

WASHINGTON STATE
DEPARTMENT OF
E C O L O G Y

Water Quality Program Annual Compliance Report

Calendar Year 2003

**July 2004
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Water Quality Program Annual Compliance Report

Calendar Year 2003

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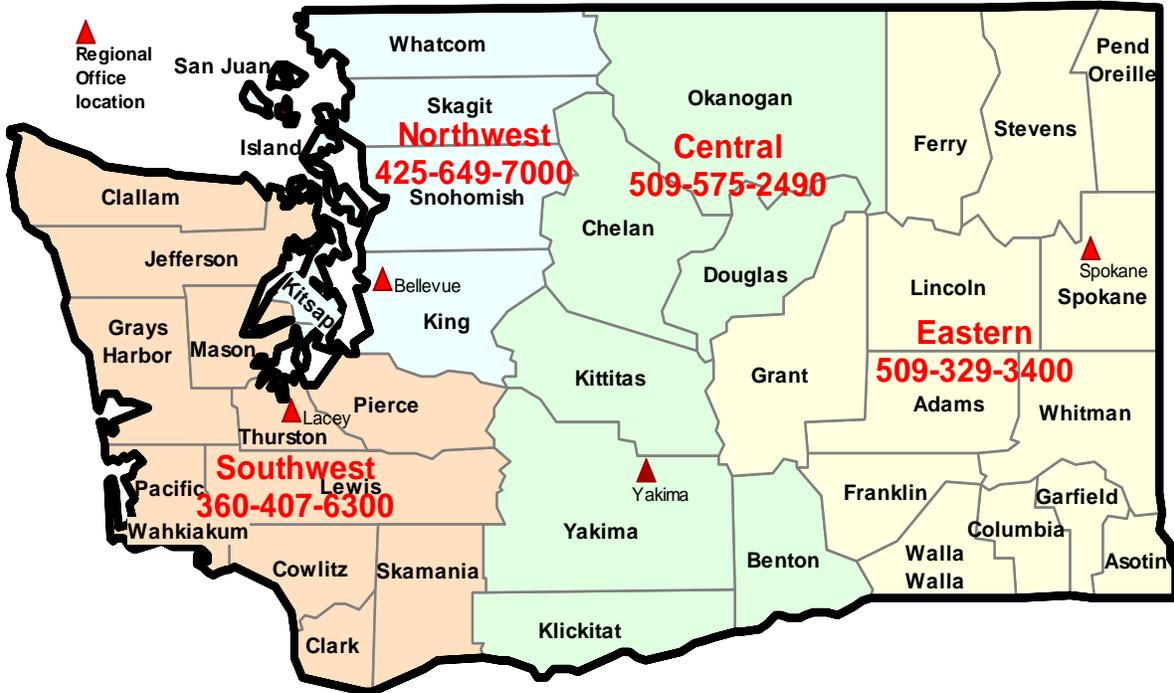
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Nuclear Waste Program
Eastern Regional Office
Northwest Regional Office
Bellingham Field Office
Southwest Regional Office
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Central Regional Office
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Executive Summary

This report represents a summary of compliance with water quality laws for calendar year 2003. The Washington State Department of Ecology's (Ecology) water quality program regulates any public or private activity discharging to waters of the state that contributes to or causes pollution. The report provides an overview of the water quality program. It discusses point source and nonpoint source pollution. It also explains both permit-related activities of the program and activities where compliance is sought through nonpermitting means such as technical assistance, inspections, education, and enforcement.

Ecology is hoping that this report is informative internally to the agency as well as to the public. This report follows the format used for calendar year 2001 and 2002. We look forward to receiving constructive comments from people who use this information in an effort to improve reports in future years.

Washington State has over 4,000 industrial and municipal facilities that are issued permits to protect water quality. Ecology issues the permits to allow the industrial or municipal facilities to manage pollution that may be safely discharged to lakes, rivers, marine, or ground waters. Federal or state regulation requires about half of those facilities to provide monthly or quarterly reports (discharge monitoring reports or DMRs) about their discharge.

Those reports and inspections by Ecology showed that, in 2003, Washington had an approximate 98 percent compliance rate for water quality protection. The compliance rate is similar to recent years.

In 2003, the overall number of permits managed by staff continued to increase. There was a slight increase in the total number of permits while our staffing level remained the same.

Between 1997 and 2003, there was a slight reduction in the time from the date of a violation to the date when Ecology issued an order in response to the noncompliance.

The compliance rate for industrial facilities in calendar year 2003 remained higher than 98 percent for discharge monitoring reports. However, even though there were 15 percent fewer industrial facilities under permit in 2003 as compared to 1999, there was an increase of about one percent in the number of facilities with five or more violations. Ecology is closely tracking the number of facilities with five or more violations per year. Out of the 78 facilities with five or more violations, 30 (or 38 percent) did not have some form of documented compliance action or enforcement. This is a reduction of 36 percent from calendar year 2000.

Municipal facilities' compliance rate with their discharge monitoring reports remains near 97.5 percent. The number of municipal facilities under permit was down by four. However, approximately 42 percent of facilities had five or more violations. Of the 125 municipal facilities that violated their permits five or more times, 24 percent did not receive some form of documented compliance action or enforcement.

The facilities covered by general permits that are required to submit discharge monitoring reports reported a 98 percent compliance rate with permit requirements. Of the 58 facilities (or 7 percent) with five or more violations, 86 documented compliance or formal enforcement actions

were taken. However, 22 percent of the facilities with five or more violations had no documented action taken.

In summary, for calendar year 2003, the total number of facilities under general permits continues to incrementally increase with the same overall number of staff resources. The compliance rate remains high for municipal and industrial facilities based on the data in discharge monitoring reports. There were more industrial and municipal facilities overall. Industrial facilities with five or more violations decreased, and Ecology took more than 1,313 compliance or enforcement actions on facilities with permits.

The Water Quality Program in Washington

Introduction

Water quality in the state of Washington is protected by a number of different government agencies. Federal, state, county, and local city governments all work together to protect our waterways. The U.S. Environmental Protection Agency (EPA) provides oversight to the National Pollution Discharge Elimination System (NPDES) permit program and is directly responsible for water quality issues on federal and tribal lands. The Washington State Department of Ecology (Ecology) issues permits for discharges that go directly into state surface and ground waters and provides various levels of guidance, oversight, and direct enforcement on a wide range of other activities with the potential to harm the state's waterways. County and city governments protect state waters by ensuring the proper planning, design, and construction of building and other land development activities in their own jurisdictions. Frequently, these governments engage in other projects to protect and enhance our lakes, streams, and rivers. Ecology's regulatory role is reviewed below.

Regulatory Authority

Authority for Ecology to regulate state and federal water pollution is contained in Chapter 90.48 RCW (Revised Code of Washington). The state of Washington began a formal pollution control program in 1945 with the creation of the Pollution Control Commission and enactment of Chapter 90.48 RCW. Washington adopted a wastewater discharge permit system in 1955. In 1971, Washington passed the Pollution Disclosure Act of 1971 (Chapter 90.52 RCW), which required that all dischargers provide a high level of wastewater treatment regardless of the quality of water to which they discharged (technology-based control). In 1972, the federal government also adopted a similarly, principled law called the Water Pollution Control Act Amendments of 1972 (PL 92-500). Despite the name ("amendments"), it was essentially a new law. Since 1977, these amendments have been popularly called the Clean Water Act (CWA or "the Act"). In conjunction with our state laws, the Clean Water Act forms the basis and framework for our water quality regulatory program today (Appendix Table 1). In 1973, Washington State's water pollution control law (Chapter 90.48 RCW) was amended to enable the state to apply to EPA for authority to administer the NPDES program. In November of 1973, Washington became one of the first states to be delegated by the federal government to administer the NPDES program.

