# Chapter 7: Program Expansion – Additional Activities

### READ THIS CHAPTER...

- To learn about optional activities that expand water quality protection efforts.
- To understand what is meant by a watershed approach.
- To consider how a watershed approach can develop into a Tribal Nonpoint Source Program.

### CHAPTER HIGHLIGHTS

- Strategies to protect source water.
- Activities to properly manage decentralized systems to protect water quality.
- Major steps of the watershed planning process.

# Chapter 7: Program Expansion – Additional Activities

This chapter contains information on additional, activities that tribal water quality programs can implement to expand their water quality protection efforts using Section 106 funding. The activities in this chapter are organized into three categories: source water protection, decentralized wastewater treatment systems, and watershed planning. None of the activities in this chapter are required by federal regulations or require Tribes to obtain CWA authorities. However, Tribes may find these activities especially valuable as they look for ways to work toward their water quality program goals or are interested in obtaining treatment in a similar manner as a state (TAS) for the Section 319 Program.

The activities in this chapter support addressing nonpoint source (NPS) pollution using a watershed approach. NPS pollution is from diffuse sources without a single point of origin, including pollution from agricultural lands, urban areas, and failing on-site wastewater treatment systems.

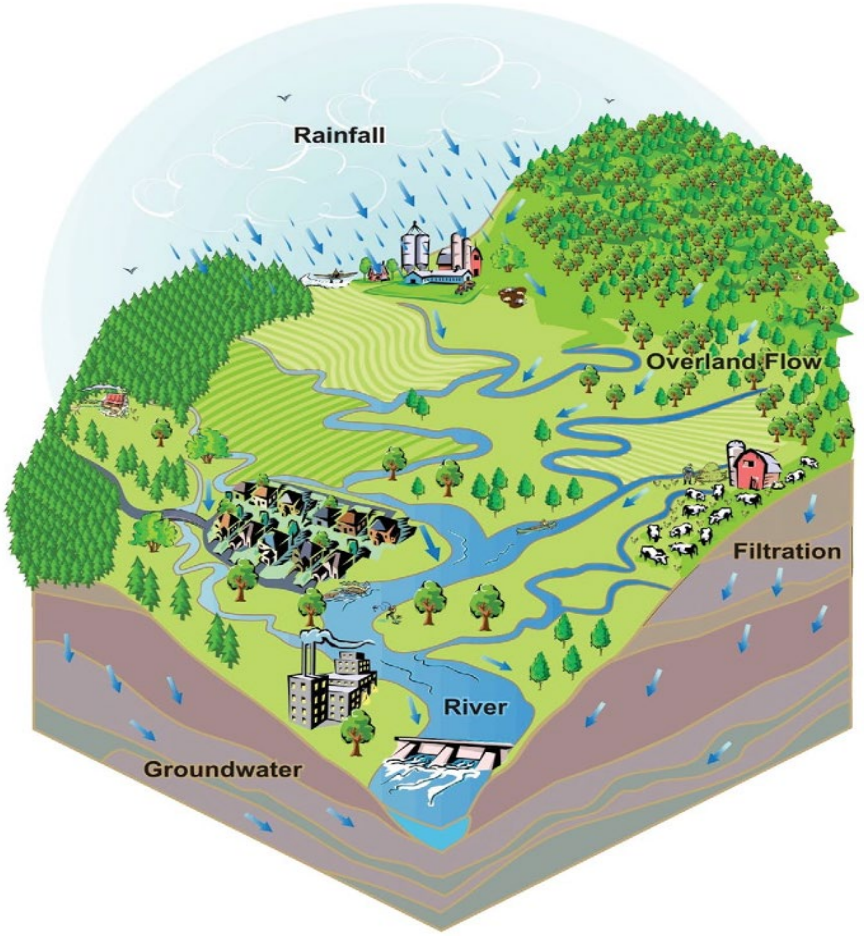
## The Watershed Approach

A watershed is a geographic area in which all falling water drains to a common waterbody (Figure 18). Everyone lives in a watershed. Watersheds may be as small as a few acres or extend over thousands of square miles. Reservations often cover only part of a watershed. A watershed can cross tribal and state boundaries and fall under the jurisdiction of tribal, state, and local governments.

