

# Permitting an End to Pollution

how to scrutinize and  
strengthen water pollution  
permits in your state

A handbook by:  
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# Contents

## Permitting an End to Pollution

how to scrutinize and strengthen water pollution permits in your state

iii	Introduction	
iv	Quick Start Permit Action List	
1	Chapter 1	Getting Involved with Water Pollution Permitting
		1.1 What Are Water Pollution Permits?
		1.2 Who Receives NPDES Permits?
		1.3 How Do I Find Out about NPDES Permits in My Area?
		1.4 Putting Together Your NPDES Permit Toolkit
11	Chapter 2	Analyzing NPDES Permits
		2.1 Analyzing the Basic Information
		2.2 Analyzing NPDES Permits: What Do I Look for Inside?
		2.3 Analyzing NPDES Permits: Going beyond Effluent Limits
		2.4 Permitting Issues You Won't Find in the Permit
39	Chapter 3	Participating in the Permitting Process
		3.1 What Information Can I Gather on a Permit?
		3.2 When Can I Comment on a Permit?
		3.3 Why Bother Writing Comments?
		3.4 Writing Your Comments
		3.5 When Do I Request a Public Hearing?
		3.6 Important Permit Milestones
51	Chapter 4	Permits, the Clean Water Act and How It All Fits Together
		4.1 How Water Quality Standards Fit into Permit Development
		4.2 Total Maximum Daily Loads and Permitting
		4.3 Mixing Zones and Permits
		4.4 State Certification of EPA-Issued Permits
65	Appendices	
		Appendix A Glossary of Terms
		Appendix B Contacts for State Permit Information
		Appendix C NPDES Permit Resources

## Introduction



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This guide is designed to help citizens influence the issuance of water pollution permits, known as National Pollutant Discharge Elimination System (NPDES) permits. Chapter 1 walks you through the basics of permitting. Chapter 2 teaches you how to dig into the meat of a permit and analyze its strengths and weaknesses. Chapter 3 provides guidance on writing up and submitting your findings to the state agency. Chapter 4 explains how your permit work relates to other protections in the Clean Water Act.

Please note that a glossary of terms is included in Appendix A. Words and phrases included in the glossary are underlined when they first appear in the body of the handbook.

Additional resources and materials that accompany this guide are available at [www.cwn.org](http://www.cwn.org).

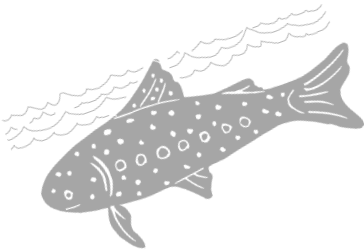
## Quick Start Permit Action List

*Don't let this overwhelm you. Even if you just take a few steps, you will discover a lot about the proposed permit and your power to influence it. For your first attempt at permit review, start with the basic steps outlined here and you'll be on your way!*



### **Identify a permit that concerns you.**

You may have heard about plans for a new sewage treatment plant in your neighborhood. You may be concerned about your favorite fishing stream and wondering about that factory pipe you pass on each fishing trip. Whatever has provoked your interest, take the first step by simply contacting the state agency (*see Appendix B for contact information*) to see which permits relate to your concerns. For a general timeline of the permitting process, see page 50.



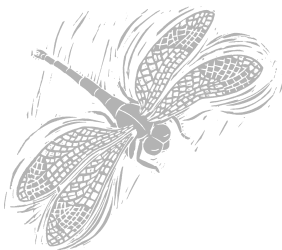
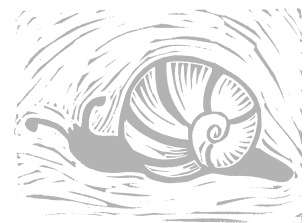
### **Request information!**

Ask the state agency for the pertinent permit(s). And remember: There's more than just the permit and the fact sheet! We suggest requesting the old permit (if applicable), the permit application and the antidegradation analysis at minimum. You may also request stream surveys, other water quality data, the reasonable potential analysis and any engineer's notes. *See Section 3.1 for a list of documents to request.*



### **Is the waterbody already impaired by water pollution?**

Check your state's 303(d) impaired waters list to find out if the waterbody is impaired. If it is, no more of the problem pollutant can be discharged. This requirement applies to both new and existing, but increasing, discharges. *See Section 2.2 for more.*



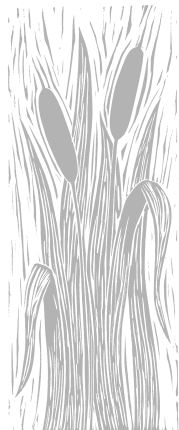
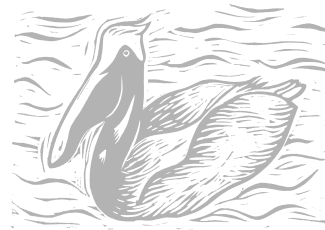
### **Do the effluent limits protect the waterbody?**

**Effluent limitations** are the heart of the permit. These specify the maximum amount of pollution a discharger can release over a given period of time. Are the limits set for the right pollutants? Are the limits set at levels that will protect water quality? Are there special issues in the river or lake that should be considered in the limits? *See Section 2.2 for more.*

## Quick Start Permit Action List, *cont.*

### ***Did the agency consider cumulative impacts?***

Federal regulations state that no NPDES permit may be issued “when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.” Will the permit conditions cause or contribute to a violation of water quality standards? Are there other dischargers in the area that release the same pollutants? Are there increases in load limits for toxic chemicals and metals, which may be bioaccumulative? See *Section 2.2 for more.*

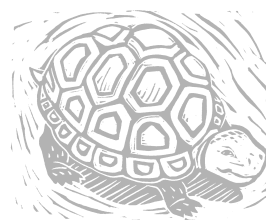


### ***Is the required monitoring adequate?***

Monitoring of the discharge is a crucial accountability measure in any permit. Consider sample frequency, the types of samples required, the critical times for monitoring, reporting requirements and look for monitoring of receiving waters. See *Section 2.2 for more.*

### ***Does the permit allow backsliding?***

Increasing the permit’s effluent limits is known as *backsliding*. Backsliding is generally illegal under the Clean Water Act, but there are circumstances where it may be allowed by law. Always investigate backsliding and challenge it wherever possible. See *Section 2.2 for more.*

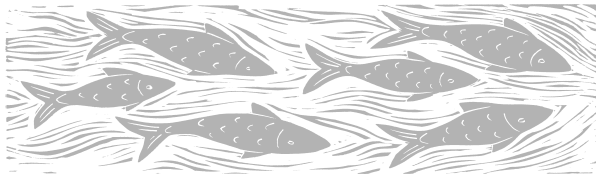


### ***Is the river or lake protected against degradation?***

Every state must have an **antidegradation** policy to keep clean waters clean. Not only should this policy keep waters from violating water quality standards, it should also ensure that high-quality streams — those waters with water quality and habitat good enough to fully support healthy aquatic communities and recreation — stay that way. When any new or increased discharges are proposed, a review of (a) alternatives, (b) the need for the discharge and (c) the social and economic justification for the discharge must be conducted. See *Section 2.4 for more.*

### ***What’s the compliance (or non-compliance) history of this discharger?***

Always look at a discharger’s track record. Have they violated past permits repeatedly? Have they done an excellent job of reducing pollution? You can look at their monthly **Discharge Monitoring Reports** at your state agency and EPA’s Permit Compliance System (Appendix C) to find out. See *Section 2.4 for more.*



### **Is there a mixing zone? Is it explicitly described in the permit?**

**Mixing zones** are areas beyond the end of the pipe where the discharger and the regulators decide it is okay to violate water quality standards while the discharge is mixing with the streamflow. Mixing zones are supposed to be as small as possible and should be defined in the permit. Is the zone explicitly described in the permit? Are **existing uses** protected within it? Is it as small as possible given the flow and toxicity of the discharge? Is it adequate at all times of the year — even during critical flows? See *Section 4.4 for more*.

### **Should you request a public hearing?**

Agencies may hold a public hearing on a permit, but only if there are important issues and people request one. While the Clean Water Act guarantees you the right to request a hearing, it does not say when your state must grant a hearing. This means that the occurrence of permit hearings varies from state to state, but it is still a good idea to request one. A public hearing can be a useful way to find out additional information. It can also be a valuable forum for making your concerns known to other interested citizens, decision-makers and members of the press. See *Section 3.2 for more*.



***You're on your way to becoming a permit expert. Once you start, you won't be able to stop! Read on for more information on all quick-start action items as well as dozens of other ideas and action suggestions.***

### **Are appropriate special conditions required?**

Most NPDES permits also contain **special conditions**. Special conditions describe additional monitoring, testing or other requirements. They can call for additional monitoring of pollutants not regulated by numerical effluent limits, monitoring of toxicity, conducting studies of ambient water quality and biological surveys. Special conditions may also describe compliance schedules or other types of requirements such as operation and maintenance requirements at the facility. See *Section 2.4 for more*.



### **Write it up!**

Write up your concerns and questions and submit them to the agency. Don't forget about deadlines — as a general rule you'll have just 30 days to comment on a permit. Be sure to send copies of your comments to the U.S. EPA, your state agency and your elected officials. See *Section 3.2 for more*.







# Chapter 1

## Getting Involved with Water Pollution Permitting

# Chapter 1 | Getting Involved with Water Pollution Permitting

- 1.1 What Are Water Pollution Permits?
- 1.2 Who Receives NPDES Permits?
- 1.3 How Do I Find Out about NPDES Permits in My Area?
- 1.4 Putting Together Your NPDES Permit Toolkit

Agencies, elected officials and even some citizens say the Clean Water Act has taken care of **point source** discharges. The Clean Water Act defines a point source as “any discernible, confined and discrete conveyance” of pollutants to a waterbody. The definition of discrete conveyance includes, but is not limited to, “any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.”<sup>2</sup> This definition throws a much wider net than the traditional picture of an industrial pipe. Examples of point sources of pollution range from sewage treatment plants to factories, large-scale factory farms and urban storm drain systems. It is true that many big problems were addressed by basic treatment requirements in the Act, but the job is far from finished. If we don’t keep a watchful eye on point source discharges, violations will be missed and uses of the water will be threatened.

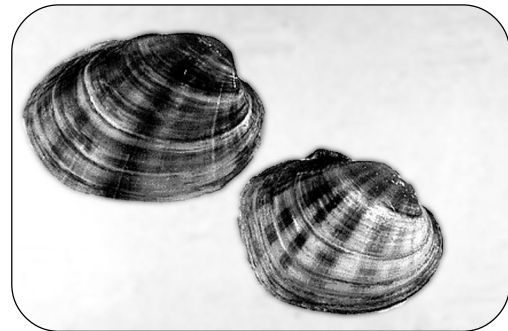
Under Section 402 of the Clean Water Act, water pollution from point sources is regulated through water pollution permits that restrict the type and amount of pollution that can be released into the nation’s waters. These permits are officially known as **National Pollutant Discharge Elimination System** permits, or more commonly, NPDES permits. The purpose of this handbook is to give you the basic tools to read, review and submit comments on an NPDES permit and participate in decisions related to pollution control in your watershed. This is an important skill to add to your repertoire, as watershed groups need to be aware of the amounts and types of pollution being released into their waters and to have a voice in controlling pollution as well.

## permit

**per-mit** (pə mit’; for n. usually pur’mit’) **verb** –  
mitted, -mitting **1** to allow; consent to  
**2** to authorize – vi. To give opportunity [if  
time *permits*] – **noun** a license.<sup>1</sup>

## Keeping Pollution at Bay | a success story

In 1998, the 3M Corporation decided to expand its operations in Cordova, Illinois. The expansion would increase the amount of pollution 3M discharged to the Mississippi River. Local citizens and groups such as Prairie Rivers Network, Sierra Club and the Environmental Law & Policy Center, concerned about the proposed pollution increase, requested and reviewed the proposed NDPEs permit. The groups noticed that the high levels of ammonia and organic wastes to be discharged would deplete already low dissolved oxygen levels in the river. Citizens and groups wrote letters describing the problem and requesting a public hearing.



Kevin Cummings, Illinois Natural History Survey

At the hearing, citizens learned the company would be employing treatment technology that was over 30 years old. Newer, more effective technology could be installed without an enormous investment by 3M.

A quick search of biological survey records showed the Higgins Eye Mussel, a federally listed endangered species, was known to exist in the area. There were also two state-listed endangered species in the river near the facility.

Illinois EPA had not known this information prior to issuing the draft permit for public review. Therefore the permit did not account for the potential impact of the pollution on the protected species.

In addition, water quality data collected on the other side of the river by the state of Iowa showed the Mississippi was already violating water quality standards for dissolved oxygen. The increased pollution allowed in the draft permit would worsen these water quality problems and possibly push protected species closer to extinction.

Citizens and concerned conservation and environmental groups submitted public comments on the draft permit, testified at a public hearing and filed a second set of public comments after the hearing. The message from concerned citizens was clear — new pollution should not be allowed into the Mississippi River, particularly since the costs of adequate treatment were not prohibitive. The overwhelming public sentiment was to protect water quality and protect the **existing uses** of the Mississippi River. More importantly, these sentiments weren't just based on a vague notion that pollution was simply "bad," but were backed up by scientific studies, the latest biological surveys and documentation that showed improved pollution controls were not only necessary, but relatively inexpensive.

Ultimately, after holding up the plant expansion for more than a year, the Illinois EPA, 3M Corporation and members of the public agreed to a revised permit. The revised permit placed much more restrictive limits on ammonia and organic wastes — to the point where the expanded facility would put out less pollution than the original! Because of action by local citizens and clean water organizations, over one million pounds of pollution was kept out of the Mississippi.

This is what can happen when the public gets involved in the permitting process, points out information that was not available to the agency originally and speaks out for clean water.

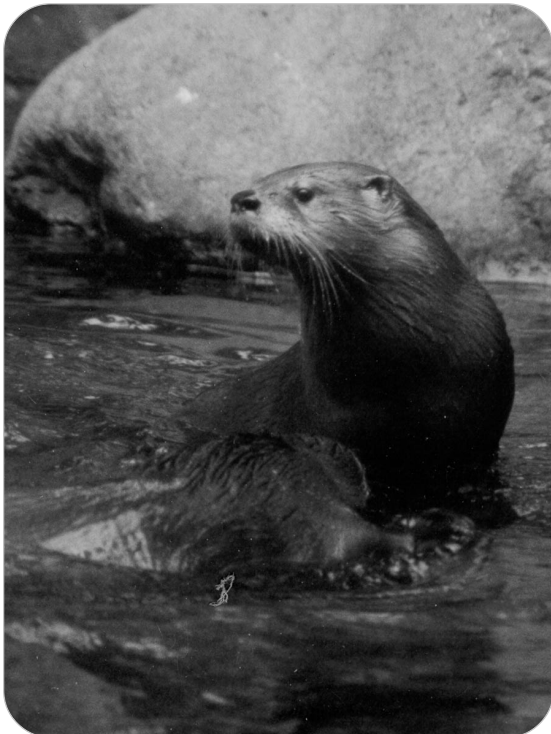
## 1.1 What Are Water Pollution Permits?

Water pollution permits are essentially a contract between dischargers and the permitting authority (usually the state). This contract regulates the type and amount of pollution that can be legally released, as well as the monitoring requirements dischargers must meet. These permits are legally binding and the state is charged with issuing and enforcing them.

Required by the Clean Water Act, NPDES permits were originally intended to *eliminate* pollution from the nation's waters by the mid-1980s. In theory, the permits were supposed to slowly ratchet down the levels of pollution released to the nation's waters until all water pollution was eliminated. Clearly this did not happen on schedule, but it is still the goal of the Clean Water Act.<sup>3</sup> However, we have a long way to go to achieve this goal. In fact, all too often NPDES permits authorize the release of *increased* amounts of pollution, rather than eliminating pollution.



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JEAN HAMBILA

### So what does an NPDES permit actually do?

- ❑ Regulates the types and amounts of pollutants that can be released to our waters.
- ❑ Specifies how often discharges are monitored, what type of samples must be collected, what laboratory techniques must be used and when monitoring results must be reported.
- ❑ Requires other types of environmental monitoring such as surveys of fish, mussels and other organisms that live in the water, or measuring levels of chemical pollutants in the vicinity where pollution is released.