Point Source Pollution

A wastewater discharge permit is a legal document issued by Ecology to control the discharge of waste water to surface waters and ground waters. Surface water discharges are issued permits under Chapter 173-220 WAC and are NPDES permits. Ground water discharges are issued permits under Chapter 173-216 WAC and our state water quality permits. Permits place limits on the quantity and concentrations of contaminants that may be discharged. When necessary, permits require treatment of waste water or impose other operating conditions on dischargers to ensure that permit limits are met and water quality is protected. Permits may also set other conditions and requirements, including monitoring and reporting, spill prevention planning, and other activities.

A key element of the permit program is the concept of “self monitoring.” Permit holders are required to representatively sample, accurately test, and truthfully report the quality of the waste water they discharge. As noted earlier, Ecology oversees permit compliance through its laboratory accreditation program, on-site inspections, review of submitted monitoring data, and review and approval of other permit-required documents.

Types of Wastewater Permits

There are two types of wastewater discharge permits. They are “individual permits” and “general permits.” Both approaches are designed to satisfy the requirements for discharge permits under both the federal Water Pollution Control Act and the state law governing water pollution control. They differ in how they define and resolve the wastewater issues of individual dischargers and how much time, effort, and money it takes to manage a permit. Extensive information on the permit writing process and related issues can be found at the Ecology website at www.ecy.wa.gov/programs/wq/permits/index.html

Individual Permit

An individual permit is written for a single facility. In general, municipal wastewater treatment plants and businesses with industrial processes that generate waste water are issued individual permits. Issuance includes writing a description of the individual facility (its processes and discharge characteristics) in a “fact sheet.” This evaluation of the facility and legal requirements leads to a permit that specifies discharge limits, monitoring, and reporting requirements tailored to the individual facility. This allows a more precise fit between discharge characteristics and permit requirements, but it can be time consuming and expensive. This approach is best suited to permits for facilities that have little in common with other facilities and facilities that have unique processes and environmental concerns. Individual permits may be federal permits delegated to Washington State (NPDES permits) or state waste discharge permits. There were 794 active individual permits in Washington in 2003, and of these more than half are federal NPDES permits. There are copies of several individual permits and fact sheets that can be found at the Ecology website at www.ecy.wa.gov/programs/wq/permits/index.html

General Permit

A general permit is written for a group of facilities that are very similar in processes and wastewater characteristics. When enough facilities with similar production processes generate similar pollutants, Ecology considers establishing a general permit. Such permits have one fact sheet that describes the group of facilities as a whole and the general characteristics of the waste water. A single permit is written that looks the same for all facilities that meet the requirements for coverage under the general permit. This approach is best suited to a group of facilities that have much in common, in which a standard set of requirements will achieve environmental protection. This is the least expensive and least time-consuming approach when there are a number of facilities that are acceptable candidates for the general permit. In developing general permits, Ecology conducts a small business economic impact analysis and publishes information about the general permit in the state register. In addition, Ecology typically holds public workshops and hearings on new general permits. The types of general permits currently in effect are noted in Table 2; an extended table with permit definitions is in the Appendix.

Water Quality Permits as of December 31, 2003

PERMIT TYPE	TOTAL ACTIVE PERMITS
NPDES Major	80
NPDES Minor	375
State to Ground Water	167
State to POTW (publicly-owned treatment works)	172
NPDES Stormwater Construction General Permit	964
NPDES Industrial Stormwater General Permit	1149
Municipal Stormwater General Permit	2
Boatyard General Permit	103
Dairy General Permit	109
Fish Hatchery General Permit	84
Fresh Fruit Packer General Permit	197
Water Treatment Plant General Permit	31
Sand and Gravel General Permit	878
Aquatic Pesticides General Permit	44

Nonpoint Source Pollution

Nonpoint source (NPS) pollution is pollution that enters a water body from water-based or land-use activities, including atmospheric deposition; surface water runoff from agricultural lands, urban areas, and forest lands; subsurface or underground sources; and discharges from boats or other marine vessels. Sometimes nonpoint pollution can be traced to several sources; sometimes it cannot be traced at all. Nonpoint source water pollution is a growing threat to the environment and public health. Washington State has been a leader in addressing NPS pollution for many years. We already have many tools to achieve cleaner water through nonpoint source management. Some are regulatory, while the majority are voluntary programs. Watershed efforts have addressed problems in most parts of the state. There are numerous examples of innovative approaches to management and funding. Though many innovative approaches are available in Washington State, several factors limit their success: the high cost of fixing old problems, local land use decisions, the lack of multi-agency coordination and focus, and the lack of information concerning watershed processes and conditions.

More information on nonpoint pollution and Ecology's overall efforts to combat it can be found at www.ecy.wa.gov/programs/wq/nonpoint/index.html#Overview

Enforcement

The federal Clean Water Act and the state Water Pollution Control Act declare it is the responsibility of all facilities and entities to comply with water quality laws and regulations. The water quality program generally uses escalating levels of enforcement to bring facilities into compliance. This escalation may begin with technical assistance and progress through issuance of an order or civil penalty. Formal enforcement is just one of many compliance tools and is often not necessary to achieve compliance. When compliance actions are necessary, the following are taken into consideration:

- Seriousness of the violation
- Behavior of the discharger
- Program resources available for compliance

Water quality program staff perform their enforcement and compliance duties in accordance with a variety of federal and state laws and regulations. It is the objective of Ecology's water quality program to respond to all permit violations.

Water Quality Enforcement Guidelines

The water quality program ensures that a consistent statewide approach to compliance and enforcement activities is taken by following the Department of Ecology's Compliance Assurance Manual. These guidelines detail the principles and procedures to be taken when staff address violations. The various formal and informal tools available to staff are described along with the proper use of each compliance tool. The tools available to gain compliance are discussed below.

Staff members are alerted to violations through a number of mechanisms. Permittees are required to submit monitoring reports and other studies to allow the staff to determine compliance. Wastewater monitoring results are usually submitted monthly or quarterly and are reviewed by Ecology staff. Violations or other compliance problems are also detected during the review of engineering reports, field inspections, and complaints. Depending on the severity of a violation or series of violations, staff respond using either informal enforcement tools or formal tools, which are described below.

Informal Tools

When a violation is detected, water quality staff members gather initial information. This is accomplished through inspections, documented phone calls, or letters. The violation may result in a warning letter, technical assistance, or both. Dischargers operating under a wastewater discharge permit are required to include, along with their Discharge Monitoring Report (DMR), a discussion of the cause of any violation that occurs and what actions were taken to stop and prevent further violations. An additional informal tool is the Notice of Correction (NOC), which notifies the violator about the laws and regulations broken, the steps needed to resolve the problem and prevent the possibility of a penalty, and the time frame during which corrective actions must be taken. Both the compliance/enforcement staff and facility managers use these informal tools to gain compliance. Many compliance problems are addressed through the review and approval of engineering reports throughout the five-year permit cycle and during the permit renewal process.

