners on NPS implementation. Stakeholders identified the need for sedimentation control six-county service area wide as well as the importance of acknowledging upstream partners and the need for a watershed approach to implementation.

Meeting Attendees

Frank Dituri, Wetland Ecologist
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Joe Huhn
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Sam McClellan, Water Quality Specialist
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Melissa Witkowski, Environmental
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Yarrow Wolfe, Conservation Easement
Program Manager
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Appendix B: Public Meeting information (summary, participants)

**Grand Traverse Band of Ottawa and Chippewa Indians (GTB)
Clean Water Act Section 319 Nonpoint Source Management Program
Public Meeting and Community Discussion
Tuesday, August 13, 2013
9:30 -11:30 am
GTB Medicine Lodge (Conference Room B), 2300 N. Stallman Rd., Peshawbestown, MI**

PUBLIC MEETING SUMMARY

The Grand Traverse Band of Ottawa and Chippewa Indians (GTB) held a public meeting on Tuesday, August 13, 2013 to obtain input on the draft Nonpoint Source (NPS) Management Program documents: NPS Assessment and NPS Management Program Plan.

The agenda for the public meeting is attached as Appendix A. The list of attendees for the public meeting is attached as Appendix B. The presentations given during the public meeting are available from Desmond Berry, GTB Natural Resources Department (Desmond.berry@gtbindians.com).

SUMMARY OF MEETING INPUT

Comments related to the NPS Assessment Report

- Partners discussed how runoff flow volume is currently addressed as a pollutant and might be worth addressing in the NPS Assessment and NPS Management Program Plan.
- There are two Mitchell Creeks in the six-county service area; distinguish between them and clarify which one is being addressed as a priority in the NPS Assessment Report is the one located in Grand Traverse County.

Comments related to the NPS Management Program Plan

- The GTB NPS Program chart should include the GTB Housing Department.
- Describe the need for communication between local watershed organizations and GTB about funding opportunities to leverage funds and avoid duplication of effort
- Improve the connection between non-native species and water quality; emphasize the link to wetland protection and riparian corridor health, as well as a first step in restoration projects.

- Add the SEMCOG LID document to the list of documents and resources that identify potential BMPs for implementation.
- Change the focus on Leelanau County to all county road commissions in the construction BMP table that focuses on road stream crossing projects.
- Update the septic system section of the NPS Management Program Plan to reflect refinements from the GTB staff in the Housing Department, Public Works Department, and Facilities Maintenance Department. NRCS mentioned the use of caffeine testing to target areas with failing septic systems. EPA suggested adding an activity that includes reviewing septic system maintenance ordinances passed by southern Michigan tribes.
- List The Watershed Center Grand Traverse Bay as a partner on septic system education and septic system maintenance ordinance development.
- Need to discuss pesticide use BMPs funded through GAP rather than 319 funding. Wordsmith any pesticide BMP language with EPA.
- GTB has a tribal forestry management plan that should be reviewed and referenced in the NPS Management Program Plan.
- Review parcels considered vacant lots to determine if they are actually forested areas that should be mentioned under the forestry NPS category.
- Clarify what USDA considers forestry and if additional areas should in GTBs 319 parcels should be included based on that definition.
- CRA would like to be included as a partner under some forestry management actions; NRCS will forward an email from CRA about this issue.
- The schedule should be revised to be more specific about the activities that will be covered under GTB's 319 base funding and the other items that will require competitive funding or other sources of funding for implementation. GTB NRD staff are concerned that the current structure of the schedule in the NPS Management Program Plan is too vague and doesn't indicate how sensitive the schedule is to budgetary constraints. GTB will work with Tetra Tech to modify the schedule to better reflect GTB's current 319 base funding commitments and other funding needs associated with activities.

The schedule should indicate that in year five of the NPS Program, GTB will reevaluate the NPS Section 319 Management Program boundaries to consider moving beyond the current parcel-based definition.