The NPDES permit system uses two main types of permits — individual and general. An individual permit is just that — each individual facility applies for and receives its own site-specific permit. General permits differ in that one permit is issued to a class of activities, and many facilities can apply to be covered under the conditions of that permit.<sup>4</sup> Two of the most common general permits apply to industrial and construction site **stormwater** permits.

There are many reasons to prefer individual permits. First and foremost, any proposed individual permit triggers the public notice and comment procedures discussed in this guide, giving you a chance to weigh in. The permits are also site-specific, and therefore can address the details of a particular facility and location.<sup>5</sup>

General permits pose many problems. They are issued on an area-wide (state, watershed, etc.) basis and they are meant to cover similar operations that discharge the same wastes. What this means in practice is that the public is only allowed to comment on the one state- or watershed-wide permit — not on the details of a specific facility. The public generally receives no notice when a facility has applied for coverage under the general permit, unlike the notice required for individual permits.

In a nutshell, individual permits allow for greater public oversight; general permits streamline the regulatory process but overlook important differences between sites. If you are concerned that a general permit does not adequately protect uses and water quality, you can ask that a particular discharger be required to obtain an

individual permit instead.<sup>6</sup> Be especially aware of general permits that are issued in already impaired waterways. General permits will not offer the protections these rivers and lakes need.

If dischargers do not comply with the conditions of their permits, the state can initiate enforcement action that can result in fines or even criminal penalties. Private citizens also have the right to sue dischargers who aren't in compliance and to recover damages for permit violations.<sup>7</sup>

Citizens have an important role in issuing and enforcing these permits by 1) providing public input into the conditions of the permit, 2) monitoring compliance with the permit, 3) notifying the state agency responsible for enforcement when dischargers are not complying with their permits and pressing them to take action, 4) potentially taking legal action against dischargers that violate the conditions of these permits and 5) monitoring the health of their stream or lake. This handbook is intended to help you get started with the first activity on this list.

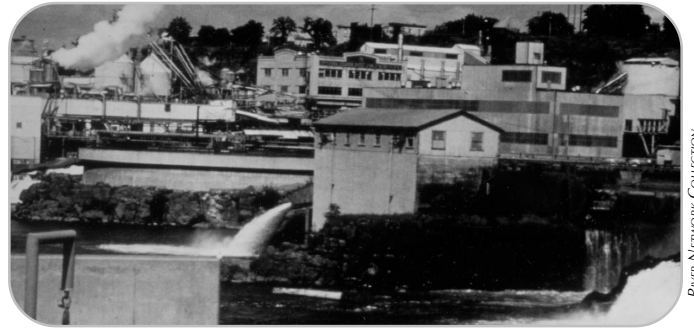


TIM PALMER

## 1.2 Who Receives NPDES Permits?

Permits are required of all point sources of pollution. Examples of point-source polluters include any factory, sewage treatment plant, active or abandoned mine, stormwater drain or large-scale animal feedlot that discharges or has the potential to discharge pollution into our waters.

Permits are good for up to five years.<sup>8</sup> The discharger must apply for renewal before the permit expires. In many states this may be required as much as one year prior to expiration. At the time of renewal the discharger's performance is re-evaluated and the permit conditions may be altered.



In many states there is a fee for an NPDES permit, but not in all. Most permit fees are established to cover costs of the permit program. Some states have established fees associated with the volume and toxicity of the discharge.<sup>9</sup>

### Who receives NPDES permits?

Types of Permits	
<i>Major Municipal</i>	includes municipal sewage treatment plants that collect and treat wastewater from both residential and industrial polluters. (Note: Major municipal facilities are those with design flows of greater than one million gallons per day and those with <b>pretreatment programs</b> . <sup>10</sup> )
<i>Major Industrial</i>	includes industries that have their own permits and their own treatment works, and do not send their wastes to a municipal sewage treatment plant. (Note: Major industrial facilities are determined through specific ratings criteria developed by EPA or the state.)
<i>Mines</i>	includes coal mines, gravel and aggregate mines, hard rock mines and other types of mining activities (both above and below ground).
<i>Combined Sewer Overflows (CSO)</i>	includes combined municipal wastewater and stormwater systems that discharge raw sewage when the treatment plant capacity is exceeded during heavy rainfall.
<i>Sanitary Sewer Overflows (SSO)</i>	includes leaky municipal wastewater systems that can result in raw sewage overflows during heavy rainfall.
<i>Stormwater</i>	includes runoff from industrial sites, construction sites, city streets and any impervious surface. Even more stormwater permits will be issued for smaller sites and less populated areas in the next two to three years as new federal regulations come into effect.
<i>Confined Animal Feeding Operations</i>	includes large-scale hog, cow and poultry farms.
<i>Minor Permits</i>	include municipal and industrial permits. (Note: Minor municipal facilities are those with design flows of less than one million gallons per day (if they do not have pretreatment programs). Minor industrial facilities are defined with specific ratings criteria developed by U.S. EPA or the state. <sup>11</sup> )

## 1.3 How Do I Find Out about NPDES Permits in My Area?

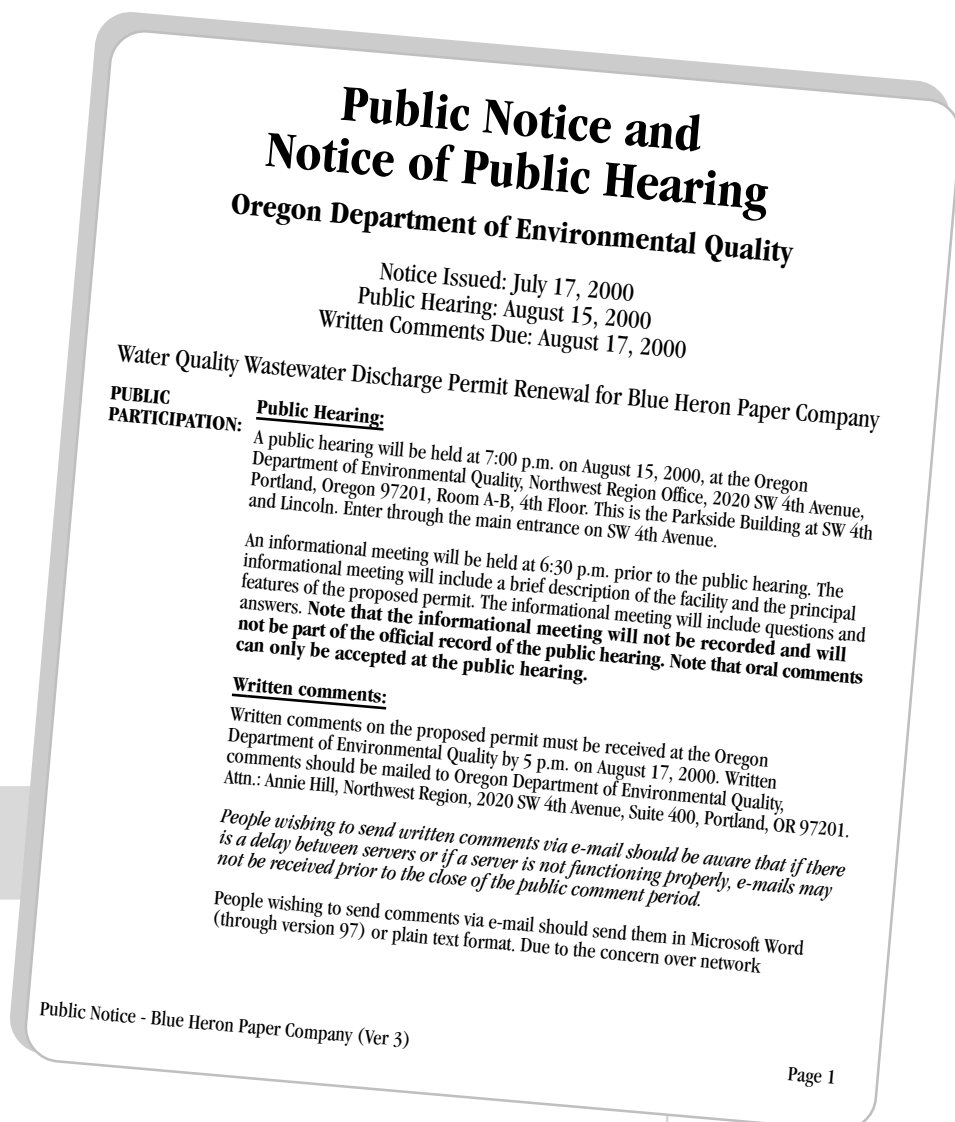
The permit agency is required to notify the public about their decision to issue an NPDES permit. The permit agency could be U.S. EPA, a state agency or a tribal government. In most states, U.S. EPA has delegated its authority to administer the NPDES permitting program to an appropriate state agency.<sup>12</sup>

Public notice of each draft permit summarizing basic information about the permit and the action proposed by the agency is required.

### The public notice should include:<sup>13</sup>

- {1} name of the discharger
- {2} permit number
- {3} public notice number
- {4} discharger's address
- {5} statement of whether the permit is new, reissued or modified
- {6} summary of any modifications if the permit is modified
- {7} summary of the pollutants being regulated by the permit
- {8} name of the waterbody receiving the proposed discharge

The public notice is posted in newspapers or elsewhere and also mailed to anyone who has requested to be notified about NPDES permit decisions. To receive information on NPDES permit decisions in your state, call or write the agency contact listed in Appendix B of this guide.

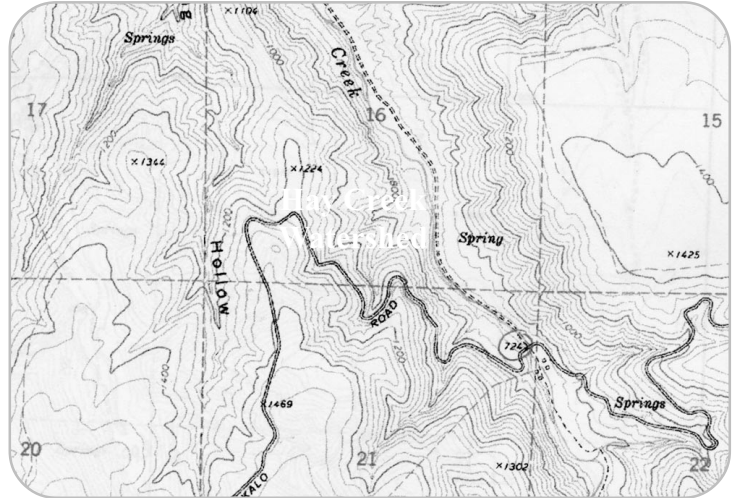


## 1.4 Putting Together Your NPDES Permit Toolkit

Several things will prove useful as you delve into the world of NPDES permits, and all of them are powerful additions to any clean water activist's toolkit. The following items will help you gain a lot of information without requiring a degree in environmental engineering or fresh water ecology. You do not need to collect all of these materials before starting to review permits, but they will enhance your efforts once you do.

### Detailed map(s) of your watershed

Your state's edition of the DeLorme Gazetteer map series or U.S. Geological Survey topographic maps will provide extensive information, such as the location of public recreational areas, downstream communities, boat launch points and access areas.



### Camera

Sometimes a picture is worth a thousand words.

When you are out paddling or fishing or just driving around, snap a few photos of your local discharger's facility and the condition of the river, particularly if something strikes you as being not quite right. Remember, by the time you call the appropriate agency and they send out an inspector, your photographs may be the only remaining evidence of the problem. A digital camera can be especially helpful to post pictures on the web and to send them to the regulatory agencies or the press on the same day.

### Water quality data

It's always good to know the past and current water quality of your hometown stream and there are many useful sources of this information. Among the most comprehensive are:

#### ▣ **Biennial State Water Quality Report to Congress (305(b) Report)**

Published bi-annually in accordance with section 305(b) of the Clean Water Act, this is the state's overall assessment of water quality. It will tell you the general condition of your stream and what water quality problems exist. To access this information for free, either call your state agency directly (see Appendix B) or visit U.S. EPA's web site at <http://www.epa.gov/305b>. (Click on the most recent year and "Appendices from national water quality inventory" for more detailed state information.)

#### ▣ **Threatened and Impaired Waters List (303(d) List)**

Published every other year by the state in accordance with section 303(d) of the Clean Water Act, this is the list of waters in the state that do not meet clean water requirements. These waters will have clean-up plans called **Total Maximum Daily Loads (TMDLs)** developed for them. Call your state agency or visit <http://www.epa.gov/owow/tmdl> and click on your state for a copy of the list.



## USGS water quality monitoring data

The United States Geological Survey (USGS) studies water quality, among other things. Contact your district USGS office. You can find local USGS contact information by visiting [www.cwn.org](http://www.cwn.org) and clicking on “water quality standards.” Scroll down for a link to a contact listing. You can also visit the USGS website to get summaries of water quality for those areas which USGS studies as part of their National Ambient Water Quality Assessment (NAWQA) at <http://infotrek.er.usgs.gov/wdbctx/nawqa/nawqa.home>. More general information on water quality from your state is also available from USGS at <http://water.usgs.gov>.

## Detailed data from U.S. EPA’s STORET

(short for STORage and RETrieval) system is available at <http://www.epa.gov/storet/>. STORET is a repository for water quality, biological and physical data and is used by state environmental agencies, EPA and other federal agencies, universities, private citizens and many others.

## General information on your watershed

Few people realize how much information is available. A first stop should be U.S. EPA’s Surf Your Watershed web site located at <http://www.epa.gov/surf>. Your state pollution control agency or natural resources agency may also have information on water quality and aquatic species populations. See Appendix B for some contacts in your state.

## Biological information

It is always useful to know what types of fish, mussels and other aquatic organisms live in a waterbody where a discharge exists or is proposed. Contact your state’s U.S. Geological Survey office, state natural resource agency or local university researchers to find out more.

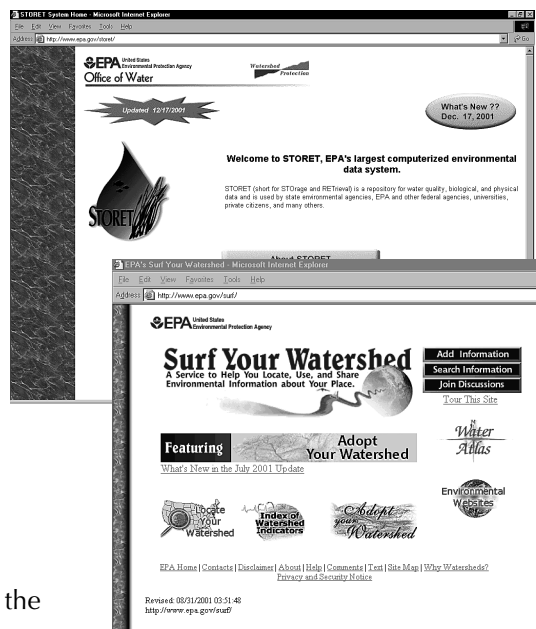
## State Water Quality Standards

Get a copy of your state water quality standards from your state agency or from the Internet. These are the state regulations that set criteria to protect beneficial uses and water quality in the state. State contact and water quality standard information is available from River Network at [http://www.rivernetwork.org/cleanwater/cwa\\_search.asp](http://www.rivernetwork.org/cleanwater/cwa_search.asp). Water quality standard information that has been approved by U.S. EPA is available at U.S. EPA websites found at <http://www.epa.gov/wqsdatabase/> and <http://www.epa.gov/ost/wqs/>.

## Additional information

So much information is available free of charge and just a click away on the Internet. Look at Appendix C for a list of additional Internet resources.

The preceding sources are readily available and offer a great deal of information about your watershed, including existing problems the regulatory agency must consider when regulating pollution. Even if reviewing NPDES permits is not in your immediate future, having these items at your fingertips will be an ongoing asset.









































## 2.3 Analyzing NPDES Permits: Going beyond Effluent Limits

Looking at effluent limits in a permit is essential, but it is just the beginning. Virtually all NPDES permits also contain special conditions. Special conditions describe additional monitoring, testing or other requirements designed to ascertain the potential environmental risk of a discharge or further reduce the amount of pollution discharged.<sup>24</sup> These can include conditions that call for additional monitoring of pollutants not yet regulated by the permit, monitoring of toxicity and conducting ambient water quality studies and/or biological surveys. Special conditions may also describe compliance schedules or operation and maintenance requirements at the facility. This section discusses some of the most common special conditions.