Formal Tools

Compliance/enforcement specialists will initiate formal enforcement for serious violations. This process may begin with the issuance of a Notice of Violation (NOV), which requires the violator to provide Ecology with information on the steps being taken to resolve a compliance problem. Upon learning more about a violation and the follow-up actions taken by the violator, an administrative order can be issued that directs the violator to take specified actions to protect water quality. Based upon the effect on the environment and human health, consideration of past compliance with water quality law, and other factors, Ecology may issue a penalty of up to \$10,000 per day, per violation. Ecology may also consider criminal actions against violators. Administrative orders and penalties may be appealed to the Washington State Pollution Control Hearings Board (PCHB) for adjudication.

The Appeal Process

Individuals feeling aggrieved by an administrative order or Notice of Penalty have several legal remedies. Anyone receiving a penalty can directly petition Ecology within 15 days to eliminate or reduce the size of the penalty. Ecology permits, penalties, and administrative orders can also be appealed to the Pollution Control Hearings Board (PCHB). The PCHB is a quasi-judicial hearings board established in 1970 to provide a faster, more efficient procedure to handle appeals made by Ecology and all regional air authorities (Chapter 43.21B RCW). You can learn more about the PCHB at <http://www.eho.wa.gov/Boards/PCHB.asp>

Certification Programs to Protect the Environment

Washington State recognizes the importance of having good scientific data on which to base its environmental decisions, as well as the need for trained treatment plant operators in key positions that protect the environment. This has been accomplished by establishing an accreditation program for environmental laboratories and a certification program for operators of municipal wastewater treatment facilities. These two efforts contribute significantly to the state's environmental compliance efforts by assuring that operators are qualified to run facilities and that samples processed by labs are accurate and consistent.

Operator Certification

Municipal wastewater treatment operators must undergo an in-training period and pass written tests to become certified to run facilities. In addition, there are continuing education requirements to maintain certification. The certification program has an external advisory board comprised of 11 members.

Lab Accreditation

Environmental laboratories are regularly inspected by Ecology's laboratory accreditation program. All laboratories performing tests to meet state permit requirements must participate in a program of state inspections and regular testing that cross-checks the accuracy of their analyses. More information on the accreditation program, as well as a list of approved laboratories, can be accessed at Ecology's web site: www.ecy.wa.gov/programs/eap/labs/labs_main.html

Technical Assistance

Technical assistance to permitted dischargers and others in the regulated community is an important function of the water quality program and is shared by all program staff. Water

quality staff members frequently work with permittees to prevent violations through the proper design of facilities and the development of corrective action strategies.

Nonpoint Technical Assistance

Nonpoint sources are the leading cause of water pollution across the nation and in Washington. Technical assistance is given to dairy and non-dairy livestock operations, storm water, forestry, and aquatic pesticide activities. These operations generally address pollution through the installation of Best Management Practices (BMPs).

Technical studies in our state show that farms (producing crops and raising livestock) can contribute to water pollution. This is particularly true when runoff from several small farms in one watershed combines to create an even greater water quality problem. To help address agricultural sources of water pollution, the Washington Conservation Commission, local conservation districts (CDs), and Ecology entered into the Agricultural Compliance Memorandum of Agreement in 1988. The agreement defines a consistent series of steps that coordinate Ecology's water pollution control responsibilities with CD programs that provide technical assistance to landowners and farm operators. Through the local CD office, a farm owner or operator may receive technical assistance to help develop and implement a water quality management plan, or "farm plan."

Municipal Roving Operators

Ecology's water quality program has also entered into a partnership with EPA to provide direct assistance to smaller municipal wastewater treatment plants through the use of two roving outreach specialists. These specialists travel from plant to plant in response to facility requests for help, to ensure compliance with water quality laws and more effective plant operations. There is one outreach specialist for facilities located on the west side of the Cascade Mountains and one for facilities on the east side of the mountains.

Facility Managers

Ecology facility managers have a number of important responsibilities, including writing wastewater discharge permits, helping municipal permittees with questions regarding state grant and loan programs, reviewing and commenting on a variety of reports, and performing facility inspections. In addition to being available for phone calls and meetings to answer questions about water quality regulations, they provide valuable assistance to permit holders as the facility managers interact with the regulated community every day.

Monitoring Water Quality Compliance

Effluent Limits

Effluent limits are the minimum or maximum permitted levels of a particular pollutant that can be legally discharged in waters of the state by a regulated facility. Effluent limits are derived in two ways: (1) technology-based effluent limits are based on the expected level of treatment available from treatment systems used by various categories of industry and municipalities, and (2) water quality-based effluent limits are derived using mathematical models that calculate the level of treatment needed to prevent water quality standards violations and degradation of quality in receiving waters.

Understanding Compliance Rates

A compliance rate is a percentage of the number of effluent limits actually in compliance, based on total "opportunities" for compliance. Opportunities are the number of effluent limits times

the number of days reported within a given time frame. The compliance rate used in this report is only one measure of environmental compliance and the measure has its limitations. For instance, a facility with a higher compliance rate than another may have more environmentally damaging violations compared to the other facility that has more, but less severe, violations.

What Is an Acceptable Level of Compliance?

The effluent limits established in permits are derived by considering the treatment technology used at the facility, the receiving water's quality, the environmental impacts of the discharge, and the statistical reliability associated with sampling and laboratory procedures. Ecology expects full compliance with the permits it issues.

Enforcement Resources vs. Duties

In the early 1990s, Ecology changed the manner in which it performed its compliance and enforcement duties by creating positions solely responsible for performing formal enforcement. Previously, permit writers and inspectors were responsible for all aspects of permit management, including compliance and enforcement. In order to effectively manage workloads and provide an additional layer of objective analysis, 6.3 enforcement staff members were placed throughout the four Ecology regions.

In 2003, Ecology lost three full-time equivalent employees (FTEs) committed to nonpoint compliance for salmon recovery in the state. In addition, Ecology lost seven dairy inspectors who also did compliance and enforcement as a portion of their responsibilities (Figure 1). Other staff who focus on controlling nonpoint source pollution occasionally perform enforcement as part of their job.

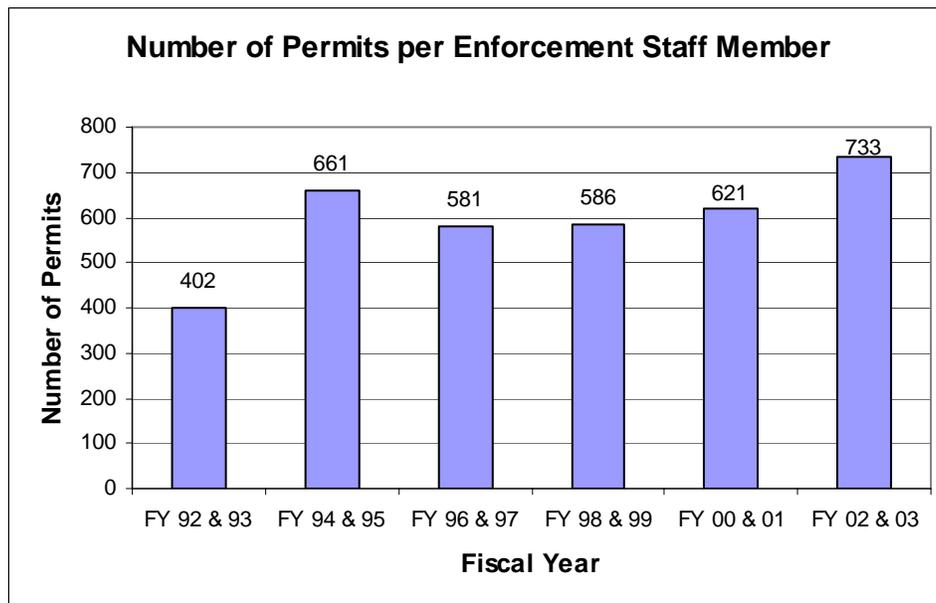


Figure 1

How the Program is Delivered

The water quality program delivers its services through Ecology's four regional offices and through the industrial section of the solid waste program.