The watershed approach focuses efforts on a particular watershed, which is the area of land that drains to a specific point, such as the confluence of two rivers, a lake, or a coastal estuary. The watershed approach looks holistically at the interaction between activities on the land and the health of the waterways, wetlands, lakes, streams, rivers, and estuaries that the land drains into. The watershed approach is characterized by these unique features:

1. A geographic area that is hydrologically defined (a watershed or drainage area).
2. Includes a community-based coordinating framework to involve all stakeholders.
3. Uses adaptive management to strategically address priority water resource goals.

**Figure 18:** Illustration of a watershed




## SOURCE WATER PROTECTION

Source water includes any reservoirs, streams, rivers, and aquifers used by public water systems[10] to supply drinking water to their customers. Regardless of whether a Tribe operates their own drinking water system, a Tribe can still participate in source water and wellhead protection activities to ensure access to safe drinking water into the future.

### Strategies for Source Water Protection

Source water protection involves:

- Identifying any significant potential source water contaminants.
- Maintaining source water quality.
- Preventing contamination from occurring (for example, with contingency planning).
- Determining the best available source water.

[10] A public water system provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year. A public water system may be publicly or privately owned.

As a first step in source water protection, Tribes can conduct a source water assessment. A source water assessment identifies public drinking water sources in the watershed and any current or potential sources of contamination. Tribes can connect with local watershed collaboratives, neighboring states, or others who are working on source water protection to leverage goals and potential funding for source water protection efforts.

Source water assessments provide basic information to determine the source water quality, whether the source water is safe for drinking, and how to prioritize actions to protect the source water from contamination. The final product of a source water assessment is a report that includes the following three major elements:

- A delineation or map of the land that contributes to the drinking water supply (often called the source water protection area).
- An inventory of all existing and potential sources of contamination in the delineated area.
- A determination of how susceptible the water supply is to sources of contamination.

Tribes can summarize their source water assessment results and make them available to the public for knowledge sharing and further engagement. For example, Tribes can convene public workshops; make copies available at public libraries, local government offices, or water systems; and post the assessment results online.

The results of the assessment are used to develop a Source Water Protection Plan. A Source Water Protection Plan is an action plan that identifies and prioritizes long-term management strategies for protecting sources of drinking water.

## Connection to Section 106

Increasingly, EPA, Tribes, states, and interstate agencies are working together to develop basin-wide approaches to water quality management, which coincides with the watershed-based approach that source water protection also encourages. The following are eligible activities for Section 106 funding:

- Developing source water assessments and protection strategies and plans.
- Monitoring to determine source water quality.
- Outreach and communication on source water activities.

## Additional Resources

- EPA's *Source Water Protection* website has more information on source water assessments.
- Tribes can use EPA's *Contact Us about Ground Water and Drinking Water* form to inquire for more information.
- EPA's *FITS: Funding Integration Tool for Source Water* is a tool that explains how users can integrate various federal funding sources to support activities that protect sources of drinking water.
- The *Drinking Water Mapping Application to Protect Source Waters (DWMAPS)* is an online mapping tool that helps tribal, state, and utility drinking water professionals in concert with other mapping tools to update their source water assessments and protection plans.

- EPA Region 10's Environmental Finance Center created the *Tribal Source Water Protection Plan Guidance Document* to assist tribal systems in protecting their drinking water sources from potential sources of contamination.
- For Tribes that use ground water for their sources of drinking water, see information and guidance on wellhead protection at *Washington State's Wellhead Protection Program Guidance Document*.

## DECENTRALIZED WASTEWATER TREATMENT SYSTEMS

Decentralized wastewater treatment systems (or "septic systems") are a significant component of the U.S. wastewater infrastructure and are used by approximately 20 percent of U.S. households. They derive their name from their location—they treat and dispose of relatively small volumes of wastewater close to the source, typically on the property of individual homes and businesses. A typical onsite (single home) decentralized system consists of a septic tank and either a drain field or soil absorption field. These systems are common in suburban and rural locations not served by a centralized public sewer system.

### Decentralized systems are also called:

- Onsite wastewater treatment systems.
- Septic systems.
- Cluster systems.
- Package plants.
- On-lot systems.
- Individual sewage disposal systems.
- Private sewage systems.

The performance of decentralized systems is a national issue of great concern to EPA. Decentralized systems can significantly threaten public health and water quality when they are not properly sited, designed, installed, operated, and maintained. Few decentralized systems receive proper maintenance because homeowners are either unaware of the need for maintenance or find it too costly. In addition, most regulatory programs do not hold homeowners accountable for the performance of their decentralized system after installation.