### Periodic Sampling for Metals and Toxic Pollutants

Dischargers will commonly screen for metals and other potentially toxic pollutants on an annual or semi-annual basis. There is a likelihood that some pollutants will be present in a discharge, but not in a quantity that warrants routine sampling or effluent limits in the permit. This occasional sampling helps determine if these pollutants are present and whether they pose a risk to the environment. If sampling later detects an elevated level of a pollutant, the agency should include an effluent limit in the next permit, or include a provision that allows them to re-open the permit and impose new effluent limits.

The purpose of periodic sampling is not necessarily to regulate the discharge of these pollutants, but to make sure dangerous levels of a wider range pollutants are not present in the discharge. If high levels are present, the agency should require effluent limits and more frequent monitoring.

**National Recommended Water Quality Criteria for Priority Toxic Pollutants**

Priority Pollutant	Freshwater Criteria		Human Health Criteria for Consumption of:	
	Acute toxicity (µg/L)	Chronic toxicity (µg/L)	H <sub>2</sub> O + Organism (µg/L)	Organism only (µg/L)
<b>ARSENIC</b>	<b>340</b>	<b>150</b>	<b>0.018</b>	<b>0.14</b>
<b>COPPER</b>	<b>13</b>	<b>9.0</b>	<b>1,300</b>	
<b>LEAD</b>	<b>65</b>	<b>2.5</b>		
<b>MERCURY</b>	<b>1.4</b>	<b>0.77</b>	<b>0.050</b>	<b>0.051</b>
<b>TETRACHLOROETHYLENE</b>			<b>0.8</b>	<b>8.85</b>
<b>TRICHLOROETHYLENE</b>			<b>2.7</b>	<b>81</b>

*Detailed notes regarding these numbers are available at <http://www.epa.gov/ost/pc/revcom.pdf>.*

### ***Does the permit specify minimum detection limits?***

The minimum detection limit is the smallest quantity of the pollutant that is measurable using commonly available laboratory techniques. The permit should specify what the minimum detection limit is to ensure proper lab techniques are used when analyzing samples. Otherwise, dischargers could use techniques that are not suited for detecting contamination.

### ***How often is the screening required?***

Data should be collected at least annually, and could be required even more frequently. Over the lifetime of an NPDES permit, the discharger should be required to collect enough data to give a reliable overall picture of effluent quality. All too often a discharger is only required to conduct this type of screening once or twice over the lifetime of the permit. If these few samples show elevated levels of pollutants, the discharger or the agency might then claim they don't have enough data to impose permit limits. The obvious way to correct this problem is to require more frequent monitoring. It is not that expensive to analyze effluent samples for most common pollutants, so this will not generally place an economic burden on a discharger. (For U.S. EPA's estimated costs of conducting different types of chemical analyses, see Companion Resources for *Permitting an End to Pollution* at [www.cwn.org](http://www.cwn.org)).

### ***Is the discharger required to conduct this sampling at a specific time or under representative operating conditions?***

The purpose of collecting this data is to make sure potentially toxic pollutants are not being discharged. Therefore, it is important that data be collected at times when toxic conditions are most likely to occur. For instance, if a factory only operates during the day, it should not collect a sample at night when there is no activity.

### ***Is there a problem pollutant discharged by an industrial source into the permitted wastewater treatment plant?***

See page 33 for a discussion of pretreatment issues.

### ***Did the discharger conduct all monitoring required under the old permit?***

Another problem occurs when dischargers don't collect all the data required under the previous permit. If this monitoring was required, make sure it was done and look at the results. If the monitoring was not done, the discharger is in violation of their permit. This information should be available from the agency, and you can also check out the U.S. EPA Permit Compliance System web site to look at monitoring records of the discharger: [www.epa.gov/enviro/html/pcs/pcs\\_query\\_java.html](http://www.epa.gov/enviro/html/pcs/pcs_query_java.html).



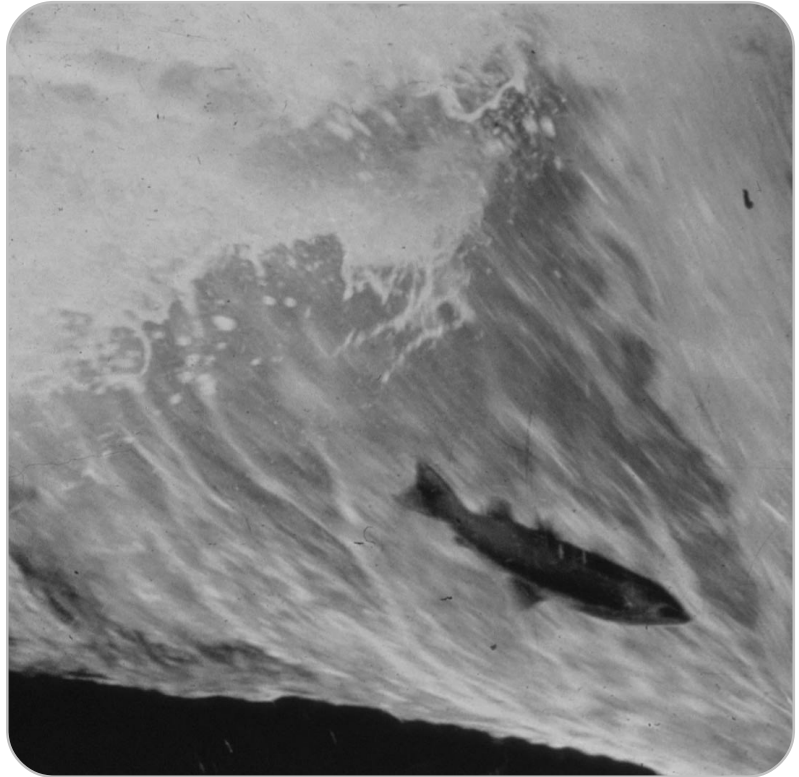
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## Whole Effluent Toxicity Testing

Many permits require the discharger to conduct **Whole Effluent Toxicity** testing (also known as WET testing) — a way of measuring the chronic and acute toxicity of the effluent. Where monitoring of an individual pollutant only tells you the concentration of that specific pollutant, whole effluent toxicity testing gives you an indication of the toxicity of all pollutants *combined* in the effluent.

When chemicals are mixed together and discharged, there may be reactions that create dangerous by-products undetectable by the chemical-specific sampling required in the permit. By conducting whole effluent toxicity testing, one can detect toxic conditions that may otherwise escape notice. Live organisms are actually placed in effluent samples to see

if they live, die or experience sublethal effects. This gauges how toxic the effluent may be to organisms in receiving waters. For more information on WET testing, visit: <http://www.epa.gov/waterscience/WET/>.



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### Questions to Consider

#### ***Does the permit require the discharger to measure acute and chronic toxicity?***

**Acute toxicity** means organisms will die soon after they are exposed. **Chronic toxicity** means organisms experience sublethal effects (such as reproductive, developmental or immunological problems) or eventually die if exposed for a long period of time. For purposes of conducting whole effluent toxicity tests, the chronic timeframe is usually assumed to be 96 hours. Insist that dischargers conduct both acute and chronic toxicity testing.

#### ***How often is WET testing conducted?***

Like any kind of monitoring, the more often it is done, the more likely you are to get the right answer. U.S. EPA recommends WET testing be conducted quarterly during the first year of operation for new sources and at least annually thereafter. At a minimum, WET testing should be performed annually and more frequently in many situations.

## Instream Monitoring

Sometimes dischargers are required to monitor instream impacts of their discharge. This might include any of the following:

- ▣ Taking water quality samples upstream and downstream of their outfall.
- ▣ Conducting surveys of fish, mussels, macro-invertebrates and other aquatic organisms to determine if the natural community of the stream is changing as a result of the new pollution.
- ▣ Measuring streamflow levels to determine if assumptions in the permit about critical low and high flows are correct.



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### Questions to Consider

#### ***How often will such impacts be measured?***

As with effluent limits, the more data collected, the better idea you have of the health of the stream and the impacts of the discharge. Always push for more, rather than less, data collection.

#### ***Will monitoring be conducted before a facility begins operation?***

Usually it is wise to monitor instream conditions before the permitted discharge occurs, so you can determine baseline conditions and initial health of the receiving waters. This data provides a reference point to measure what effect the discharge may have.

#### ***Where will the results of these studies be kept on file?***

Will they be made available to the public upon request? Make sure the public is able to look at results of the monitoring.

#### ***What actions will the agency take if these studies show degradation of receiving waters or downstream resources?***

Make sure the permit explicitly states what will be done if degradation is observed. All too often a permit will require monitoring, but when this monitoring indicates that degradation has occurred, nothing happens. Even though degradation caused by a discharge is clearly a violation of water quality standards, it doesn't hurt to make sure the permit explicitly recognizes this fact and requires corrective action.

## Control of Contaminated Stormwater

Permits for municipal stormwater, construction sites and industrial facilities are often required to include plans for preventing pollution caused by stormwater runoff. Among the elements of such a plan are a description of potential pollutants in stormwater discharges, where stormwater will leave the site, a detailed site map and a plan for implementing stormwater controls and preventing stormwater contamination.

**SPECIAL CONDITION 13.** The Agency has determined that the effluent limitations for Outfall A01 constitute BAT/BCT for storm water which is treated in the existing treatment facilities for purposes of this permit issuance, and no pollution prevention plan will be required for storm water tributary to Outfall A01

**SPECIAL CONDITION 14. STORM WATER POLLUTION PREVENTION PLAN (SWPPP)**

- A. A storm water pollution prevention plan shall be developed by the permittee for the storm water associated with industrial activity at this facility. The plan shall identify potential sources of pollution which may be expected to affect the quality of storm water discharges associated with the industrial activity at the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit.
- B. The plan shall be completed within 180 days of the effective date of this permit. Plans shall provide for compliance with the terms of the plan within 365 days of the effective date of this permit. The owner or operator of the facility shall make a copy of the plan available to the Agency at any reasonable time upon request.

### Questions to Consider

#### ***When will the agency review the stormwater pollution prevention plan?***

In some states the agency does not look at such plans unless it is conducting a site inspection. That is because these plans may not be submitted to the agency for review, but instead they are kept at the facility being regulated. This means that the plan has not been reviewed by the agency or the public. Sometimes this also leads to plans not being developed in a timely manner, because without review, there is little accountability. You should push your state agency to make sure these plans are developed in a timely manner, examined and made available to interested members of the public.

## Compliance Schedules

If a discharger has had compliance problems in the past and must upgrade facilities in order to fix the problems, a schedule should be part of the permit. The schedule sets deadlines for construction activities, reporting dates and planned inspections, as well as specifying a date by which the discharger must be in full compliance with the NPDES permit. It may also establish new permit limits which must be achieved by a certain date.

Compliance schedules are not allowed for technology-based effluent limits. Technology-based limits represent the minimum level of performance a discharger must meet, so they should be able to comply with them at all times.<sup>25</sup> However, compliance schedules are sometimes used for water quality-based effluent limits. Often water quality-based limits are included in a renewed or modified permit to replace previous technology-based limits. A compliance schedule will then set deadlines for meeting the more stringent limits.

***Compliance schedules are not allowed for technology-based effluent limits. Technology-based limits represent the minimum level of performance a discharger must meet, so the discharger should be able to comply with them at all times.<sup>25</sup>***

### Questions to Consider

#### ***Does the discharger take too long to come into compliance?***

A compliance schedule can take years to implement. Sometimes, the discharger could comply in a much shorter amount of time. Make sure you push the agency and the discharger to comply with the permit sooner, rather than later. This is particularly true on waters that may already be violating water quality standards. Every effort should be made by the agency and the discharger to solve this problem as quickly as possible.

#### ***Was there a compliance schedule in the last permit?***

It is not unusual for dischargers to violate the conditions of their previous compliance schedule, only to be given several more years to complete the work. If they did not adhere to the previous compliance schedule, they are in violation of that NPDES permit. Make sure you hold the discharger and the agency accountable.



## Municipal Pretreatment

Municipal sewage treatment plants will often have special conditions in their permits that spell out how they must deal with their **pretreatment program**.<sup>26</sup>

A pretreatment program must be established by sewage treatment plants that discharge more than 5 million gallons per day and receive wastewater from industrial facilities. It is not unusual for local industries to send their wastewater to the local sewage treatment plant. This allows for centralized treatment of wastes in the community, but it can complicate matters if some particularly nasty industrial waste comes down the pipe.

The permit will require the municipal sewage treatment facility to submit to the agency records that show who the pretreaters are, where they are located, what pollutants are present in their wastewater and in what quantity.

### A municipal pretreatment program must:

- ✓ grant the sewage treatment facility authority to deny permission or modify the conditions under which an industry discharges its wastewater, and
- ✓ establish a system to guarantee that the sewage treatment plant has authority to conduct necessary inspections and make dischargers meet minimum pretreatment standards.

### Questions to Consider

#### ***Has the municipal discharger experienced problems with pollutants from industrial sources?***

Sometimes you will find a discharger has had elevated levels of pollutants, such as metals or other toxic chemicals, that probably came from industrial sources. If elevated levels of industrial pollutants are showing up in the municipal discharge, it could indicate that one or more of the pretreaters is sending improperly treated wastewater to the municipal facility.

#### ***Are all industrial pretreaters identified in the permit or in the permit application?***

If pollutants from pretreaters have the potential to cause problems for the municipal sewage treatment plant, it's important they be clearly identified, either in the permit or in the permit application.

#### ***Are all potential pollutants monitored?***

If a pretreater might release a pollutant, it is important the sewage treatment plant at least periodically monitor for and report any concentrations of that pollutant in its effluent. Without this periodic sampling, a pretreater could send a "slug" of pollutants through, causing unforeseen consequences for the receiving waters.

## 2.4 Permitting Issues You Won't Find in the Permit

The information contained in the final NPDES permit is really the tip of the proverbial iceberg. The conditions described in the permit are usually the result of a great deal of analysis and a number of decisions. The details of this process are unknown to you if the only information you have is the permit. It is often useful to look at the analysis behind the permit, to see if permit conditions are based on inaccurate data or flawed assumptions. In the process of reviewing this information you will learn more of the subtle intricacies of the Clean Water Act and your state's water pollution control program.

Sometimes, it is important to investigate how and why the permit looks the way it does. To ascertain why certain decisions were made, you will probably end up answering many of the original questions you had about the permit. You will also likely end up with even more questions.

Three of the most important issues you should investigate are the past compliance history of the discharger, the possible effects of the discharge on the environment and the potential for the discharge to cause or contribute to a violation of water quality standards.

### Compliance History and Past Performance

You should always look at the discharger's history. Have they complied with past permits? Have they violated repeatedly? Have they consistently done an excellent job of reducing the amount of pollution they release? Following are some sources of information you can use to check on a discharger's past compliance history.

- DISCHARGE MONITORING REPORTS** – these reports, also known as DMRs, are typically submitted by the discharger to the agency each month. They summarize monitoring results from the past month.

Dischargers are responsible for conducting their own monitoring and reporting, following requirements spelled out in the permit. The state may periodically inspect the facility and take their own samples, especially if they hear about a problem from a concerned citizen. It may seem odd that dischargers are responsible for collecting their own samples and reporting the amount of pollution present — why would they ever report a violation?! But they do report violations, and they do admit to mistakes. The chart below is a real example of the information provided in the DMRs. Note that the discharger reported violations for every measurement.