The industrial section deals with the large industrial facilities of the state. This section not only does the water quality permitting but also the air quality permits and any other permits that are needed from Ecology for these facilities, allowing for more efficient environmental permitting.

These facilities include the oil, aluminum, and pulp and paper industries. Although the industrial section is not within the water quality program, it uses the guidelines that are developed for water quality permits.

Ecology's four regional offices deliver all other water quality services for point and nonpoint sources within the state. The four regions are identified in the front cover of this report. The work is further divided within each region into municipal and industrial dischargers. In some cases a general permit may be issued from the headquarters of Ecology; however, compliance and enforcement are the responsibility of the region in which the facility is located.

How Timely Is the Program?

One way to measure the effectiveness of the program is through the median time it takes to issue an enforcement action after detection of a violation. As a general objective and guideline, enforcement actions or compliance responses should be taken within 45 days of the date of detection of the violations. Initial formal enforcement actions (including penalties and administrative orders) should be taken as soon as possible, but not later than 90 days from the date of detection of the violation, unless adequate justification for delay exists. Significant violations must result in formal enforcement response as expeditiously as possible, but not later than 30 days from date of detection. Figure 2 demonstrates the various enforcement actions and the median response time associated with them. The 90-day response time frame has been met consistently since 1997. However, the overall three-year trend shows the median enforcement action response time to be increasing for notices of violations and corrections (Figure 2). Since enforcement action is often based on a pattern of recurring behavior after technical assistance has been provided, it is difficult to measure the timeliness of an action. We are working to develop a performance measure that will more accurately reflect the effectiveness of the program. We started tracking that performance measure January 1, 2004. This information will be available for the 2004 Water Quality Program Annual Compliance Report.

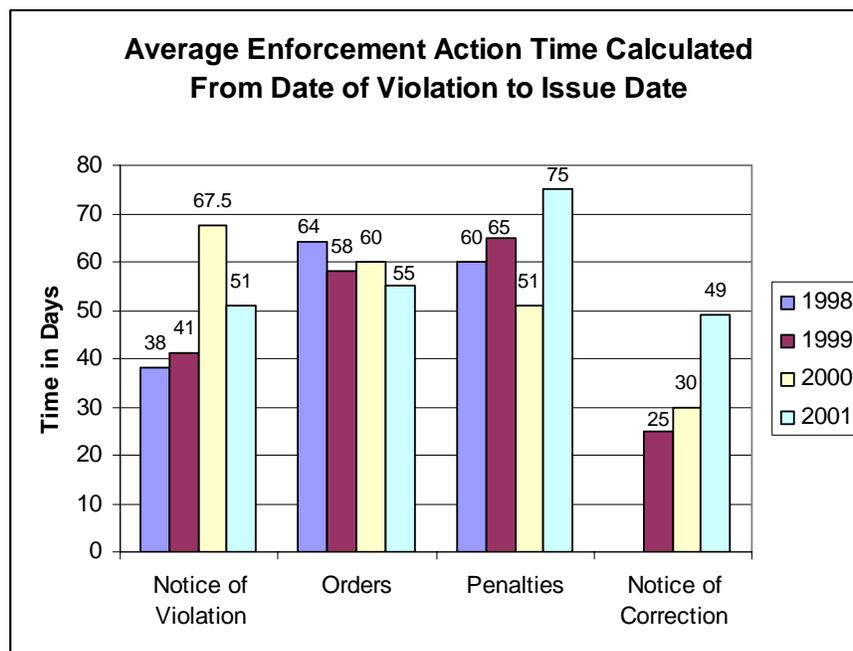


Figure 2

Industrial Facility Compliance

Permit Universe/Complexity

Industries and businesses with the potential to pollute state waters are required to obtain a wastewater discharge permit. Ecology issues both individual and general permits to industry. General permits ensure the environment is protected while simplifying the process for both businesses and the state. Industries that are issued general permits are discussed on page 22 of this document. Industries that are issued permits individually are discussed below.

The wide variety of industries under individual permit include large industries such as oil refineries, aluminum smelters, and pulp and paper processors and smaller ones such as food processors, metal finishers, and circuit board manufacturers. Businesses whose waste is essentially the same character and strength of household wastes that discharge to a wastewater treatment plant (WWTP) do not need a permit. Figure 3 identifies the number of individual facilities permitted by working unit.

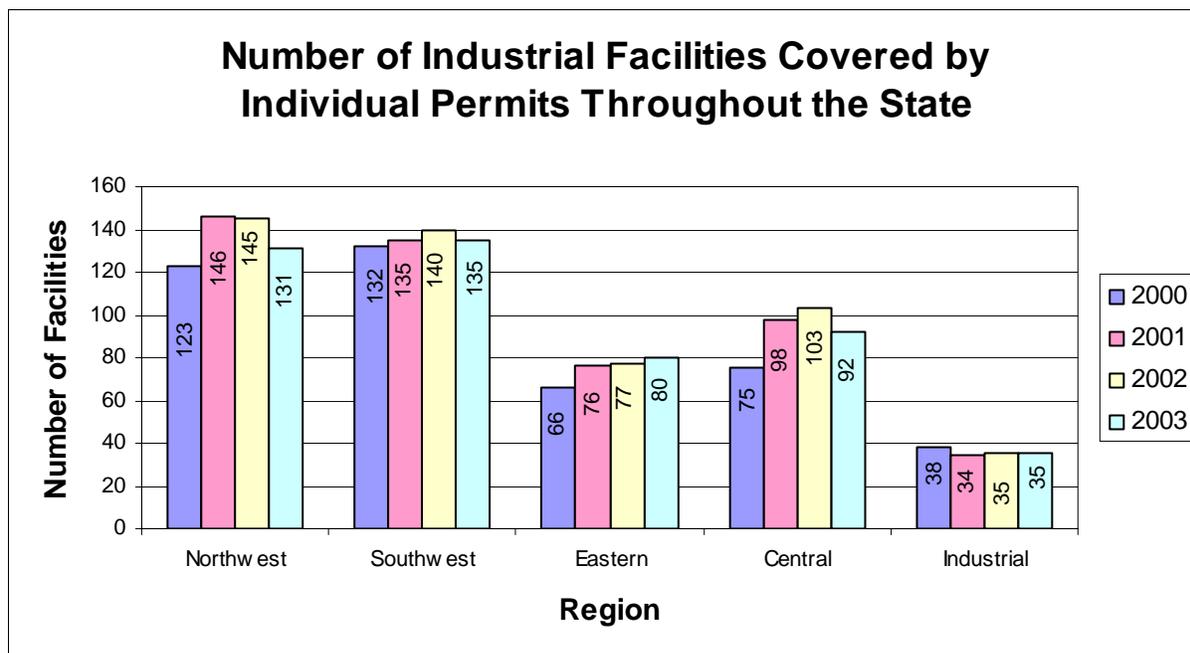


Figure 3

The complexity of operations and magnitude of permit-required testing varies greatly among industrial facilities. Some businesses may conduct only quarterly testing, whereas others have daily monitoring requirements. The scope and frequency of testing is based largely upon the size and complexity of an industry and its potential to harm the environment. Unlike operators at municipal wastewater treatment plants, the operators of treatment equipment at industrial facilities are not required to be certified by the state.