Decentralized systems can contribute to an overabundance of nutrients in ponds, lakes, and coastal estuaries, leading to an overgrowth of algae and other nuisance aquatic plants. The concentration of fecal coliform bacteria associated with human sewage and with organic wastes from livestock and wildlife have caused closures and harvestrestrictions in shellfish growing areas. EPA is also concerned with the presence of nitrates in ground water, particularly in rural areas where residents rely on individual wells and decentralized systems to serve relatively small lots. Improving the performance of decentralized systems through better management and proper maintenance is essential to improve the quality of U.S. waters.

### Strategies for Decentralized System Management

Proper management of decentralized systems involves:

- Public education, participation, and engagement.

- Planning, design, site evaluation, construction, and permitting.
- Oversight of system performance, including inspections and monitoring, and operation and maintenance.
- Septage disposal.
- Training and certification or licensing.
- Recordkeeping, inventorying, and reporting.
- Financial assistance and funding.

Taking decentralized systems into account is part of effective watershed-based planning. Appropriate management programs for on-site systems support the activities and approaches in other EPA programs, such as watershed management, NPDES, total maximum daily loads (TMDLs), water quality standards (WQS), source water assessment and protection, and NPS control. They also contribute to achieving WQS and public health goals. EPA's *Septic Systems* website has more information about decentralized systems.

## Connection to Section 106

A Tribe may use Section 106 funds for activities related to decentralized systems, including the following:

- Participating in public outreach, education, and engagement programs.
- Participating in programs to promote stakeholder and partner agency involvement.
- Conducting watershed and ground water assessments.
- Establishing public health and water resource protection goals.
- Conducting targeted surface and ground water monitoring studies to characterize the impact of malfunctioning decentralized systems, discharging and non-discharging, on surface and ground water quality.
- Assessing the water quality impacts from decentralized systems.
- Identifying critical areas where decentralized systems pose elevated risks (for example, sites with high water tables, high densities of existing systems, near sensitive surface waters, or in floodplains).

A Tribe may not use Section 106 funds to construct, maintain, or replace decentralized systems.

## Additional Resources

EPA regional and state offices have more information on eligible activities related to decentralized systems. EPA's *Contact Us About Septic Systems* website includes links to EPA regional and state contacts.

### *EPA Resources*

- EPA's *Frequent Questions on Septic Systems* includes general information about septic systems, caring for and maintaining septic systems, signs of system failure, inspection and

compliance, paying for septic systems, and the environmental and public health impacts of septic systems.

- EPA's *Septic Systems Reports, Regulations, Guidance, and Manuals* website includes the "Voluntary National Guidelines for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems" and "Handbook for Management of Onsite and Clustered (Decentralized) Wastewater Treatment Systems" which guides entities through preventing decentralized system failure, improving decentralized system management practices, and enhancing the performance and reliability of decentralized systems. The guidelines help improve system performance by encouraging the institutionalization of management concepts and raising the quality of tribal, state, and local management programs.
- EPA's *Using a Responsible Management Entity (RME) to Manage Tribal Onsite (Septic) Wastewater Treatment Systems* is a document developed by EPA in cooperation with the Indian Health Service (IHS) that describes a centralized approach for managing decentralized systems using a responsible management entity for oversight and maintenance.
- EPA's *SepticSmart Week* seeks to inform homeowners on proper septic system care and maintenance, assist local agencies in promoting homeowner education and awareness, and educate local decision makers about infrastructure options to improve and sustain their communities. EPA's *SepticSmart Education Materials* includes educational resources such as brochures, factsheets, videos, and posters.
- EPA's *Decentralized Wastewater Partnership*, created in 2005, seeks to improve the overall performance and management of decentralized systems. EPA Headquarters, EPA regions, state and local governments, and national organizations facilitate the exchange of information on decentralized system technology, collaborate to support training efforts, promote public awareness of septic system care and maintenance, and produce informational materials on decentralized systems.

## WATERSHED-BASED APPROACHES TO NPS MANAGEMENT

The following subsections identify some NPS activities Tribes can conduct using Section 106 funding in advance of establishing a Section 319 funded NPS Program. The NPS Assessment Report and NPS Management Program Plan establish the basis for a Tribal NPS Program. Tribes seeking TAS for Section 319 funding are required to submit an EPA-approved NPS Assessment Report and NPS Management Program Plan with their application. Chapter 9: Other Funding Options has more information about Section 319 NPS grants.