SAMPLE DISCHARGE MONITORING REPORT											
Parameter		Quantity or Loading			Quantity or Concentration				No. Ex.	Frequency of Analysis	Sample Type
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Solids, total suspended effluent gross value	<i>Sample measurement</i>	<b>983</b>	<b>2,294</b>	<i>Lbs/day</i>	<b>77</b>	<b>162</b>	<b>785</b>	<i>MG/L</i>	<b>8</b>	<b>18/31</b>	
	<i>Permit Requirement</i>	<i>375 Mo Avg</i>	<i>500 Wkly Avg</i>		<i>30 Mo Avg</i>	<i>40 Wkly Avg</i>	<i>45 Daily Max</i>			<i>3/week</i>	<i>Composite</i>

Dischargers have been also caught lying on their monitoring reports. The penalties for doing so are very strict. Citizens can help catch these types of problems by monitoring water quality downstream of a discharge. If pollution levels are high, it may be because the discharger is putting out too much pollution.

These reports are available to the public. Some agencies may supply copies, but most require a research trip to their office and a fee for copies made. DMRs may be very long and numerous, so the agency can place restrictions on how many they distribute for free. They are public records, however, so you can obtain as many as you wish in your own research.

- ❑ **PERMIT COMPLIANCE SYSTEM** – This database contains data from DMRs and can be searched from the U.S. EPA web site. It includes information on dischargers with and without violations. Not every discharger is included, but many are. You can also view inspection reports, compliance schedules and a host of other information. To find data on a specific permittee, simply go to [http://www.epa.gov/enviro/html/pcs/pcs\\_query\\_java.html](http://www.epa.gov/enviro/html/pcs/pcs_query_java.html), type in the NPDES permit number and hit the search button.
- ❑ **TOXIC RELEASE INVENTORY** – This database contains information on a discharger’s estimated annual toxic releases. It includes data on air and water pollutants and is searchable in a manner very similar to the Permit Compliance System. You can find the Toxic Release Inventory at <http://www.rtknet.org/>.

### *Questions to Consider*

#### ***Has the discharger had violations in the past?***

If the discharger had violations of their previous permit, bring this up to the agency. This is particularly true if the agency is reducing the discharger’s monitoring frequency or allowing less stringent effluent limits for the pollutant in question.

#### ***Has the agency taken any action on past violations?***

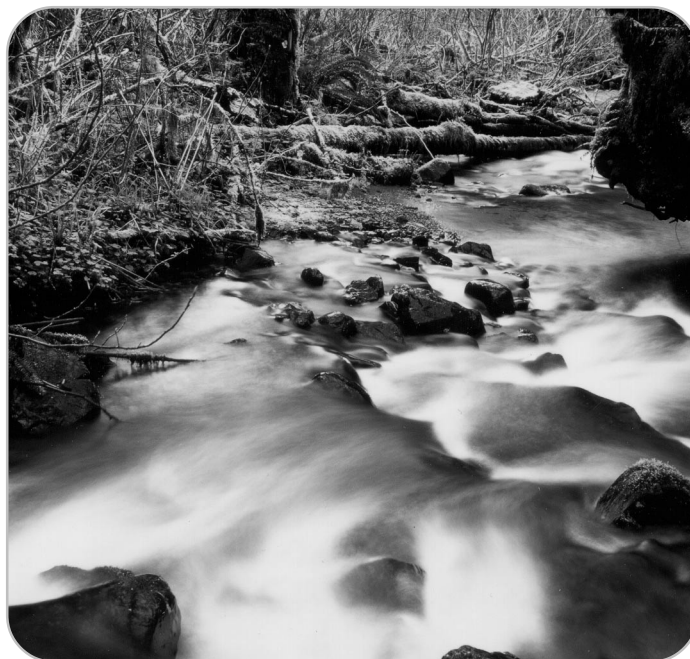
If violations have occurred, make sure you ask the agency how they responded. Did they initiate enforcement action? Have they administered any fines? Were these violations taken into consideration when the new/modified/reissued permit was written?

#### ***Why are dischargers allowed to do their own monitoring?***

*Partly, it is a reality check — there is no way an agency can do the daily or weekly monitoring required in many permits. Partly, it is a financial issue — the program gives the financial responsibility of monitoring to dischargers... which is a good thing! However, watchdogging is required for this system to work. Strong monitoring regulations, strong reporting regulations, vigilant inspections and enforcement and citizen review of records all must combine to maximize compliance!*

## Effects on the Environment

To ensure new water quality problems are avoided or at least minimized, states are required by federal law to have an antidegradation policy. Such a policy is intended to keep clean waters clean. Not only should a properly implemented and enforced antidegradation policy keep waters from violating water quality standards, it should also ensure that high quality streams — those waters with excellent water quality, habitat and thriving aquatic communities — stay that way. It is one of the most powerful and under-used policy tools for water pollution prevention. See Chapter 4 for more detail on antidegradation policy.



LARRY N. OLSON

### A properly implemented state antidegradation policy should:

- ✓ Protect all existing uses.<sup>27</sup>
- ✓ Minimize new or increased discharges to “high-quality waters” — those that have better quality than the minimum **water quality criteria**.
- ✓ Provide a system for designating Outstanding National Resource Waters (ONRW). Waters with this designation are of such ecological or recreational significance that no new or expanded discharges are allowed into them.

In order to determine if these issues were considered, you must request a copy of the agency’s *antidegradation analysis* for each permit.

### Questions to Consider

#### ***What are the existing uses of the waterbody in question?***

Catalog existing uses and determine if they could be impacted by the proposed discharge. Agencies often fail to document existing uses, so it is important to always identify those you know to exist. It is especially powerful to point out where threatened and endangered species may be harmed by a discharge. In your comment letter, ask the agency to document all existing uses. If they did not bother to inventory the uses, how can they determine whether they will be impacted?

#### ***Did the agency evaluate alternatives to the discharge?***

The state must investigate alternatives to the proposed discharge. If they did not, tell them the antidegradation analysis is inadequate.

## Potential for a Violation of Water Quality Standards

When examining a permittee's application for an NPDES permit, the agency must determine if there is "reasonable potential" for the discharge to cause or contribute to a violation of water quality standards.<sup>28</sup> To make this determination, the agency must consider 1) what levels of pollution a discharger has released in the past (if the permit is modified or reissued), 2) background concentrations of the pollutants in question, 3) amount of dilution available and 4) other factors. This is known as a **reasonable potential analysis**.

A reasonable potential analysis should be conducted for all pollutants for which the discharger collected effluent quality data. This includes metals and toxic pollutant screening data required under a permit's special conditions and other data the discharger and the agency may have collected from the facility in the past.

This data is then used to determine "reasonable potential" for the pollutants in question to cause problems. If the agency finds there is such potential, they are required to include water quality-based effluent limits, rather than the often less-protective technology-based limits, in the NPDES permit.

As you read more and more permits, you will begin to notice some pollutants are added to permits on occasion, and others removed. Reasonable potential analysis results are typically the cause.

Remember that sampling conducted by a discharger is not continuous. Sampling for a specific chemical may take place only once per day, once per month, or even once per year. The level of pollution being discharged at other times is not really known. To be safe, the highest measured value should therefore be used, and then it should be multiplied by a safety factor. The safety factor is based on the total number of samples collected and the variability in effluent quality. The fewer samples available and the more variable the monitored effluent quality, the larger the safety factor should be. This is done to safeguard against underestimating pollution.

### **Reasonable Potential Analysis**

***Confused by the idea of a reasonable potential analysis? Let's use an example from daily life to illustrate the concept.***

*Let's say you wanted to estimate the speed of a car moving through the city. The car spends most of its time in traffic, and often comes to a complete stop. Sometimes it is able to move rapidly in excess of the speed limit, but not very often. Now let's pretend we are only allowed to measure the speed or observe the car a handful of times. Although most of the time the car is moving slowly, we would be wrong to assume the car never broke the speed limit from our limited observations. However, we could use available statistics to estimate the maximum speed of the car, if we make some assumptions about driving conditions, traffic, etc.*

*The concept is the same in reasonable potential analysis: to draw conclusions about the maximum amount of pollution that may be discharged, based on limited data.*

The highest measured value multiplied by the safety factor is then compared to the water quality standard. If it exceeds the standard, there is a “reasonable potential” that water quality standards will be violated. If a reasonable potential exists, then water quality-based effluent limits for that pollutant should be included in the permit.



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To double check the agency’s analysis, you must request a copy of their “reasonable potential to exceed water quality standards analysis.”<sup>29</sup>



# Chapter 3

## Participating in the Permitting Process

## Chapter 3 | Participating in the Permitting Process

- 3.1 What Information Can I Gather on a Permit?
- 3.2 When Can I Comment on a Permit?
- 3.3 Why Bother Writing Comments?
- 3.4 Writing Your Comments
- 3.5 When Do I Request a Public Hearing?
- 3.6 Important Permit Milestones



So why spend all this time wading through the permit and all its supporting documentation? Because you have the power to use what you've learned to protect your watershed!

One beauty of the Clean Water Act is that the drafters provide many opportunities for citizen input in each watershed decision. They handed us a gift we must use. The Act allows citizens to comment on permits, request public hearings, challenge permits and more. You've done your digging and research, now it is time to make it matter.



## 3.1 What Information Can I Gather on a Permit?

The public notice and the permit itself are just the beginning. An enormous amount of additional information is available to interested members of the public. If a fact sheet on a particular permit or discharge is of interest, contact your state agency for more information. See Appendix B for contact information for your state's permit agency.



### On your information request make sure you include:

- ✓ NPDES permit number
- ✓ discharger's name
- ✓ public notice number
- ✓ list of information you are requesting
- ✓ where to send the information

In all cases, you want to make sure you request the proposed permit and the fact sheet. You will probably want to request the previous permits as well, so you can better gauge any changes that have been made.

Do not wait too long to request additional materials, because it can take up to three weeks to receive permit information from the agency. In most states, after a public notice is published you have 30 days to submit written comments to the agency. Some states allow 45 days for public comment.

## ***Here is a checklist for your request:***

*If the agency cannot or does not provide you with this type of information, there is a problem. There is no way they could have done an adequate review of the permit without this data. In the event the agency does not have it, they should compile and evaluate this information before issuing the final permit.*

### **ABSOLUTELY NECESSARY**

- ✓ PROPOSED, PUBLIC-NOTICED PERMIT (including the fact sheet) – This is the main document that you need.
- ✓ PREVIOUS PERMIT – If applicable, get the old permit so you can compare the new one to it and see if effluent limits are changing.

### **USEFUL FOR THE WHOLE PICTURE**

- ✓ PERMIT APPLICATION – An application for a permit must be filed with the agency. The application contains detailed information on the discharger's permit request, the treatment technologies and, for modified and reissued permits, a summary of the facility's past performance. The permit application can be a very lengthy document and may be costly to photocopy and mail. In some cases, you may be required to pay for the service, or you may have to go and copy it yourself.
- ✓ SUMMARY OF STREAM SURVEYS, WATER QUALITY DATA OR OTHER INFORMATION ON THE RECEIVING WATERS – There is often a great deal of information available on waters that will be receiving the proposed pollution. Ask the agency to share that information. It may include evaluations of the stream's health and inventories of biological resources. See Chapter 1 for more information.
- ✓ ANTIDegradation ANALYSIS – To comply with state and federal antidegradation policies, the agency must conduct an analysis of the permit to see if there is a potential for degradation. Make sure you request a copy of this analysis. Examine it very carefully, and speak out about issues it raises in your mind. State agencies often do not take the time to figure out what the existing uses of a waterbody are, and consequently, how those existing uses could be impacted by a discharge. For example, if you know there is a swimming beach nearby, and they do not mention it in their analysis, then the analysis is likely flawed and the permit is probably wrong, too. See Chapter 4 for more information.
- ✓ REASONABLE POTENTIAL ANALYSIS – This memo summarizes the discharger's past performance and includes an analysis of the likelihood the effluent will contribute to or cause a violation of water quality standards. If the analysis shows a likelihood of violations but the permit does not require appropriate effluent limits for these pollutants, make sure you bring this to the agency's attention. If the agency does not perform reasonable potential analyses for all pollutants likely to be discharged, bring this to the agency's attention as well. See Chapter 2 for more information.

### **POTENTIALLY USEFUL FOR MORE DETAILED INVESTIGATION**

- ✓ ENGINEER'S NOTES – These documents contain calculations, engineering specifications and other notes that the agency's permit engineer jotted down while reviewing the permit and the permit application.

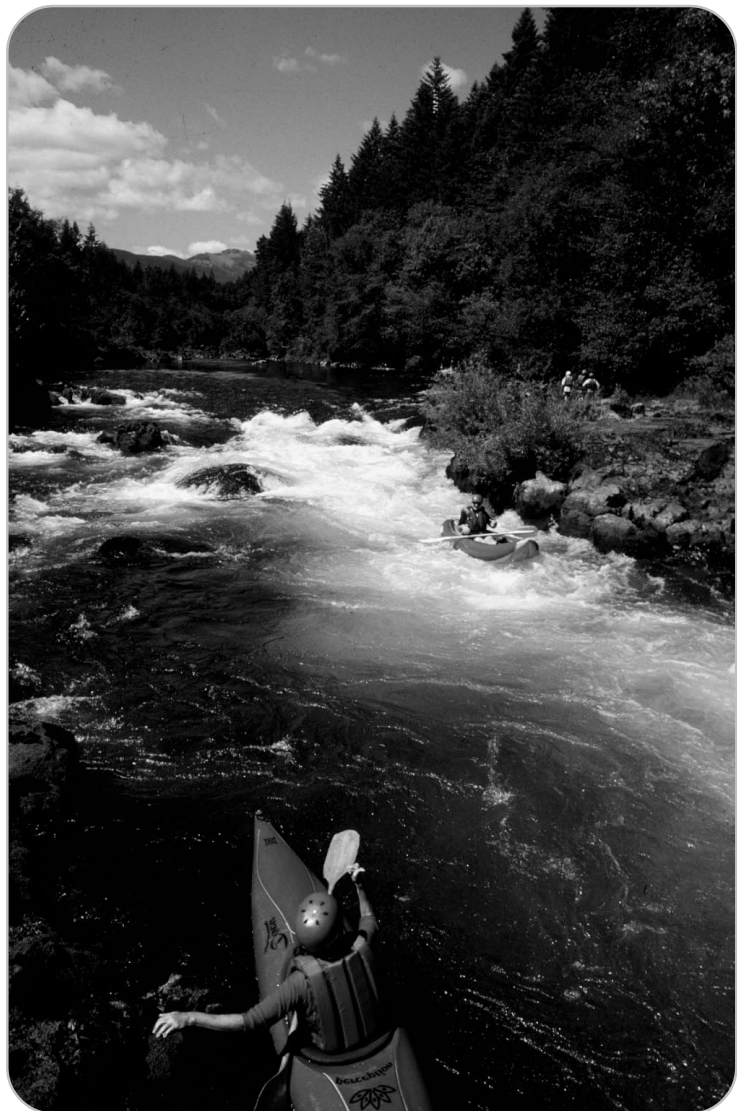
## 3.2 When Can I Comment on a Permit?

The earlier the better. If you find a permit has been applied for, it is perfectly acceptable to contact your state agency, or the discharger, and begin a dialogue before a public comment period even begins. Depending on how your state handles this, it may be productive, or they may refuse to talk to you about the permit. If you can get a dialogue going, this is the best time to be involved. Once the permit is out in draft, it can be hard to change.

At a minimum, you have 30 days to comment on an NPDES permit once it is “public noticed” by your state agency. Get on your state’s public notice list for the quickest “heads up” on draft permits. See Appendix B for contact information for your state agency. During that 30-day period you must:

- ▣ Review the permit and any other relevant permit materials provided by the discharger and the state agency.
- ▣ Assemble any materials you believe are important that are not part of the agency’s record (biological surveys, water quality data, information on recreational uses of the water, etc.) This may be material in your possession, or it may be studies by universities, citizen monitoring groups or other government agencies.
- ▣ File your comments with the state agency.

Thirty days is not much time to get all this information assembled and a comment letter filed, so don’t put it off until the last minute. The more time you have to review information and craft a comment letter, the better.



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### 3.3 Why Bother Writing Comments?

If you are concerned about a discharger receiving a permit, the public comment period may very well be your first opportunity to make your views known. If you do not take advantage of this opportunity, you will not get a second chance.

If no comment letters are submitted, the permit will most assuredly be issued in its draft form. Once issued, it is very difficult to get a permit changed. You may have information about the stream, watershed or

biology of the region your state agency has overlooked. If it is pointed out during the comment period, they may be convinced to make a change. As a result, your comment may have a significant impact on what the final permit looks like.