Ecology facility managers are responsible for ensuring compliance at the permitted facilities they manage and working closely with regional enforcement staff. Essential to continued compliance

are the various enforcement tools available under Chapter 90.48 RCW, as well as “informal” enforcement tools consisting of warning letters, technical assistance calls and visits, and Notices of Correction.

What Violations Occurred

Figure 4 shows that overall there were 9,831 more compliance opportunities in 2003 than in 1999. Even so, there were 171 fewer violations that exceeded 20 percent of the permitted effluent limit in 2003 than there were in 1999.

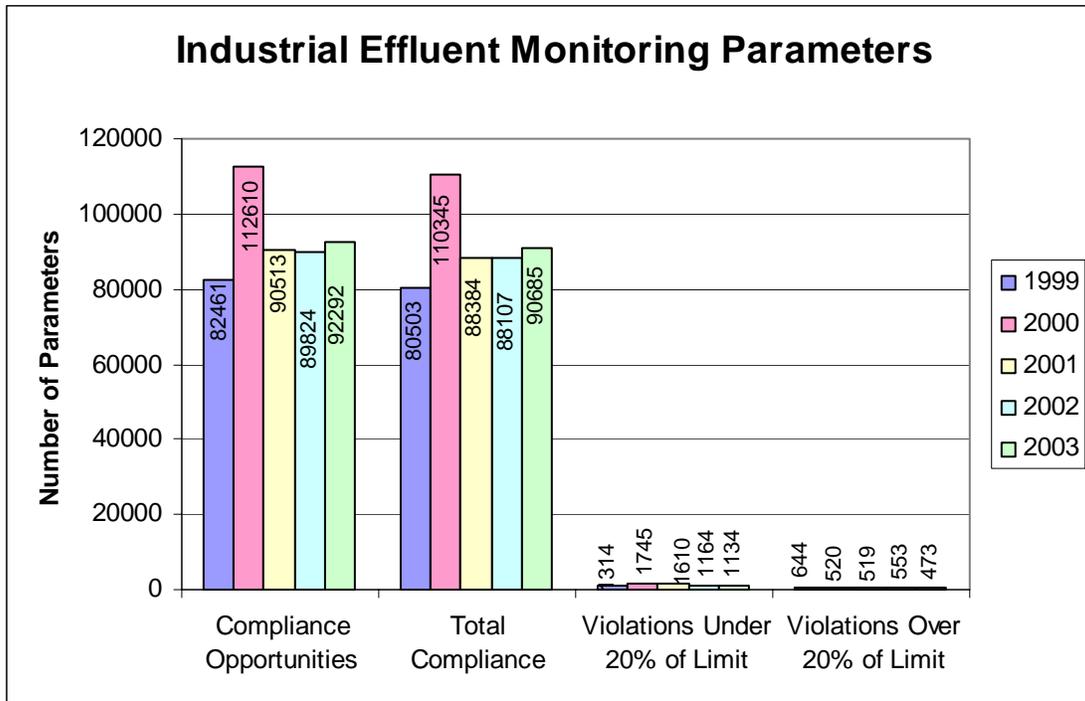


Figure 4

The northwest and eastern regions have the lowest industrial compliance rate at 97.5 percent (Figure 5).

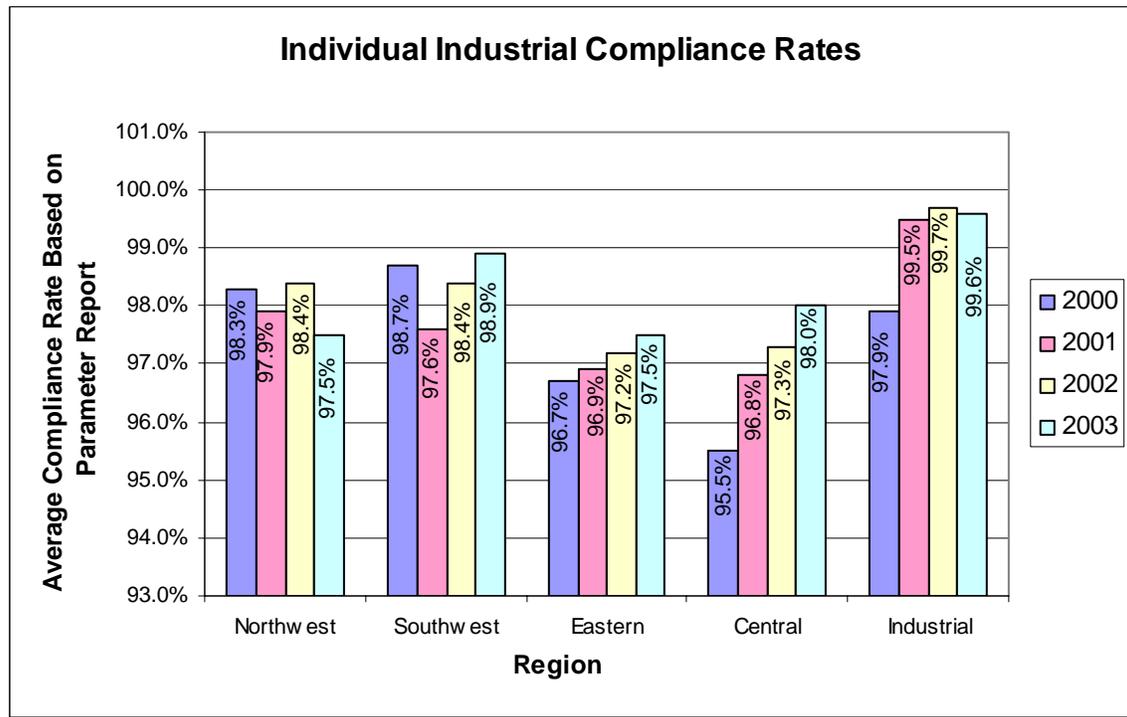


Figure 5

The statewide trend of the overall compliance rate has generally increased over the last five years, with the exception of 1998 and 1999, which showed small reductions. In 1995, the industrial compliance rate was 89.6 percent compared to the 2003 compliance rate of 98.2 percent, an increase of nearly 10 percent in compliance over eight years (see Figure 6).