Public Meeting Attendees

Nicki Basch
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Desmond Berry
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Sarah U'ren, Program Director
The Watershed Center Grand Traverse Bay
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Appendix C: Response to public comments

Table C-1. Summary of Public Comments and Responsiveness Statement

Comment	Commenter	Response
Verbal Public Comments		
Runoff flow volume is currently addressed as a pollutant and might be worth addressing in the NPS Assessment and NPS Management Program Plan.	Watershed Center Grand Traverse Bay	Many of the BMPs identified in the MPP address runoff flow by promoting infiltration. No change needed.
There are two Mitchell Creeks in the six-county service area; distinguish between them and clarify which one is being addressed as a priority in the NPS Assessment Report is the one located in Grand Traverse County.	Watershed Center Grand Traverse Bay	Clarification made
The GTB NPS Program chart should include the GTB Housing Department	GTB staff	Change made to program charts.
Describe the need for communication between local watershed organizations and GTB about funding opportunities to leverage funds and avoid duplication of effort	Watershed Center Grand Traverse Bay	Language to this effect was added.
Improve the connection between non-native species and water quality; emphasize the link to wetland protection and riparian corridor health, as well as a first step in restoration projects	EPA	Modified language to improve connection to wetland and riparian health.
Add the SEMCOG LID document to the list of documents and resources that identify potential BMPs for implementation	Watershed Center Grand Traverse Bay	Added document to the list.
Change the focus on Leelanau County to all county road commissions in the construction BMP table that focuses on road stream crossing projects	GTB staff	Change made.
Update the septic system section of the NPS Management Program Plan to reflect refinements from the GTB staff in the Housing Department, Public Works Department, and Facilities Maintenance Department. NRCS mentioned the use of caffeine testing to target areas with failing septic systems. EPA suggested adding an activity that includes reviewing septic system maintenance ordinances passed by southern Michigan tribes	GTB staff EPA	Changes made.
List The Watershed Center Grand Traverse Bay as a partner on septic system education and septic system maintenance ordinance development	Watershed Center Grand Traverse Bay	Change made.
Need to discuss pesticide use BMPs funded through GAP rather than 319 funding. Wordsmith any pesticide BMP language with EPA	EPA	Change made.

Comment	Commenter	Response
GTB has a tribal forestry management plan that should be reviewed and referenced in the NPS Management Program Plan	GTB staff	Reviewed document and included relevant forestry information into NPS Assessment Report and NPS Management Program Plan.
Review parcels considered vacant lots to determine if they are actually forested areas that should be mentioned under the forestry NPS category	NRCS	Analysis needed to make this determination outside of time and budget constraints of plan development. It is assumed existing stands are being managed per the GTB forestry management plan, no harvesting is occurring at this time.
Clarify what USDA considers forestry and if additional areas should in GTBs 319 parcels should be included based on that definition	NRCS	Reviewed GTB's forestry management plan; additional analysis needed to make this determination outside of time and budget constraints of plan development. It is assumed existing stands are being managed per the GTB forestry management plan though they have not been identified on a parcel basis, no harvesting is occurring at this time.
The schedule should be revised to be more specific about the activities that will be covered under GTB's 319 base funding and the other items that will require competitive funding or other sources of funding for implementation. GTB NRD staff are concerned that the current structure of the schedule in the NPS Management Program Plan is too vague and doesn't indicate how sensitive the schedule is to budgetary constraints.	GTB staff EPA	GTB provided modifications the schedule to better reflect GTB's current 319 base funding commitments and other funding needs associated with activities.
The schedule should indicate that in year five of the NPS Program, GTB will reevaluate the NPS Section 319 Management Program boundaries to consider moving beyond the current parcel-based definition.	EPA	Change made.
Written Public Comments		
I would think there would be more boxes checked in Table 4 for ag, forestry and road construction under the various watersheds. Partners have information -- albeit dispersed in many documents -- that confirms those sources in Betsie, Boardman, Jordan, Lake Leelanau, and Mitchell Creek. I would be happy to mark up a copy if needed, but I wondered if there might be some other rationale at work here?	Conservation Resource Alliance	These other sources are undoubtedly present, but the boxes checked in Table 4 reflect where GTB parcels that fall under these categories are located. GTB does not have ag, forestry, and road construction parcels in those subwatersheds given the way the current Section 319 NPS Program boundaries are defined by GTB. This may change if the boundary definition changes in the future.