In addition, by commenting on a permit, you begin a process that can change how water pollution is controlled, keep a new source of pollution from being sited in your watershed or help ensure recreational uses or aquatic species are protected.

Filing your comment letter may lead to other actions down the road. By filing a public comment, you can request and be granted a public hearing, which will open the issue to public debate and a much broader constituency. If the permit is issued over your objections, you may find it necessary to appeal the permit to get your problems solved. If the permit is later violated, and the violation relates to a concern you raised in the draft permit, your comment letter may become an important piece of evidence in a citizen's suit. In short, commenting on a permit can help preserve your rights for future actions.



PETER LAVIGNE

#### ***Standing***

*Every state has its own laws on "standing" that dictate whether the plaintiff has the right to sue about a violation or not. Your standing in a case will usually be evaluated before the merits of your complaint. Look into these requirements for your state.*

## 3.4 Writing Your Comments

Once you have completed your review of a permit and the supporting documents, it's time to put your findings into writing and file a comment letter. Your public comments may be the first official communication you have with the agency that describes your concerns, flaws you have found in the permit and recommended courses of action.

Writing public comments is not just about writing a letter. You must carefully consider how you will frame your issues. It's essential that you *concisely* communicate your concerns, your findings and any suggestions you have for improving the permit.

Remember, you are asking the agency to change its initial decision regarding the permit. Agency staff will be under pressure from the discharger not to do this; staff typically receive comment letters from dischargers asking for draft permits to be weakened. You must have convincing arguments and good supporting evidence to win changes to the permit. It is to your advantage to share as much information as possible. The agency will have to have a compelling reason to alter a permit. It's your job to give them that reason.

After you have reviewed the permit materials, go through your notes and make a list of problems you have identified. Keep in mind, you also want to comment on things your state agency did well in the permit. For instance, if they gave a discharger a more stringent water quality-based effluent limit than in the previous permit, you should acknowledge your appreciation of that action.

### Potential Problems in Permits

- ✓ Mistakes made in calculations
- ✓ Improper effluent limits
- ✓ Increased loadings or concentrations of pollutants to an impaired waterbody
- ✓ Incorrect antidegradation analysis

You can then use this list to create an outline for your comment letter. Each issue can be a heading, with your arguments and supporting facts beneath.

Once you have inventoried your issues and concerns, think about what you want to say about each one. It's essential your comments be focused and forceful.



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Characteristics of a well-written comment letter:

- ❑ WELL ORGANIZED: Concerns are laid out in an easy-to-read and easy-to-follow fashion.
- ❑ HEADINGS: Each issue raised in the comment letter is covered under its own subject heading, making it easy for the reviewer to find your concerns and understand them.
- ❑ CONCISE: The specific concern is described in as few words as possible and tells the reviewer exactly what you do or don't like about the permit.

When putting your written comments together, try to organize them in a fashion that follows the elements of the permit. Agency staff will go through the permit page by page, and your comments will be easier to understand and accept if they parallel the permit itself. This is not always possible, however, since you may comment on issues that are not in the permit or on details presented in supporting documentation, such as the engineer's notes or the antidegradation analysis.

For each issue you raise, write a header. Go back to your initial list of concerns and your outline for structure. This helps the reviewer know exactly what you are talking about, and it helps them find it later if they need to refer back to your letter.

Under each heading, start your first paragraph with a single sentence that clearly states the issue and what you want done about it (if anything). For instance, "The effluent limits for cyanide are too high and should be lowered," or "The antidegradation analysis failed to consider impacts to endangered species known to exist in the area, so the permit should be denied."

After you have clearly laid out your concerns with the permit and stated the course of action that you think is appropriate, build your argument for why the permit is flawed in each identified area and why your recommended course of action is appropriate. For example, cite specific studies that show endangered species exist, identify specific state and federal regulations that prohibit the activity you object to, present water quality data that was not examined or refer to information that otherwise makes your point. Everything following your first sentence should support your argument.

**When submitting public comments, you must supply the following information:**

- ✓ *Your name and address*
- ✓ *Organization's name (if you are representing one)*
- ✓ *Your interest in the permit (why it is important to you or why it affects you)*
- ✓ *Permit number and public notice number on each page of the comments (in case pages become separated)*

The shorter your comments, the better. It's important not to bog the reviewer down in long, difficult-to-read sentences. Your views are most effective if you communicate them concisely.

Where possible, avoid asking questions since they are generally not effective in a comment letter. The purpose of a comment letter on an NPDES permit is to convince the agency to take a specific course of action — usually to deny or modify the permit. Asking questions may only produce answers you cannot act upon. If possible, make a question into a statement.

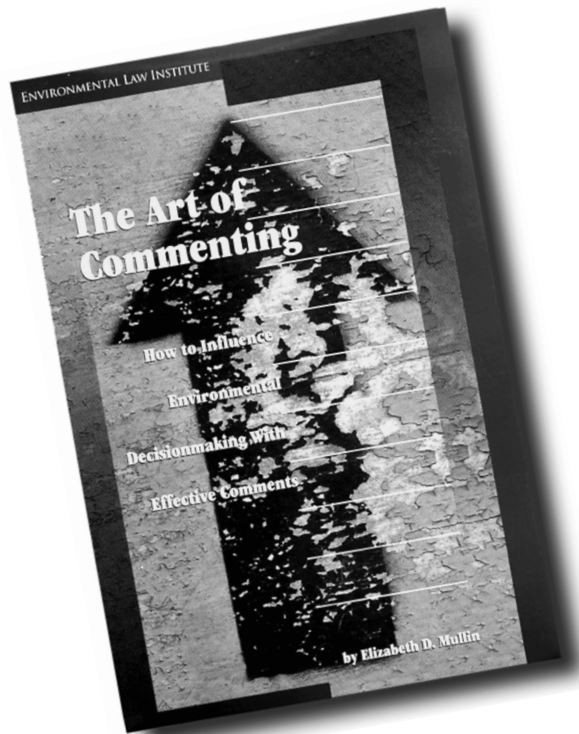
For example, do not ask, “Did the agency consider the water quality impacts of upstream discharges when it calculated effluent limits?” Instead, simply state, “The agency did not consider the water quality impacts of upstream discharges when it calculated effluent limits.”

If you cannot find something in the record that shows they did this, assume they did not. Do not ask them about it, but state there is nothing in the record to indicate otherwise.

If you have a question, you should endeavor to get it answered *before* you write a comment letter. Only by having the necessary information can you put together the most effective communication possible.

For more information on writing public comments, we recommend you get a copy of “*The Art of Commenting*” by the Environmental Law Institute.<sup>30</sup> This is a valuable resource. Lastly, be sure to send copies of your comments to the U.S. EPA and to your local elected officials. It is important to let other decision-makers know you have concerns about a permit. You may need to draw them into the debate later if the permit needs to be challenged.

***Asking questions may only produce answers you cannot act upon. If possible, make a question into a statement.***



## 3.5 When Do I Request a Public Hearing?

Another important issue to consider when writing comments is whether to request a public hearing. While the Clean Water Act guarantees you that right, it does not specify the conditions that require your state to grant a hearing. If the situation warrants, agencies may hold a public hearing on the permit in question, but this will not happen unless people request one and there are important issues in need of consideration. Some states require a certain number of requests before they will grant a hearing. The occurrence of permit hearings varies from state to state, but it is still a good idea to request one.

A public hearing can help expose additional information. It can also be a valuable forum for making your concerns known to people outside your state agency, like other interested citizens, decision-makers and members of the press. Many states hold hearings during the comment period. Other states may hold the hearing after the comment period has closed and open up another comment period following the hearing.

As indicated earlier, states handle public hearings in different ways. At a minimum you will be allowed to make a

statement to the agency about concerns you have with the permit. The agency, and perhaps the discharger, will also make presentations about what decisions were made in the course of issuing the draft permit, what type of treatment technologies are/will be employed and other information used in evaluating the permit.

Some states allow members of the public to pose questions to agency staff. Staff do their best to answer those questions on the spot. This can be very useful.

What questions should be asked? Usually the best questions are those you already know the answers to. For instance, if you know for a fact there are endangered species present but the agency did not identify them, you may want to ask, "Where in the public record did the agency document the existence of endangered species?" They will have to respond that they did not document their existence. You can then submit evidence into the hearing that proves endangered species are indeed present. This is an effective means of 1) illustrating for members of the public the inadequacy of the review and 2) publicly adding valuable information to the record which the agency cannot deny.



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Try not to go on a “fishing trip” with your questions. Often you will be surprised by the results. The agency or discharger may give you an answer you disagree with, and you do not want to be caught without the information to refute them. Be careful what you ask for, because you may just get it!

Do not get into an argument with the agency or the discharger. It’s important to be courteous and act responsibly at a public hearing. The

hearing will have an official transcript, and usually there is a court reporter who records all statements and comments. If you find it necessary to appeal the permit at a later date, or take some sort of legal action, it’s best not to have an embarrassing comment or heated argument on the transcript.

After the public hearing, there may be another public comment period. Always make use of this forum. It’s another opportunity to provide information and evidence you uncovered after your original comment letter. Even if your second comment simply reiterates the points of your first letter, send in a comment letter. A second comment period is also another opportunity to organize letters from other local citizens and organizations.



***If the situation warrants, agencies may hold a public hearing on the permit in question, but this will not happen unless people request one and there are important issues in need of consideration.***

### 3.6 Important Permit Milestones

Every state follows a different timeline for their permit process. The following table describes different steps that may occur in your state. Talk to your state agency to find out the exact process. Consider getting involved throughout the process.

<b>FORMAL PROCESS</b>	<b>ROLE YOU CAN PLAY</b>
Permittees consult with state agency about an upcoming permit (“pre-application conference”).	You may be able to find out when a permit applicant has come in for this meeting. Keep in touch with your agency staff working on permits for the waters in which you are most interested.
Permittee submits application.	You can find out about pending applications at this point while the agency is working on them. Again, a relationship with agency staff will help you keep on top of applications.
State agency issues public notice on draft permit. Comment period usually lasts between 30-45 days.	You must request information, review information and submit written comments; you may request a public hearing before comments are due.
If requested and approved, state agency gives notice of and conducts a public hearing.	Hearings are only held when requested. Some states require that a certain number of people request a public hearing. Many states hold the public hearing during the comment period. Some states will hold it afterward and allow a second round of public comments.
State agency will respond to comments.	You may not get a formal response until the final permit is issued, but you should request agency feedback in some fashion before the permit is final. Go in and speak with the permit writer or the manager.
State agency issues final permit. This could take a long time; there are no restrictions on the agency to issue the permit within a specified number of days.	Keep in touch with the agency staff about where the permit is in the process. Changes in the permit that may warrant another public hearing can occur during this time.
Appeal the permit to the agency. This varies between 30-60 days after the issuance of the permit.	If a permit is issued and your concerns are not adequately addressed, you have the right to appeal the permit. Find out what your state appeal procedures are.
State agency process appeal. Most states don’t have time restrictions on this process.	Stay on top of this process. Don’t let the agency drag its feet, especially if the permit relates to an ongoing problematic discharge that is operating business-as-usual until the new permit is in place.
File lawsuit. Some must be filed within 60 days.	Find out what time restrictions are in place for lawsuits against discharge permits.
Reopen permit for modification.	Federal regulations allow for modifications of permits after they are issued. See discussion on page 16.



# Chapter 4

## Permits, the Clean Water Act and How It All Fits Together

## Chapter 4 | Permits, the Clean Water Act and How It All Fits Together

- 4.1 How Water Quality Standards Fit into Permit Development
- 4.2 Total Maximum Daily Loads and Permitting
- 4.3 Mixing Zones and Permits
- 4.4 State Certification of EPA-Issued Permits



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When dealing with NPDES permits, there are a few broader Clean Water Act policies you should understand. Among these is the difference between water quality standards and effluent limits, and how dischargers and permit agencies monitor compliance with both. In addition, a basic understanding of **Total Maximum Daily Load** clean-up plans, **mixing zones**, and state certification of federal permits will be useful.

## 4.1 How Water Quality Standards Fit into Permit Development

### Water Quality Standards

Water quality standards are a critical piece of the development of appropriate effluent limits in permits. Permits cannot be granted if they cause or contribute to a violation of water quality standards.<sup>31</sup>

Water quality standards have three components:

**USES** – The uses of the water dictate how each waterbody will be protected. The state or tribal water quality agency must designate uses to be protected on each waterbody in their jurisdiction. If you

know of existing uses that are not designated, you should bring them to the attention of the agency. Documentation of the uses (e.g., through photos, fishing or boating licenses or species inventories) may be necessary to prove a use exists that your state agency must consider and protect.<sup>32</sup>

**CRITERIA** – To protect all uses of the receiving waterbody, water quality criteria are developed. These criteria (both numeric and narrative) identify the minimum chemical, physical and biological characteristics necessary to support uses in the waterbody.<sup>33</sup>

If a new, renewed or modified permit based on technology standards would impair the uses or violate the criteria of the receiving waterbody, a water quality-based effluent limit will be required.<sup>34</sup>

With data you collect or obtain from other sources, it may be easier to prove the proposed permit will violate specific numeric or narrative criteria than to determine that a use will be impaired.

**ANTIDegradation** – The antidegradation policy, discussed earlier, is the means to protect the quality of water that has been maintained or restored. This provision requires review of every permit to evaluate whether it will impair existing uses or degrade water quality that is better than the minimum criteria set to protect all uses.<sup>35</sup> This review is not consistently or sufficiently applied in any state.



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Three tiers or principles are associated with the antidegradation review:

***Tier 1 – Protect all existing uses.***

Existing uses must be protected if they have been present or in existence at any time since November 28, 1975 (the date federal Clean Water Act regulations went into effect).

An existing use could be any of the following:

- ▣ Life supported by the stream – fish, shellfish and other organisms<sup>36</sup>
- ▣ Commercial and recreational fishing
- ▣ Recreational activities like boating, swimming and paddling
- ▣ Drinking water

Existing uses include 1) actual uses, even if they are not officially designated or even if the water quality is not sufficient to support them (e.g., if your children swim in a creek, that creek must be protected for swimming even if the official designation does not include recreation) and 2) those uses for which adequate water quality exists, regardless of whether they are practiced (e.g., if a creek has levels of fecal bacteria low enough for safe swimming, that must be protected even if no one uses it for swimming).

The 1975 benchmark was created to eliminate the “oops” factor. If this date were not included, a discharger might unintentionally eliminate an existing use and say, “Oops!” Once the use is eliminated they could argue there is no reason to continue protecting water quality necessary to support that use. Because we protect existing uses, the discharger would instead be required to make an effort to restore that use, or at least continue operating in a manner consistent with its existence or restoration.

Tier 1 of the antidegradation review must ensure that no discharge authorized under an NPDES permit will harm an existing use. Think of this as an absolute “floor” of protection for all waterbodies.

***Tier 2 – Maintain and protect “high quality” waters.***

High quality waters are those that have better water quality, pollutant by pollutant, than the minimum criteria set to protect **designated uses**. For example, a waterbody could have cool temperatures and very little sediment, measuring much better than the criteria set to protect aquatic species. At the same time, it could violate the criteria for copper. This waterbody would need to be given a Tier 2 review regarding temperature and sediment before the permit is issued. (It would also need a Total Maximum Daily Load cleanup plan for copper.)



New or increased discharges into high quality waters should be prevented wherever possible. The antidegradation review must evaluate alternatives to the discharge, prove the necessity of the discharge and demonstrate that the social and economic benefits of the discharge outweigh the ecological and social costs of lower water quality. If and when any lowering of water quality is allowed, it must be limited to an amount that will not harm an existing use – this is again the Tier 1 “floor” of protection for all waterbodies.

***Tier 3 – Protect Outstanding National Resource Waters.***

Tier 3 is the most protective category assigned to our special rivers, lakes and coastal waters. Waters do not have to be pristine to fit into this category. Instead, all waters with recreational or ecological significance can earn Outstanding National Resource Waters (ONRW) designation. This is the only antidegradation tier that must be specifically designated to receive the protection.