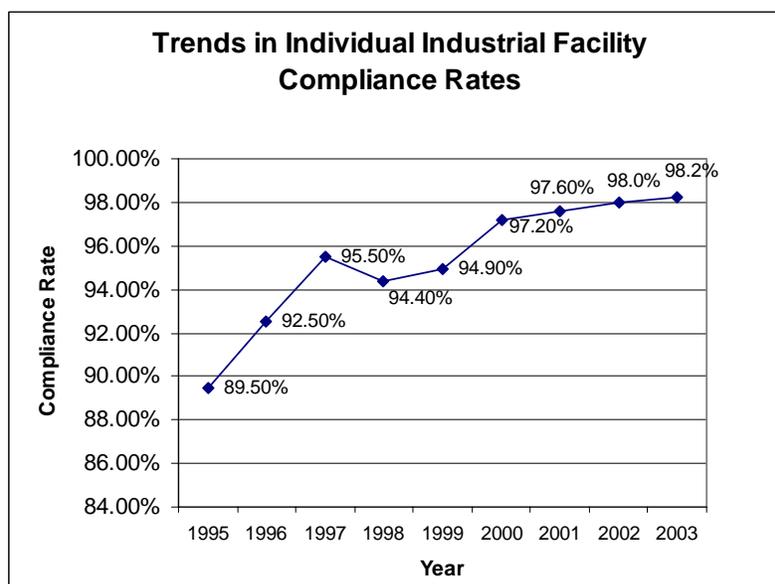


Figure 6

Figure 7 shows there were 410 industrial facilities required to submit discharge monitoring reports in the year 2003, compared to 480 facilities in 1999. Despite the overall decrease of 70 facilities, there was a large increase in facilities with five or more violations: 71 in 1999 to 93 in 2002, but down to 78 in 2003.

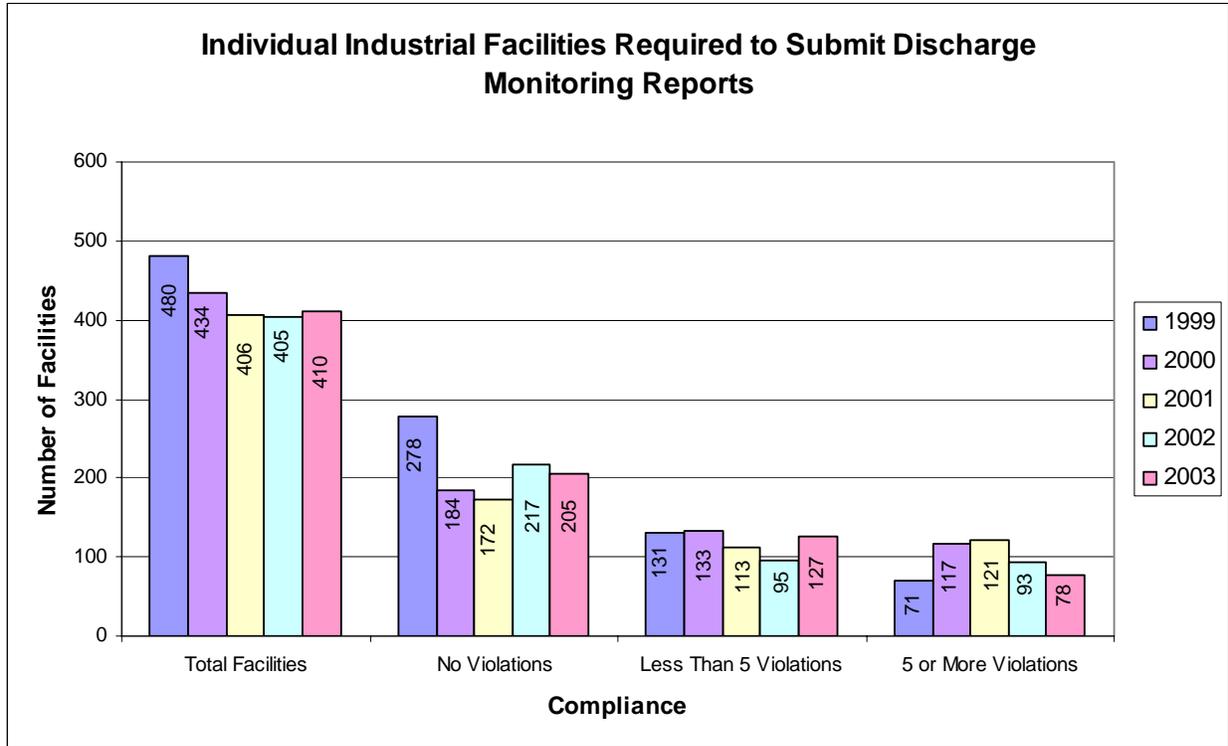


Figure 7

Ecology focuses on facilities with five or more violations as an indicator of repeat violators, with a goal of decreasing the number of facilities with five or more violations. The Southwest Regional Office has the greatest number of individually-permitted industrial facilities, with a total of 117. Of that total, 11 percent had five or more discharge violations during the calendar year 2003. Out of the 71 industrial facilities required to submit discharge reports in the eastern region, 37 percent of them had five or more discharge violations (Figure 8).

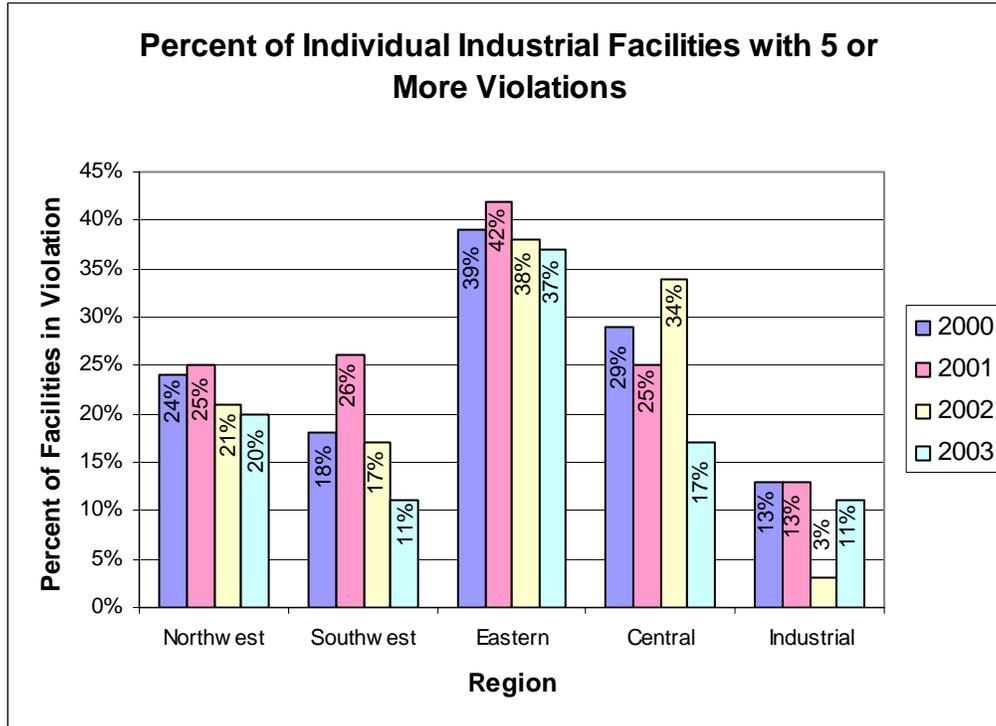


Figure 8

What Actions Were Taken

Ecology documented a total of 342 formal and informal enforcement actions that were taken to improve industrial facility compliance in 2003.