Comment	Commenter	Response
Is it too much of a reach at this point to add activities such as "work with road authorities to replace the most severe road crossings impacting waterways as funding allows" and similar for "... modify or remove dams..." and "stabilize eroding streambanks" ?	Conservation Resource Alliance	Table 11 in the NPS MPP contains activities that address these concerns. No change made.
NPS Assessment Report, Page 93. The link below to MDEQ approved WMPs... "Any BMP listed within an MDEQ-approved NPS Watershed Plan within GTB's six-county service area (http://www.michigan.gov/deq/0,4561,7-135-3313_3682_3714-95955--,00.html)" ...has recently been changed to http://www.michigan.gov/documents/deq/wrd-nps-approved-watershed-plans_431188_7.pdf?20130830133304	MDEQ	Change made.
NPS MPP Page 2. At this point in the plan document, the reader does not know which water bodies the sampling site ID acronyms refer to. It would be good to either identify them better (write out abbreviated names) or refer the reader to a key somewhere. I see there is one in the assessment report, but someone reading this document alone wouldn't know that.	MDEQ	Change made.
NPS MPP, Pg 6, last paragraph. Good paragraph.	MDEQ	Thank you
NPS MPP, Pg 8, last para. Another good approach. Shouldn't "implementation" be added in the first line so that it reads "...collaborate with non-tribal partners on the development and implementation of watershed management plans..." since many plans have already been developed and the focus is now on implementation? Plus, much of the rest of the paragraph discusses plan implementation.	MDEQ	Change made.
NPS MPP, Pg 18, section 4. I quickly skimmed this part, but I didn't notice any direct discussion of invasive species issues. I don't think our state program plan covers them either, but I think shortly we may discuss adding them. However, since many WMPs currently include invasive species as ecosystem "stressors" (often lumped with pollutants along the same vein as temperature and habitat), you might consider adding at least a paragraph somewhere on invasive species since some can have large negative impacts water quality conditions and aquatic communities.	MDEQ	Per discussions with EPA, invasive species should be referred to as non-native species and only come up when linked to effects on all nonpoint source impacted waterbodies and habitat restoration projects. Will change to non-native species and add limited language to discuss the potential effects of non-native species on water quality, wetland function, and wildlife habitat for nonpoint source impacted waterbodies.

Comment	Commenter	Response
NPS MPP, More on Section 4. Also, many new WMPs list climate change and some of the related projected impacts due to increased stormwater flow, lower base stream flows, and higher water temperatures as concerns. Again, I don't think our state program plan covers this either, but I think it should and I intend to raise the issue. The WMPs are including it because of the need to prepare adaptive strategies related to climate change stressors and because the anticipation is that more and more potential project funders will be specifically targeting climate change as one priority in future requests for proposals.	MDEQ	Listed as a potential future need to explore in year 5 of the program, along with changes in boundaries.
Pg 50, Table 19. This is an aggressive schedule and it is probably unrealistic to assume that so many of these tasks can be worked on concurrently. One way to reduce the I&E activities somewhat would be to focus on one NPS pollutant, source topic, or target audience one year and then move on to something else the next, rather than have multiple on-going efforts.	MDEQ	Schedule has been revised based on GTB staff input. Thank you for the suggestion on I&E activities. Will be noted for implementation purposes.
More on Table 19. There doesn't appear to be any prioritization here, yet there was in the assessment report. Maybe it would be good here to refer readers to the priority table in the assessment report.	MDEQ	All BMPs selected and included in the NPS MPP reflect the priorities outlined in the NPS Assessment report. No change.
Pg 54, 1nd para, 1st sentence. Interim milestones are referred to here, but I didn't see any listed anywhere here or the assessment report.	MDEQ	Deleted reference to interim milestones.