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Many states have developed an Outstanding State Waters or Outstanding Resource Waters category that is less protective than Tier 3. Be aware that this category, called Tier 2.5, will sometimes not even afford the full protection in Tier 2.

Additional direct discharges to ONRWs are prohibited. Management plans to protect high water quality and resource values are encouraged.

## Questions to Consider

### ***Is the permit going to harm existing uses or violate water quality criteria?***

Existing uses must be protected at all times. Find out what uses have been designated by the state and document what uses are occurring downstream of the discharge. Insist on an antidegradation review of existing uses. Find out what water quality criteria apply where the discharge is to occur. If the discharge may cause a violation of a criterion or in any other way harm existing uses, insist that the antidegradation policy does not allow such a violation under any circumstances.



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### ***Is the permit going to reduce existing high water quality?***

If the discharge will not violate any standards or harm existing uses, but it will erode existing water quality, Tier 2 of the antidegradation policy requires that alternatives to the discharge be evaluated, and the necessity and social and economic justification of the discharge be proven.

### ***Did the agency evaluate the socio-economic costs and benefits of the discharge?***

Discharges into high quality waterways are only allowed if there is a significant socio-economic benefit to the local community. This usually gets glossed over by states, but you can require them to research and document such an evaluation.



## Effluent Limitations

Effluent limits are established in NPDES permits to restrict the amount of pollution released from a facility. The types of pollutants that are regulated and the quantity of pollution that can be released are established (as mentioned in Chapter 2, page 20) through either technology-based effluent limits or water quality-based effluent limits. Technology-based limits are assigned by category of discharge based on the amount of pollution that can be removed by the best available technology. Water quality-based limits must be developed when there are already problems with certain pollutants or in other special circumstances such as places where modeling shows a likelihood that standards could be violated if technology-based limits alone were imposed. They may also be necessary when the receiving stream is so small that the effluent may dominate the streamflow and create problems with the pollutants that are discharged. Water quality standards should be taken into consideration when effluent limits are developed for each discharge.



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### Questions to Consider

***Has the agency noted the relevant water quality criteria applicable to the receiving waterbody?***

The permit should note water quality criteria for the parameters being discharged. There should be some discussion or reference to studies indicating how they determined no water quality standards would be violated.

***Has the agency developed water quality-based effluent limits when necessary?***

If monitoring or the “reasonable potential analysis” (see Chapter 2) shows that waters receiving a discharge are close to or already violating water quality standards, the agency must develop water quality-based effluent limits that are more stringent than the industry-wide technology-based limits.

## 4.2 Total Maximum Daily Loads and Permitting

The Clean Water Act requires your state to identify rivers, streams, lakes and coastal waters that are threatened or don't meet basic water quality standards. The state has to create a list, commonly known as the 303(d) list, of these threatened and impaired waterbodies every two years and report that list to the U.S. EPA and the public. The list identifies which waters are polluted, what the problem pollutant is and how soon the waterbody is scheduled for clean-up.

Once threatened and impaired waters are identified, the state agency must develop a plan to bring the waterbody back into compliance with standards. This plan for clean-up is known as a Total Maximum Daily Load or TMDL. In many waterbodies, changes to permits represent a significant portion of the plan to restore or protect water quality. Implementation of these plans must be monitored, because required changes to existing and proposed permits are seldom made in a timely fashion. It is therefore critical that citizens understand how to review and comment on discharge permits in order to speed the recovery of impaired waterbodies.

All existing and new permits issued after a TMDL is developed should reflect the requirements spelled out in the TMDL. Those requirements have, in effect, become the standards for the waterbody.



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### Questions to Consider

#### ***Is the permit being issued in an impaired waterbody? If so, is there a TMDL developed already?***

It is important that you know the status of the receiving waterbody. The permit should discuss it in the fact sheet, at least. If the waterbody is already impaired, new pollutant loading is not allowed unless a TMDL has been developed. If a TMDL has been developed, the permit is only allowed if the discharge complies with the TMDL's requirements.

#### ***Is the permit revision supposed to be based on a TMDL that has been developed?***

An existing permit may be subject to change based on developed TMDLs. Permits are usually not adjusted quickly to reflect TMDL requirements. Insist that required permit modifications are made.

#### ***Is the limit set by the TMDL correctly translated into the permit?***

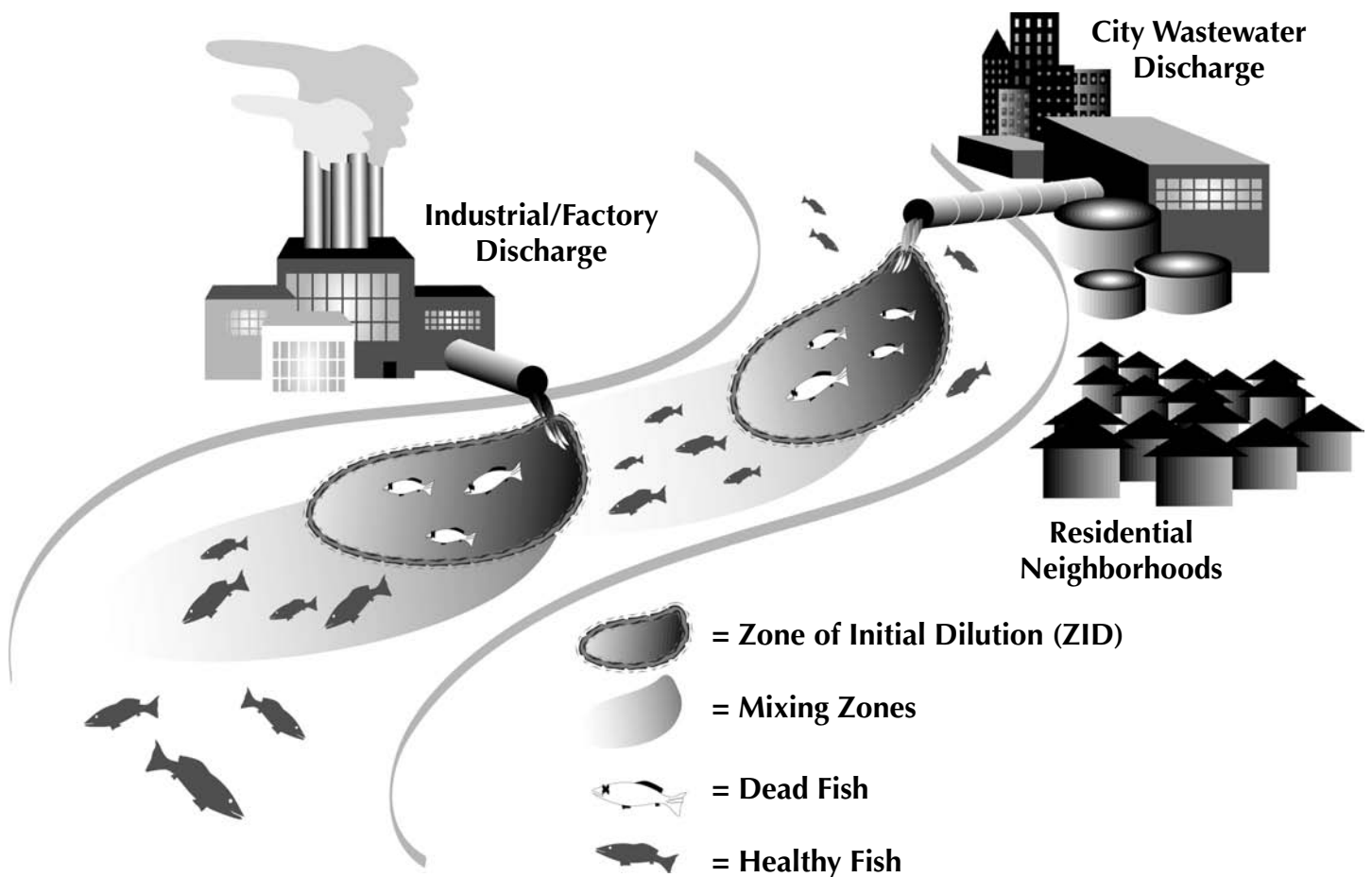
A TMDL sets an overall load limit for a particular pollutant in a watershed. This load is usually expressed in pounds per day. The overall load is then divided among all the dischargers in the area. Each discharger gets a piece of the pie, and that new limit must be incorporated into the permit. However, it pays to check on how that process transpired. Although the TMDL sets a *daily* limit, permits have often been written that use the daily number as a *weekly* limit or even a weekly average!<sup>37</sup>

## 4.3 Mixing Zones and Permits

You might have assumed effluent limits are the same as the water quality standards that apply to the receiving stream. As previously noted, that is usually not the case. Federal regulations allow for a certain mixing area within the receiving waterbody, *before* water quality standards must be met.<sup>38</sup> These areas are called mixing zones. Mixing zones are not required by the Clean Water Act, but most states have a mixing zone policy.

Mixing zones are areas beyond the end of the pipe where the discharger and the regulators decide it is okay to violate water quality standards while the discharge is mixing with the streamflow. Once outside the mixing zone, the wastes will be more diluted and are expected to meet water quality standards. Mixing zones are supposed to be as small as possible and should be defined in the permit, but many states do not explicitly do so. Little or no attention is paid to cumulative impacts of mixing zones in a receiving waterbody.

Some states establish mixing zone parameters within their state water quality standards. Other states establish rules for them in the permit regulations.



## Questions to Consider

### ***Is a mixing zone explicitly described in the permit?***

Insist that details of the mixing zone be included in the permit – the area, the specific pollutant(s) it applies to and the concentration limits within the zone. In that way, you are better able to monitor whether any violations occur within or outside it.

### ***Are existing uses protected within it?***

Antidegradation policy requires that existing uses be protected at all times, even within the mixing zone. Many states have included this statement in their water quality standards. Ask for it to be added during the next Triennial Review of your standards.

### ***Is the mixing zone as small as possible given the flow and toxicity of the discharge? Is it adequate at all times – even during critical flows?***

The agency should perform an analysis to determine the size of mixing zone necessary to allow sufficient dilution of the discharge at all flow levels. Ask for this analysis, and if it doesn't exist, insist it be performed.



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## 4.4 State Certification of EPA-Issued Permits

In most states, the U.S. Environmental Protection Agency has delegated the NPDES program to the state water quality agency. U.S. EPA retains an oversight role. The NPDES permit program has not been delegated to six states (AK, AZ, ID, MA, NH, NM), any tribal government, the District of Columbia, Puerto Rico or the Pacific Territories. This means the U.S. EPA must issue all discharge permits in those areas.

Section 401 of the Clean Water Act allows states to review all federal permits and licenses for compliance with state water quality standards, and it applies in areas where U.S. EPA has retained permit authority. Dischargers must therefore apply for state water quality certification of their permits. The state may 1) waive the privilege to review this federal permit, 2) grant a certification that it meets water quality standards, 3) condition the permit or 4) deny the certification. If state water quality standards are strong, and the state chooses to perform these reviews, this process can be powerful. Where this is an applicable tool, citizens should pressure their state agency to thoroughly exercise their privilege.



TIM PALMER

### Questions to Consider

***Did U.S. EPA write the NPDES permit? If so, is there a 401 certification from the state assuring water quality standards will be met?***

Ask the state agency to exercise their 401 certification privilege and encourage them to evaluate the impact of the discharge (including the mixing zone) and the stormwater practices of the discharger.

***If there is a 401 certification process, what conditions may be placed on the permit to benefit the receiving stream?***

Suggest conditions to the permit that could address the impact of the discharge during the most sensitive times of the year and on the most sensitive uses of the waterbody. For example, the permit should address discharge at both low flow and high flow and for all life stages of existing aquatic species.

## Conclusion

Congratulations — you are now a bona fide permit review expert. We’ve walked through the background of permitting, how to gather your review tools, how to analyze what you find inside and outside the permit and how to translate all your findings into action.

Remember, don’t let the details overwhelm you. Get your hands on your first draft permit and try tackling the tasks on the **Quick Start Permit Action List** on page iv. If you dig into those ten questions and write comments, you’ll be doing your river a huge favor. If you find two friends to submit comments too, you’ll be starting a river revolution!

***You are ready to take up the duty of protecting your favorite creek, river or lake. Jump right in and make some waves!***



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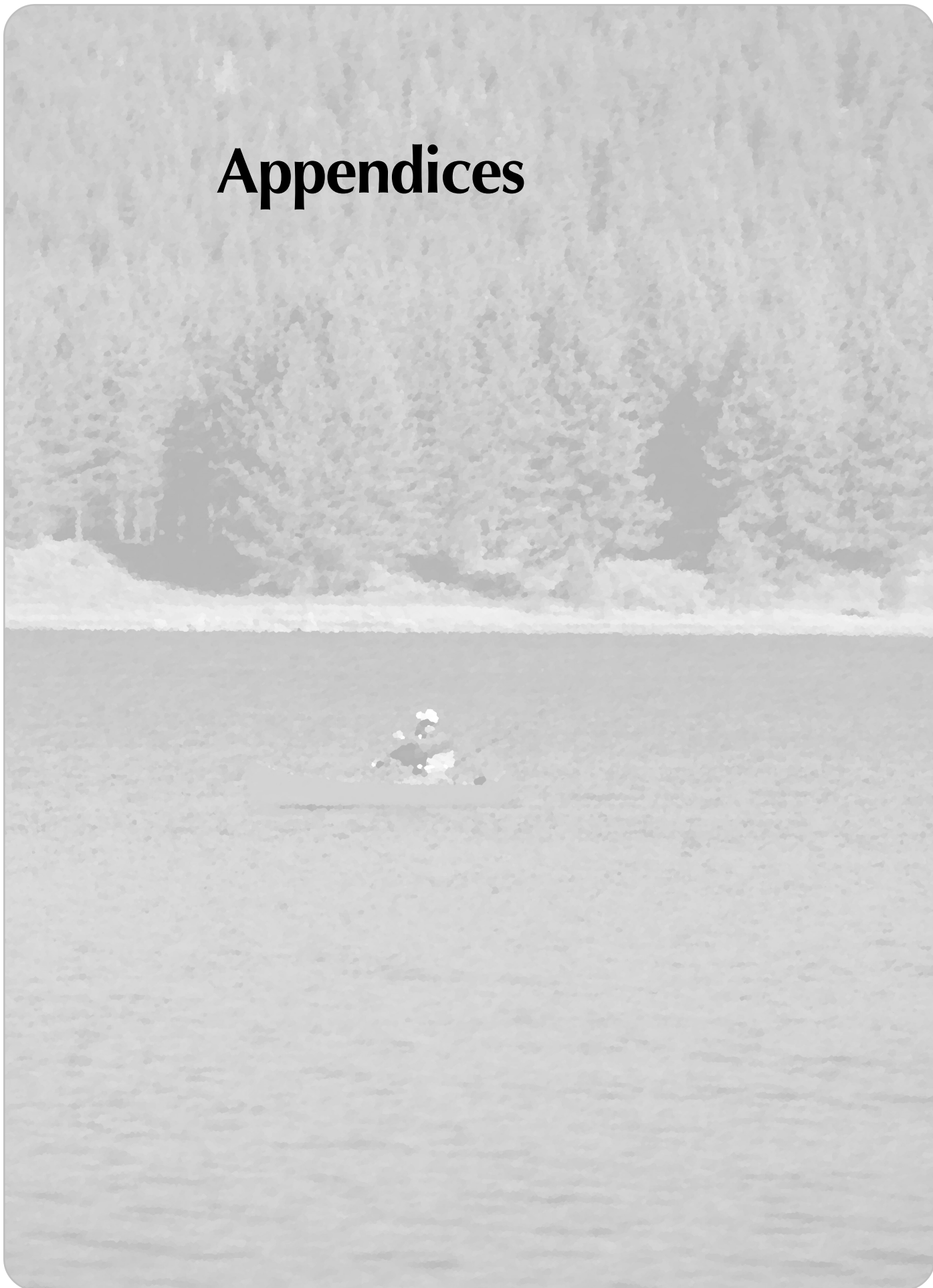
## Endnotes