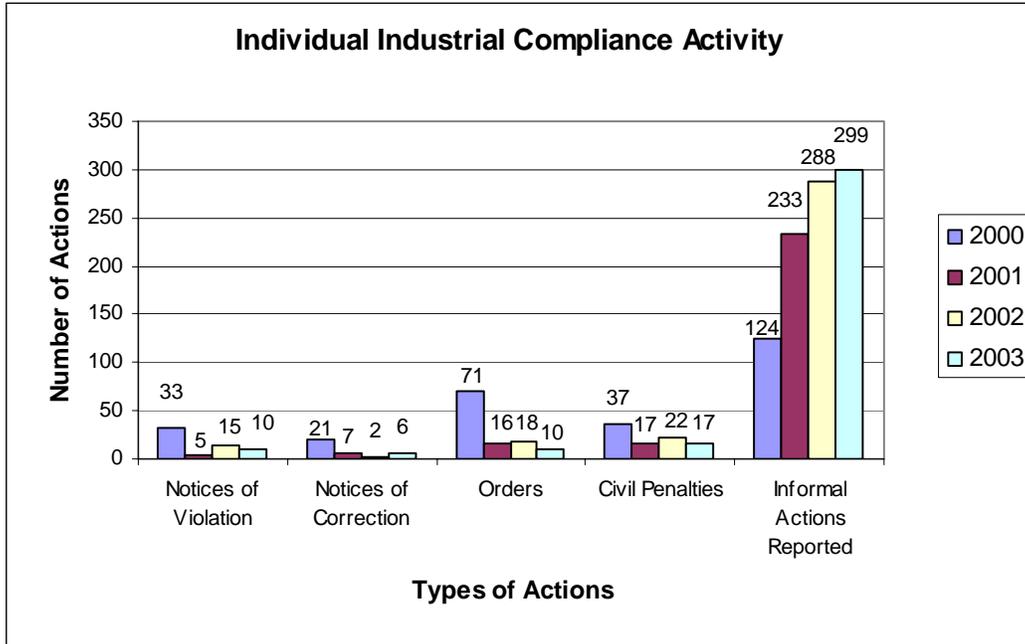


Figure 9

Of the 78 facilities that reported 5 or more violations, 6 formal actions along with 116 informal actions were taken in response to these violations; leaving 30 facilities receiving no enforcement action (see Figure 10).

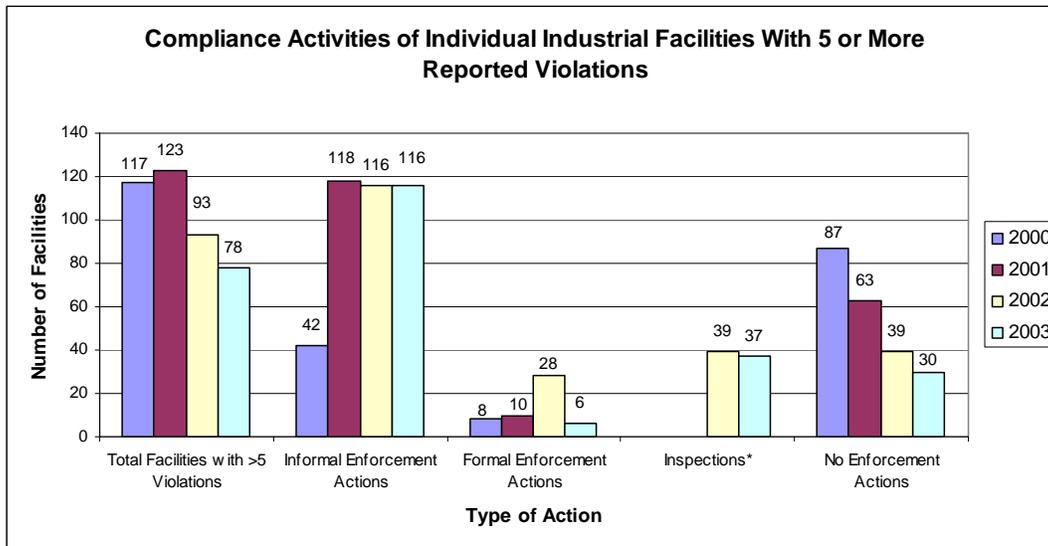


Figure 10

*Note that Inspections for facilities with five or more violations were counted only starting 2002.

Municipal Facility Compliance

Permit Universe/Complexity

Municipal wastewater treatment plants (WWTPs) that discharge to surface waters, apply treated waste water to land, or discharge more than 14,500 gpd (gallons per day) to subsurface waters are required to have a wastewater discharge permit.

WWTPs use a combination of biological, physical, and chemical processes to treat the waste water generated in our homes and businesses. The size of WWTPs, however, varies greatly between small communities and large cities. Washington State has a total of 318 WWTPs that are designed to treat from 1,200 gallons per day to more than 183 million gallons per day. The greatest numbers of municipal facilities are located in the eastern and southwest regions, 96 and 95 respectively (see Figure 11).

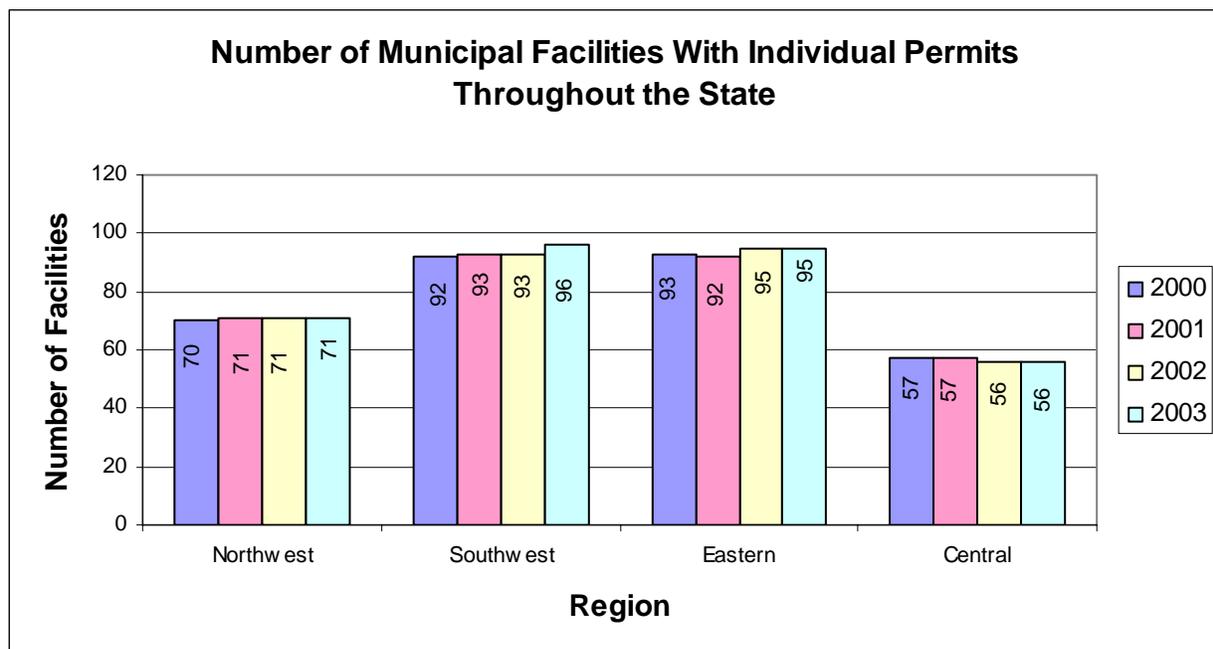


Figure 11

On average, each person sends about 70 gallons per day of waste water to his or her local sewage treatment plant. Some form of local government (*e.g.*, a city, a county, or a local sewer district) operates most municipal WWTPs. A smaller number of plants are operated by state agencies (*e.g.*, correction centers, state parks), private communities, and private businesses.