**Appendix D: Legal Memorandum Documenting the CWA Section 319 Eligibility of GTB Tribal Law
Soil Erosion and Stormwater Runoff Control Ordinance**

M E M O R A N D U M

To: Barbara Wester, EPA Regional Counsel
Subject: EPA 319 Eligibility -- Tribal emergency powers required under the Clean Water Act
Date: January 2002
From: Grand Traverse Band of Ottawa and Chippewa Indians

The starting point for examining an Indian Tribe's right to exercise jurisdiction over activities upon reservation lands is the doctrine of tribal sovereignty first pronounced 150 years ago by Chief Justice John Marshall in *Worcester v. Georgia*, 31 US (6 Pet) 515 (1852). Justice Hugo Black summarized the evolution of this doctrine in *Williams v. Lee*, 358 US 217, 219-20; 79 S Ct 269, 270-71 (1959) (citations and footnote omitted):

Over the years this Court has modified these principles in cases where essential tribal relations were not involved and where the rights of Indians would not be jeopardized, but the basic policy of *Worcester* has remained.... Essentially, absent governing Acts of Congress, the question has always been whether the state action infringed on the right of reservation Indians to make their own laws and be ruled by them.

See also United States v. Mazurie, 419 US 544; 95 S Ct 710 (1975), and *McClanahan v. Arizona State Tax Commissioner*, 411 US 164, 168-69; 93 S Ct 1257, 1260 (1973)

A. Tribal Jurisdiction on Tribally Owned Lands ("Indian Country")

Title 28 of the United States Code, Section 1151 states in pertinent part:

Except as otherwise provided in sections 1154 and 1156 of this title, the term "Indian Country", as used in this chapter, means (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of state, ***.

"While 1151 is concerned, on its face, only with criminal jurisdiction, the Court has recognized that it generally applies as well to questions of civil jurisdiction." *DeCoteau v. District County*

Court of for Tenth Judicial District, 420 US 425, 427; 95 S Ct 1082, 1084 n2 (1975) (citations omitted).¹
“If the lands in question are within a continuing ‘reservation,’ jurisdiction is in the Tribe and the Federal Government ‘notwithstanding the issuance of any patent, [such jurisdiction] including rights-of-way running through the same.’” *Id.* An Indian Tribe’s jurisdiction over civil matters (including enforcement of environmental laws) in “Indian country” is exclusive of the states, consistent with “the Federal Government’s longstanding policy of encouraging tribal self-government.” *Iowa Mutual Insurance Company v. LaPlante*, 480 US 9, 14; 107 S Ct 971, 975 (1987) (citations omitted).

B. Tribe Has Asserted Jurisdiction Over Activities Upon Tribal Lands

As previously stated, by virtue of its retained sovereignty the Grand Traverse Band of Ottawa and Chippewa Indians has jurisdiction over activities upon all lands that are currently owned by the Tribe or held in trust by the United States. The preamble of the Constitution of the Grand Traverse Band of Ottawa and Chippewa Indians mandates the Tribe “to conserve . . . our natural resources,” and the Tribal Council’s enumerated powers [Article IV, Section (1)] authorize the Tribal Council to “protect the health . . . and general welfare of the Band and its members; . . .” Accordingly, on January 21, 1997 the Tribal Council enacted an ordinance which, in the event of an environmental emergency, grants emergency powers equivalent to a state’s if “necessary to protect public safety or water resources, including lakes, streams, protected wetlands, and other receiving bodies of waters, . . .” Title VIII (CONSERVATION, ECOLOGY AND HUNTING/FISHING), Chapter 303(r) of the Grand Traverse Band’s Compiled Laws.

Please consider this memorandum to be the legal opinion that the Grand Traverse Band has emergency powers as may be required under the Clean Water Act to manage and protect water resources on land currently owned by the tribe or land held in trust by the United States². Please contact Patty O’Donnell, Environmental Stewardship Director at 231-271-7368) if you desire any additional information concerning this matter.

¹ Michigan is not one of the so-called Public Law 280 states authorized by Congress to exercise civil and criminal jurisdiction over Indian Tribes, see 28 USC 1360 and 18 USC 1162. Nor did Michigan act to assume such jurisdiction during the 15 years between 1953 and 1968 when it had the opportunity to do so. See *McClanahan v Arizona State Tax Commissioner*, 411 US 164, 177; 93 S Ct 1257, 1265 n17 (1973).

² Maps of present day ownership of lands are attached. Additionally, the Tribe has acquired dozens of parcels within the its six county jurisdictional service area which are currently owned by the Tribe or held in trust by the United States.