- 1/ Webster's New World Dictionaries, *Webster's New World Compact School and Office Dictionary*, 1989.
- 2/ Discussion paraphrased from *The Clean Water Act: An Owner's Manual* by River Network (March 1999). Clean Water Act quotes from section 502 (14).
- 3/ Clean Water Act (CWA) section 101(a)(1).
- 4/ Clean Water Act, Section 402 and 40 CFR 122.23.
- 5/ Clean Water Act, Section 402 and 40 CFR 122.
- 6/ 40 CFR 122.28(b)(3), "The Director may require any discharger authorized by a general permit to apply for and obtain an individual NPDES permit. Any interested person may petition the Director to take action under this paragraph." The cite goes on to list cases where an individual permit may be required.
- 7/ Clean Water Act section 505. Also, see the box on standing on page 44.
- 8/ 40 CFR 122.46(a) for EPA permits and 40 CFR 123.25 for state permits.
- 9/ For more information about state fee structures, see Companion Resources to *Permitting an End to Pollution* at [www.cwn.org](http://www.cwn.org).
- 10/ U.S.EPA NPDES Permit Writers Manual, December 1996. (EPA-833-B-96-003).
- 11/ U.S.EPA NPDES Permit Writers Manual, December 1996. (EPA-833-B-96-003).
- 12/ EPA regional offices retain permit authority in Massachusetts, New Hampshire, Idaho, New Mexico, Arizona, Alaska, District of Columbia, tribal reservation land and U.S. territories.
- 13/ 40 CFR 124.8(a).
- 14/ Although the permit term is limited to 5 years, permits may be "administratively continued" for years beyond their term. An administratively continued permit is allowed when a permittee applies for a renewal of a permit on time, but the agency does not get around to renewing the permit. These types of permits are often referred to as the "permit backlog."
- 15/ 40 CFR 122.4(i).
- 16/ 40 CRF 122.62(a).
- 17/ 40 CRF 400 through 471.
- 18/ 40 CRF 122.44(d).
- 19/ The conversion factor assumes you are converting mg/l and MGD to lbs/day.
- 20/ 40 CFR 122.4(d).
- 21/ 40 CFR 122.4(i).
- 22/ Clean Water Act, Section 402(o)(1).
- 23/ 40 CFR 131.12.
- 24/ For more detailed on special conditions, see the *U.S. EPA NPDES Permit Writers Manual*, 12/96, Chapter 8. (EPA-833-B-96-003).
- 25/ U.S. EPA, Office of Water, *U.S. EPA NPDES Permit Writers Manual*, 12/96, page 148. (EPA-833-B-96-003).
- 26/ 40 CFR 403 and 40 CFR 122.44(j).
- 27/ Existing uses are those uses attained any time since November 28, 1975 (regardless of whether water quality supports them or whether they have been officially designated in water quality standards), as well as the potential uses that water quality supports regardless of whether they have been attained.
- 28/ 40 CFR 122.44.
- 29/ For more information on reasonable potential analyses, read *U.S. EPA's Technical Support Document for Water Quality-based Toxics Control* (EPA 505-2-90-001). You can order this for free at <http://www.epa.gov/waterscience/pc/orderpubs.html>.
- 30/ Mullin, Elizabeth. *The Art of Commenting*. Environmental Law Institute. Order online at [www.eli.org](http://www.eli.org).
- 31/ 40 CFR 122.4.
- 32/ Clean Water Act, Section 303(c)(2)(A), 40 CFR 131.7
- 33/ Ibid.
- 34/ Clean Water Act, Section 302.
- 35/ 40 CFR 131.12. See [www.cwn.org](http://www.cwn.org) for the text of the federal antidegradation policy.
- 36/ U.S. EPA, *Questions and Answers on Antidegradation*, August 1993. This U.S. EPA guidance on antidegradation specifies that no mortality, no impacts on growth or reproduction, no reduction in diversity and no shifts in the balance of the aquatic community will be allowed.
- 37/ For more on translating TMDL load limits into permit limits, see *The Ripple Effect*, Clean Water Network, 2001, page 30. Find *The Ripple Effect* at: [www.cwn.org](http://www.cwn.org) by clicking on "impaired waters."
- 38/ 40 CFR 131.13.





# Appendices



## Appendix A - Glossary of Terms

*This glossary draws heavily from the glossary in U.S. EPA's NPDES Permit Writers Manual (December 1996). For a more complete glossary, see this manual at: [www.epa.gov/owm/permits/pwcourse/manual.htm](http://www.epa.gov/owm/permits/pwcourse/manual.htm).*

**ACUTE TOXICITY:** The toxic effect of a pollutant as measured by effects on aquatic life or humans that are observed over a short period of time — usually within 96 hours or less in a typical aquatic toxicity test.

**ANTIDegradation:** A federally required policy that states must create to protect the existing uses of waters and to maintain waters whose quality is better than established standards and/or exceeds levels necessary to protect aquatic life and recreational uses. In a nutshell, a state's antidegradation policy is intended to keep clean waters clean. Antidegradation also includes special protections for waters designated as "Outstanding National Resource Waters."

**BEST MANAGEMENT PRACTICES (BMPs):** Management activities that are typically associated with efforts to control pollution caused by runoff, or non-point sources of pollution. When BMPs are required in an NPDES permit, there may be a schedule of activities, prohibition of practices, maintenance procedures or other management activities described. BMPs are sometimes used in NPDES permits in place of or in conjunction with effluent limitations. BMPs are also referred to when discussing voluntary nonpoint source programs for the control of polluted runoff, for instance from agricultural fields.

**BEST PROFESSIONAL JUDGMENT (BPJ):** A method used by permit writers to develop technology-based NPDES permits limits and conditions on a case-by-case basis, relying on the past experience and expertise of the permit writer.

**BIOMONITORING:** The monitoring of an effluent's chronic or acute toxicity by exposing representative aquatic organisms to the effluent for a certain time period and observing them for any harmful effects such as inability to reproduce, slowness of growth or outright mortality.

**CHRONIC TOXICITY:** The toxic effects of a pollutant over a longer period time as measured by reduced growth, reduced reproduction, etc. in addition to lethality. Chronic effects take longer to become noticeable than acute effects.

**COMBINED SEWER OVERFLOW (CSO):** An overflow or discharge of wastewater from a combined sewer system before the water has been treated by a sewage treatment plant. A combined sewer is a collection system that carries stormwater as well as domestic wastewater to a centralized sewage treatment plant. CSO discharges generally occur during wet weather when the sewer system becomes overloaded with rainwater or snow melt or when the capacity of the treatment facility is exceeded.

**COMPOSITE SAMPLE:** A water quality monitoring sample made up of two or more individual samples. The composite sample reflects the average water quality over the sampling time period.

**CONVENTIONAL POLLUTANTS:** Defined by federal regulation as BOD, TSS, fecal coliform, oil and grease and pH. (40 CFR 401.16). These are some of the main pollutants associated with municipal sewage treatment plans.

**DESIGNATED USE:** These are the uses, designated in the state water quality standards, which we desire to protect. These uses must be protected under state water quality standards. However, they may or may not be attained at any given point in time (e.g., the waterbody may not be safe for the designated use and so may be identified as impaired under the Total Maximum Daily Load Program). Examples of designated uses include fishing, drinking water supply, secondary contact (not suitable for swimming) or aquatic life.

**DESIGN AVERAGE FLOW:** The average amount of wastewater in millions of gallons per day being discharged from a specific outfall pipe over a given period of time.

**DESIGN MAXIMUM FLOW:** The maximum amount of wastewater in millions of gallons per day that can be discharged from the facility according to the facility's design.

**DISCHARGE MONITORING REPORTS (DMRs):** The forms used by NPDES permit holders to report self-monitored data from their effluent discharges. DMRs are submitted monthly to the agency in charge of permitting.

**EFFLUENT LIMITATIONS:** Restrictions imposed on the quantities, discharge rates and concentrations of pollutants that can be discharged from point sources of pollution into waterways. These restrictions are incorporated into each polluter's NPDES permit under the Clean Water Act.

**EFFLUENT LIMITATION GUIDELINES:** These guidelines are established by regulation under Section 304(b) of the Clean Water Act. They set the national technology-based effluent requirements for an entire, specific industrial category.

**EXISTING USE:** The uses (e.g., swimming, fishing or support of aquatic life) that the waterway supported or was clean enough to support on or after November 28, 1975. These uses must be protected by the state's water quality standards. Examples of existing uses include the presence of a specific endangered species, a recreational fishery or the existence of a swimming area. While designated uses cover broader, more general classes of uses, existing uses can cover specific, often site specific, uses of our waters.

**INDIRECT DISCHARGE:** The discharge of pollutants into a municipal sewage treatment system from any industrial or commercial facility.

**MIXING ZONES:** A mixing zone is a defined area within a waterbody where water quality criteria can be exceeded as long as chronically toxic conditions are prevented. A different type of mixing zone, known as a Zone of Initial Dilution or ZID, is a defined area within a waterbody where water quality criteria can be exceeded as long as acutely toxic conditions are prevented. The mixing zone should be defined, or delineated, within the permit.

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES):** The national system for issuing, modifying, revoking, monitoring and enforcing permits. NPDES permits regulate point sources of pollution. The system also imposes and enforces pretreatment requirements. See Sections 307, 318, 402 and 405 of the Clean Water Act.

**NONPOINT SOURCE:** Nonpoint source pollution, also known as polluted runoff, is the single largest source of water pollution nationwide. Polluted runoff is the result of rain or melting snow carrying pollutants or sediments from the land to the water. Polluted runoff results in water pollution from land-disturbing activities like agriculture, forestry, mining and urban development. Congress added Section 319 to the Clean Water Act in 1987, which directs states to assess their waters for runoff damages and create watershed-based programs to repair damages and prevent further pollution.

**POINT SOURCE:** Any discernible, confine, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fixture, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. See Section 502 of the Clean Water Act.

**PRETREATMENT PROGRAM:** Allows municipal sewage treatment plants to set up a system where the plant receives wastewater from local industries and treats that waste. This allows for centralized treatment of wastes. The treatment plants require the local dischargers to meet certain standards of "pre-treatment" before discharging their waste into their system.

**REASONABLE POTENTIAL ANALYSIS:** The statistical projection of whether a discharge is likely to violate water quality standards. This projection is based on a number of factors including quantity of data and available dilution.

**STORMWATER:** Runoff from rainfall, snow melt runoff and surface runoff and drainage. See 40 CFR 122.26(b)(13).

**SPECIAL CONDITIONS:** Requirements within a NPDES permit which are designed to provide an additional level of control (beyond effluent limits) for the reduction of pollution. Special conditions include pollution prevention requirements, Best Management Practices, additional monitoring requirements and pretreatment requirements.

**TECHNOLOGY-BASED EFFLUENT LIMIT:** A limit on permit discharges for a particular pollutant which is based on the capability of a treatment technology to reduce the pollutant to a certain concentration. (See effluent limitation guidelines)

## Appendix A - Glossary of Terms, *cont.*

**TOTAL MAXIMUM DAILY LOAD:** In short, a TMDL is a calculation and a plan: a calculation of the maximum amount of a pollutant that a river, lake or coastal water can receive before becoming unsafe and a plan to lower pollution to that identified safe level. In the legal sense, a TMDL is “[t]he sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background...” See 40 C.F.R. 130.2(i)

**TRIENNIAL REVIEW:** Clean Water Act regulations require that states review and provide public comment on their water quality standards every three years and submit all changes to EPA for approval.

**VARIANCE:** Allows a modification or waiver of the applicable effluent limitations requirements or timelines of the Clean Water Act. The provisions for variances are found under Sections 301 or 316 of the Act, in 40 CFR 125 or in the applicable effluent limitation guidelines.

**WATER QUALITY-BASED EFFLUENT LIMIT (WQBEL):** Used when a technology-based effluent limit has a reasonable potential to cause or contribute to a violation of water quality standards. The WQBEL is a value set by selecting the most stringent of effluent limits calculated using all applicable criteria for a specific point source to a specific receiving water for a specific pollutant.

**WATER QUALITY CRITERIA:** May be either numeric or narrative. Numeric criteria are scientifically derived limits set for a specific pollutant in order to protect human health or aquatic life (e.g., “Dissolved oxygen levels must be 5.0 ppm or higher). Narrative criteria are statements that describe the desired water quality goal (e.g., “Waters shall be free from floating debris”).

**WATER QUALITY STANDARD:** Made up of the designated use of the waterbody, the numeric or narrative water quality criteria necessary to protect that use and the antidegradation policy used to keep clean waters clean. WQS take the form of laws or regulations, usually promulgated by the states.

**WATERS OF THE UNITED STATES:** All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide. Waters of the United States include but are not limited to all interstate waters and intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds. See 40 CFR 122.2 for the regulatory definition.

**WHOLE EFFLUENT TOXICITY (WET):** The total combined toxic effect of an effluent measured directly with a toxicity test. Testing the effluent as a total package measures any toxic effects created by the combination of pollutants.

## Appendix B - State NPDES Contacts

*These contacts were current as of May 2002. For updates and changes, please visit River Network's searchable database of state Clean Water Act information at [www.rivernetwork.org/cleanwater/cwa\\_search.asp](http://www.rivernetwork.org/cleanwater/cwa_search.asp).*

### **ALABAMA**

Truman Green (Municipal/Domestic), phone: (334) 271-7800, email: [tgg@adem.state.al.us](mailto:tgg@adem.state.al.us)

Ed Hughes (Industrial), phone: (334) 271-7838, email: [ekh@adem.state.al.us](mailto:ekh@adem.state.al.us)

Richard Hulcher (Mining/Construction), phone: (334) 394-4309, email: [rfh@adem.state.al.us](mailto:rfh@adem.state.al.us)

### **ALASKA**

Alaska is not delegated permit authority. The Alaska contact is Pete McGee, phone: (907) 451-2101, email: [pmcgee@envircon.state.ak.us](mailto:pmcgee@envircon.state.ak.us).

### **ARIZONA**

Arizona is not delegated permit authority. The Arizona contact is Chris Varga, phone: (602) 207-4665, email: [varga.chris@ev.state.az.us](mailto:varga.chris@ev.state.az.us)

### **ARKANSAS**

Marysia Jastrzebski, phone: (501) 682-0629, email: [marysia@adeq.state.ar.us](mailto:marysia@adeq.state.ar.us)

### **CALIFORNIA**

John Youngerman, phone: (916) 341-5501, email: [younj@dwq.swrcb.ca.gov](mailto:younj@dwq.swrcb.ca.gov)

### **COLORADO**

Susan Nachtrieb, phone: (303) 692-3510, email: [susan.nachtrieb@state.co.us](mailto:susan.nachtrieb@state.co.us)

### **CONNECTICUT**

Richard Mason, phone: (860) 424-3804, email: [richard.mason@po.state.ct.us](mailto:richard.mason@po.state.ct.us)

### **DELAWARE**

Peder Hansen, phone: (302) 739-5731, email: [phansen@state.de.us](mailto:phansen@state.de.us)

### **DISTRICT OF COLUMBIA**

The District of Columbia is not delegated permit authority. The District contact is William Ruby, phone: (202) 535-2193, email: [William.Ruby@dc.gov](mailto:William.Ruby@dc.gov). The U.S. EPA contact is Joseph Piotrowski, phone: (215) 814-5730.