### Developing an NPS Assessment Report

The NPS Assessment Report is a comprehensive technical summary of the condition of tribal water resources. The report provides the foundation for the scope and direction of the Tribe's NPS Program. It is important to characterize all waterbodies, including those that are partially on nontribal lands, if possible. Thus, partnering with external entities can be important to the overall process. Two types of information that will determine the scope and direction are:

- NPS-related impairments for targeting restoration efforts.
- Waterbodies of high quality or cultural significance that need protection from existing or future sources of polluted runoff.

The NPS Assessment Report must include four types of information (referred to as the four legislative conditions):

1. An identification of waters that cannot be expected to attain or maintain tribal WQS or thresholds without the control of NPS pollution.
2. An identification of the categories and subcategories of NPS pollution that contribute to the water quality problems for the individual waters identified in 1 above.
3. A description of how the Tribe will identify the best management practices (BMPs) needed to control each category and subcategory of NPS pollution identified in 2 above, as well as a description of how the BMPs will be used to reduce the level of pollution resulting from these sources.
4. A description of any existing tribal, state, federal, and other programs that might be used for controlling NPS pollution.

Tribes should utilize the Section 106 Water Quality Assessment as the foundation for building an NPS Assessment Report. Additional information on developing an NPS Assessment Report is in EPA's *Handbook for Developing and Managing Tribal Nonpoint Source Pollution Programs under Section 319 of the Clean Water Act*.

## NPS Management Program Plan

The NPS Management Program Plan (Management Plan) describes how the Tribe will use the information in the NPS Assessment Report to address the water quality impairments and threats they identified. The Management Plan elaborates on the specific activities they will undertake to improve or maintain conditions as documented in the NPS Assessment Report. CWA Section 319(b)(2) specifically requires the following minimum components to be covered in an approvable Management Plan:

1. Identification of BMPs and other measures to reduce NPS pollutant loadings by category and subcategory.
2. Identification of programs that can help implement an NPS Management Program.
3. A schedule containing annual milestones for using the program implementation methods identified in 1 and 2 above.
4. Certification from the tribal legal counsel that the Tribe's laws provide adequate tribal authority to implement the program.
5. Identification of all potential sources of federal and other financial assistance programs and funding that might support an NPS program.
6. Identification of the federal financial assistance programs and federal development projects that affect tribal water resources.
7. Identification of local and private experts (such as range conservationists, fish and wildlife staff, hydrologists, agricultural experts) to help develop and implement an NPS Management Program.

8. Development and implementation, to the maximum extent practicable, of the program on a watershed basis.

EPA's *Handbook for Developing and Managing Tribal Nonpoint Source Pollution Programs Under Section 319 of the Clean Water Act* has more information on developing an NPS Management Program Plan. Tribes can use EPA's *Handbook for Developing Watershed Plans to Restore and Protect Our Waters* framework to organize activities on the basis of watershed boundaries.

## Connection to Section 106

Tribes can use Section 106 grants to establish watershed-based goals that relate to and help achieve their water quality goals. Watershed-based goals can address current and historical distribution and condition of important resources in a watershed, or the physical and ecological setting of the watershed. Common watershed-based activities that Section 106 grants can fund include:

- Characterizing water quality.
- Evaluating the impacts of forestry, agriculture, urbanization, septic systems, or construction and effects of land use on water quality.
- Identifying causes of streambank erosion.
- Investigating causes of declines in ground water quantity.
- Characterizing stormwater runoff.
- Conducting community education and outreach about the watershed.
- Developing watershed maps showing waterbody types, tribal cultural sites, species distribution, and sites of water quality impairment.
- Developing local and community watershed organizations.
- Inventorying possible restoration sites.
- Determining causes of floods.
- Collecting the information needed to develop NPS Assessment Plans and NPS Management Plans and to write the plans.

Tribes cannot use Section 106 funds to install BMPs and conduct restoration activities that implement watershed-based plans.

## Additional Resources

The resources below can help develop an effective watershed-based plan.

- EPA maintains *How's My Waterway*, a website with information about watersheds.
- EPA's *Community-Based Watershed Management Handbook* and *Watershed Analysis and Management (WAM) Guide for Tribes* may also be helpful.
- The *Center for Watershed Protection* also provides many tools and guidance materials.