### **FLORIDA**

John Coates (Wastewater), phone: (850) 921-9468, email: [john.coates@dep.state.fl.us](mailto:john.coates@dep.state.fl.us)

### **GEORGIA**

David Bullard (Municipal), phone: (404) 362-2680, email: [david\\_bullard@mail.dnr.state.ga.us](mailto:david_bullard@mail.dnr.state.ga.us)

Mike Creason (Industrial), phone: (404) 362-2680, email: [mike\\_creason@mail.dnr.state.ga.us](mailto:mike_creason@mail.dnr.state.ga.us)

### **HAWAII**

Denis Lau, phone: (808) 586-4309, email: [dlau@eha.health.state.hi.us](mailto:dlau@eha.health.state.hi.us)

### **IDAHO**

Rick Huddleston, phone: (208) 373-0561, email: [rhuddleston@deq.state.id.us](mailto:rhuddleston@deq.state.id.us)

### **ILLINOIS**

Tom McSwiggin, Bureau of Water, phone: (217) 782-0610, email: [epa1239@epa.state.il.us](mailto:epa1239@epa.state.il.us)

### **INDIANA**

Catherine Hess (Municipal), phone: (317) 232-8704, email: [chess@dem.state.in.us](mailto:chess@dem.state.in.us)

Steve Roush (Industrial), phone: (317) 232-8706, email: [sroush@dem.state.in.us](mailto:sroush@dem.state.in.us)

### **IOWA**

Wayne Farrand, phone: (515) 281-8877, email: [wayne.farrand@dnr.state.ia.us](mailto:wayne.farrand@dnr.state.ia.us)

### **KANSAS**

Rod Geisler (Municipal), phone: (785) 296-5527, email: [rgeisler@kdhe.state.ks.us](mailto:rgeisler@kdhe.state.ks.us)

Don Carlson (Industrial), phone: (785) 296-5547, email: [dcarlson@kdhe.state.ks.us](mailto:dcarlson@kdhe.state.ks.us)

### **KENTUCKY**

Bruce Scott, phone: (502) 564-3410 ext. 437, email: [bruce.scott@mail.state.ky.us](mailto:bruce.scott@mail.state.ky.us)

### **LOUISIANA**

Tom Killeen, phone: (225) 765-0508, email: [tom\\_k@deq.state.la.us](mailto:tom_k@deq.state.la.us)

## Appendix B - State NPDES Contacts, *cont.*

### **MAINE**

Brian Kavanah, phone: (207) 287-7700,  
email: Brian.W.Kavanah@state.me.us

### **MARYLAND**

Jim Dieter, phone: (410) 631-3619,  
email: jdieter@mde.state.md.us

### **MASSACHUSETTS**

Paul Hogan, phone: (508) 767-2796,  
email: paul.hogan@state.ma.us

### **MICHIGAN**

William McCracken, phone: (517) 335-4114,  
email: mccrackw@state.mi.us

### **MINNESOTA**

Charlotte Morrison, phone: (651) 296-7229,  
email: charlotte.morrison@pca.state.mn.us

### **MISSISSIPPI**

Jerry Cain, phone: (601) 961-5073,  
email: jerry\_cain@deq.state.ms.us

### **MISSOURI**

Phil Shroeder, phone: (573) 751-6825,  
email: nrschrp@mail.dnr.state.mo.us

### **MONTANA**

Bonnie Lovelace, phone: (406) 444-4969,  
email: blovelace@state.mt.us

### **NEBRASKA**

Rick Bay, phone: (402) 471-4200,  
email: deq017@mail.deq.state.ne.us

### **NEVADA**

Jon Palm, phone: (775) 687-4670 x3050,  
email: jpalm@govmail.state.nv.us

### **NEW HAMPSHIRE**

New Hampshire is not delegated permit authority. The New Hampshire contact is George Berlandi, phone: (603) 271-2458, email: gberlandi@des.state.nh.us. The U.S. EPA contact is Fred Gay, phone: (617) 918-1297.

### **NEW JERSEY**

Narinder Ahuja, phone: (609) 292-4543,  
email: nahuja@dep.state.nj.us

### **NEW MEXICO**

New Mexico is not delegated permit authority. The New Mexico contact is Glen Saums, phone: (505) 827-2827, email: glen\_saums@nmenv.state.nm.us. The U.S. EPA contact is Jane Watson, phone: (214) 665-7180, email: watson.jane@epa.gov.

### **NEW YORK**

Warren Lavery, phone: (518) 402-8110,  
email: wtlavery@gw.dec.state.ny.us

### **NORTH CAROLINA**

Dave Goodrich, phone: (919) 733-5083 ext. 517,  
email: dave.goodrich@ncmail.net

### **NORTH DAKOTA**

Gary Bracht, phone: (701) 328-5227,  
email: gbracht@state.nd.us

### **OHIO**

Jennifer Leshnock (Municipal), phone: (614) 644-2022, email: jennifer.leshnock@epa.state.oh.us

Mark Mann (Industrial), phone: (614) 644-2023,  
email: mark.mann@epa.state.oh.us

### **OKLAHOMA**

Jon Craig, phone: (405) 702-8100,  
email: Jon.Craig@deqmail.state.ok.us

### **OREGON**

Mike Kortenhof, phone: (503) 229-6066,  
email: kortenhof.mike@deq.state.or.us

### **PENNSYLVANIA**

R.B. Patel, phone: (717) 787-8184,  
email: rbpatel@state.pa.us

### **RHODE ISLAND**

Eric Beck, phone: (401) 222-4700 x7202,  
email: ebeck@dem.state.ri.us

**SOUTH CAROLINA**

Marion Sadler, phone: (803) 898-4167,  
email: sadlermf@columb32.dhec.state.sc.us

**SOUTH DAKOTA**

Lonnie Steinke, phone: (605) 773-3351,  
email: lonnies@denr.state.sd.us

**TENNESSEE**

Saya Qualls, phone: (615) 532-0652,  
email: squalls@mail.state.tn.us

**TEXAS**

L'oreal Stepney, phone: (512) 239-1321,  
email: lstepney@tnrcc.state.tx.us

**UTAH**

Gayle Smith, phone: (801) 538-6779,  
email: gsmith@deq.state.ut.us

**VERMONT**

Marilyn Davis, phone: (802) 241-3822,  
email: marilynd@dec.anr.state.vt.us

**VIRGINIA**

Dale Phillips, phone: (804) 698-4077,  
email: mdphillips@deq.state.va.us

**WASHINGTON**

Gary Bailey, phone: (360) 407-6433,  
email: gbai461@ecy.wa.gov

**WEST VIRGINIA**

Anne Howell, phone: (304) 759-0530,  
email: ahowell@mail.dep.state.wv.us

**WISCONSIN**

Duane Schuettpelz, phone: (608) 266-0156,  
email: schued@dnr.state.wi.us

**WYOMING**

Todd Parfitt, phone: (307) 777-7092,  
email: tparfi@state.wy.us

## Appendix C - NPDES Permit Resources

### Handbooks, regulations and other materials

- *The Code of Federal Regulations*. The easiest place to look for the citations in this guide or to read up on other regulations is the searchable CFR site at: [www.access.gpo.gov/nara/cfr/index.html](http://www.access.gpo.gov/nara/cfr/index.html)
- *USEPA Permit Writers' Manual*. On-line access to USEPA Permit Writers' Manual (EPA 833-B-96-003, which can be ordered for free at 1-800-490-9198); a great resource for those interested in water pollution permits from a more advanced technical and policy level. Find it at [www.epa.gov/own/permits/pwcourse/manual.htm](http://www.epa.gov/own/permits/pwcourse/manual.htm).
- *Water Pollution Permitting 101*. This paper presents a brief history and introduction to the national water pollution control permitting program as administered by the U.S. Environmental Protection Agency (EPA) and provides an overview of the permitting activities implemented through the NPDES program today. Find it at [www.epa.gov/owm/permits/pwcourse/101pape/htm](http://www.epa.gov/owm/permits/pwcourse/101pape/htm).
- *The Clean Water Act: An Owner's Manual*. River Network, 1999. A great general guide for citizens who want to learn more about how permitting fits into the whole slew of protections under the Clean Water Act. Available through River Network at [www.rivernetwork.org](http://www.rivernetwork.org).
- *The Clean Water Act 20 Years Later*. Robert W. Adler et al., 1993. A look at the successes of 20 years of the Act and the challenges of the future. Contact the Natural Resources Defense Council at: (202) 289-6868.
- *Clean Water Report Card*. Environmental Working Group's report on expired NPDES permits. The report found that all 6,700 Clean Water Act National Pollution Discharge Elimination System (NPDES) permits for major facilities shows that in 12 states more than half of all water pollution permits for major polluters are expired. More than one third of all permits are expired in 17 states, and in 44 states and the District of Columbia more than 10% are expired. The report includes state specific information...check out what's going on in your own state! Find it at: [www.ewg.org/pub/home/reports/reportcard/home.html](http://www.ewg.org/pub/home/reports/reportcard/home.html).

### U.S. Environmental Protection Agency Websites

- **EPA's NPDES site** at [www.epa.gov/owm/npdes.htm](http://www.epa.gov/owm/npdes.htm). Includes proposed and final rules, fact sheets, links to lots of publications, information on certain types of permits (e.g., factory farm, combined sewer overflows, coalmining), state and regional permit contact lists and more.
- **Permit Compliance System** at [www.epa.gov/enviro/html/pcs/pcs\\_query\\_java.html](http://www.epa.gov/enviro/html/pcs/pcs_query_java.html). The Permit Compliance System (PCS) provides information on companies which have been issued permits to discharge wastewater into rivers. You can review information on when a permit was issued and expires, how much the company is permitted to discharge and the actual monitoring data showing what the company has discharged. The Water Discharge Permits Query Form allows you to retrieve selected data from the Permit Compliance System database in Envirofacts regarding facilities holding National Pollutant Discharge Elimination System permits. Specify the facilities by using a combination of facility name, geographic location, standard industrial classification and chemicals.
- **Envirofacts**. Single point of access to select U.S. environmental data; provides the public with direct access to the wealth of information contained in the U.S. EPA's databases. Find it at: [www.epa.gov/enviro/](http://www.epa.gov/enviro/).
- **Envirofacts Water Program**. Find it at: [www.epa.gov/enviro/html/water.html](http://www.epa.gov/enviro/html/water.html).
  - (1a) **Water Discharge Permits query form**. Search the Permit Compliance System at: [www.epa.gov/enviro/html/pcs/pcs\\_query\\_java.html](http://www.epa.gov/enviro/html/pcs/pcs_query_java.html).
  - (1b) **PCS customized query engine**. This query allows you to select any data element in PCS to build a tabular report or a Comma Separated Value (CSV) file for downloading at: [www.epa.gov/enviro/html/pcs/adhoc.html](http://www.epa.gov/enviro/html/pcs/adhoc.html).
  - (2) **Safe Drinking Water Information System**. Safe Drinking Water query form; search the SDWIS database at: [www.epa.gov/enviro/html/sdwis/sdwis\\_query.html](http://www.epa.gov/enviro/html/sdwis/sdwis_query.html).
  - (3) **National Drinking Water Contaminant Occurrence database**. The purpose of this database is to support U.S. EPA's decisions related to identifying contaminants for regulation and subsequent regulation development; contains occurrence data from both Public Water Systems (PWS) and other sources (like the USGS National Water Information System) on physical, chemical, microbial and radiological contaminants for both detections and non-detects. Find it at: [www.epa.gov/ncod](http://www.epa.gov/ncod).



- **Surf Your Watershed** at [www.epa.gov/surf](http://www.epa.gov/surf). An interactive U.S. EPA service to help citizens locate, use and share environmental information about their local watershed.
- **EnviroMapper** at: [www.epa.gov/enviro/html/em/index.html](http://www.epa.gov/enviro/html/em/index.html). EnviroMapper is an interactive mapping tool which includes information on drinking water, toxic and air releases, hazardous waste, water discharge permits and Superfund sites; allows users to zoom in to an area, or enter a state, county EPA's Envirofacts Warehouse; also links to text reports, with even more information.
- **EnviroMapper** for Watersheds 2.0 at: <http://map2.epa.gov/enviomapper/>. Specific EnviroMapper application for surface water information, particularly water quality conditions; very useful to inform public of water quality conditions in their area.
- **Locate Your Watershed** at: [www.epa.gov/surf3/locate](http://www.epa.gov/surf3/locate). Use your ZIP code, county name, city name, stream name or other information to determine the name and geographic extent of your watershed and access its *Watershed Profile*.
- **Index of Watershed Indicators** at: [www.epa.gov/iwi](http://www.epa.gov/iwi). A compilation of information on the health of aquatic resources in the United States.
- **Watershed Information Network** at: [www.epa.gov/win](http://www.epa.gov/win). A guide to information and services for protecting and restoring water resources.
- **Non-Point Source (NPS) Pollution**. Find EPA's general non-point information at: [www.epa.gov/ow/nps](http://www.epa.gov/ow/nps). Or find all sorts of NPS documents at: [www.epa.gov/owow/nps/pubs.html](http://www.epa.gov/owow/nps/pubs.html).

## On-Line Maps

*It is worthwhile to look up the specific location of a discharger to determine if there are important recreational or biological areas downstream, such as drinking water intakes, parks or other recreational areas, boat launches, swimming areas, etc.*

- **EnviroMapper for Watersheds 2.0** at: <http://map2.epa.gov/enviomapper/>. See information in "U.S. Environmental Protection Agency Websites"; general information about EnviroMapper is available at: [www.epa.gov/enviro/html/em/index.html](http://www.epa.gov/enviro/html/em/index.html).
- **National Atlas** at: [www.nationalatlas.gov](http://www.nationalatlas.gov).
- **MapQuest** at: [www.mapquest.com](http://www.mapquest.com).
- **Microsoft TerraServer** at: <http://terraserver.microsoft.com>. Provides access to detailed satellite topographic images.

## Trainings

*Trainings offer a great way to dive deeper into permits or to explore related areas such as water quality standards or Total Maximum Daily Load watershed cleanup plans.*

- **River Network** and the **Clean Water Network** both offer a range of trainings and tools for water activists. Contact them at:
  - RIVER NETWORK  
520 SW Sixth Avenue, Suite 1130  
Portland, Oregon 97204-1511  
tel: (503) 241-3506  
E-mail: [info@rivernetwork.org](mailto:info@rivernetwork.org)  
[www.rivernetwork.org](http://www.rivernetwork.org)
  - CLEAN WATER NETWORK  
1200 New York Ave. N.W., Suite 400  
Washington D.C. 20005  
tel:(203) 289-2395  
Merritt Frey, tel:(208) 345-7776  
E-mail: [mkfrey@mindspring.com](mailto:mkfrey@mindspring.com)  
[www.cwn.org](http://www.cwn.org)
- **EPA's Permit Writers' Trainings**. This 5-day course is, unfortunately, hard for the public to get into. Five days is a lot for a citizen to invest as well. However, if you are really gung-ho, it is worth asking about, as the materials and in-depth nature of the class really allows you to get into the meat of the thing. Find the details at: [www.epa.gov/owow.npdesup.htm](http://www.epa.gov/owow.npdesup.htm).
- **Water Environment Federation**. U.S. EPA and WEF have joined together to present a two-day workshop for everyone interested in NPDES permits. This workshop is intended to assist applicants prepare more thorough applications and understand how they can participate in the process. The workshop presents an overview of the NPDES program, along with exercises to help complete an NPDES application. The two-day course consists of both lecture and exercises analyzing a sample application with supplemental information as a model. Fee: \$277. Find the details at: [www.wef.org/ConferencesWorkshop\\_Semin/NPDES\\_course.jhtml](http://www.wef.org/ConferencesWorkshop_Semin/NPDES_course.jhtml).

### Estimated Costs for Common Analytical Procedures<sup>1,2</sup>

BOD <sub>5</sub>	\$30
TSS	\$15
TOC	\$60
Oil and Grease	\$35
Odor	\$30
Color	\$30
Turbidity	\$30
Fecal coliform	\$15
Metals (each)	\$15
Cyanide	\$35
Gasoline (Benzene, Toluene, Xylene)	\$100
Purgeable Halocarbons (EPA Method 601)	\$113
Acrolein and Acrylonitrile (EPA Method 603)	\$133
Purgeables (EPA Method 624)	\$251
Phenols (EPA Method 604)	\$160
Organochlorine Pesticides and PCBs (EPA Method 608)	\$157
Polynuclear Aromatic Hydrocarbons (EPA Method 610)	\$175
Dioxin (2,3,7,8-TCDD) (EPA Method 613)	\$400
Base/Neutrals and Acids (EPA Method 625)	\$434
Priority pollution scan <sup>3</sup>	\$2,000
Acute WET	\$750
Chronic WET	\$1,500

<sup>1</sup> Table from *U.S. EPA NPDES Permit Writers' Manual*, EPA-833-B-96-003, U.S. EPA Office of Water, December 1996.

<sup>2</sup> Based on 1994-1995 costs

<sup>3</sup> Includes 13 metals, cyanide, dioxin, volatiles (purgeables), base/neutral and acids, pesticides and PCBs, and asbestos.