WWTPs vary in complexity and difficulty of operation due to the great differences in the number and type of mechanical components and processes at each facility. Due to the relatively similar nature of the wastes they treat though, the types of monitoring done at each facility are generally the same. Small facilities typically perform a minimum of 60 laboratory tests per month on the

treated water they discharge, whereas a larger facility may be performing well over twice that number. In addition, these plants must also perform many internal tests and may have requirements for performing other biological studies to ensure their discharges comply with state laws and regulations.

For most facilities, Ecology’s compliance/enforcement and permit management staff review testing information on a monthly basis and conduct periodic inspections. Two staff positions are dedicated to providing technical assistance statewide to small facilities on request. Although these staff cannot perform enforcement, they are required to report any compliance problems they observe during their technical assistance visits. As with other permitted facilities, the majority of compliance activities involve phone calls, warning letters, technical assistance, engineering review and assistance, and inspections. Ecology can also impose sewer moratoria on overloaded plants that are unable to comply with permit requirements. Moratoria, or sewer connection bans, prevent or limit hookups to a sewer system when the system is over capacity or is receiving more waste than it was designed to treat. During 2002, there were 14 moratoria in place state-wide.

What Violations Occurred

The number of total compliance opportunities for individual municipal facilities increased from 1999 to 2003 by 11,543. There was proportionate increase in total compliance, with a small overall increase in compliance (0.10 percent). There was a slight decrease in 2003 (less than 1 percent) of violations that exceeded 20 percent of the permitted limits (Figure 12).

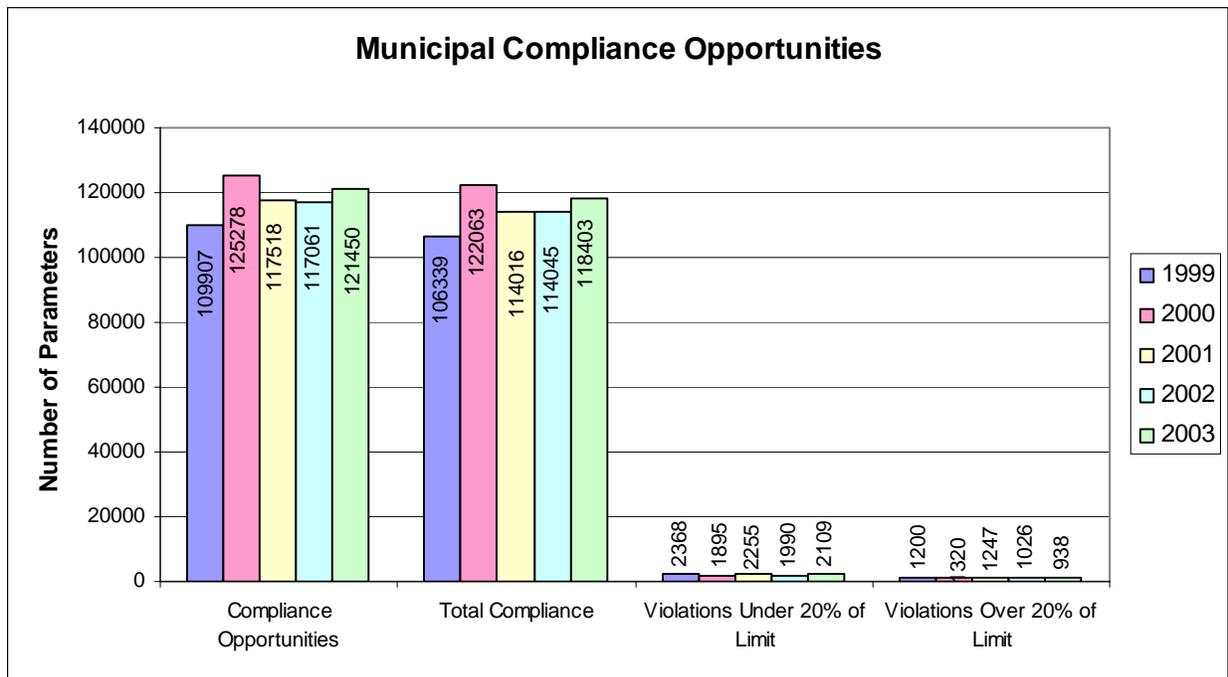


Figure 12

The highest compliance rate (99.2 percent) occurred for facilities in the Central Regional Office. The eastern region has the lowest municipal compliance rate at 94.5 percent; however, that represented an increase of 0.9 percent from calendar year 2001 (Figure 13).

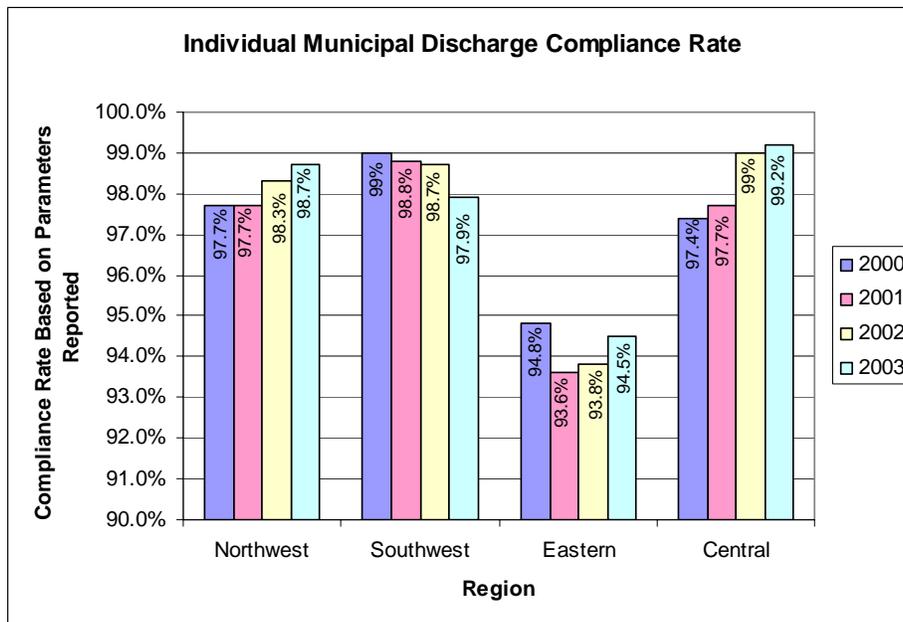


Figure 13

Generally, the overall statewide compliance rate for individual municipal facilities has been increasing. In 1996, the municipal compliance rate was 92.7 percent compared to the 2003 compliance rate of 97.5 percent, an increase of approximately 4.8 percent in compliance over seven years (Figure 14).

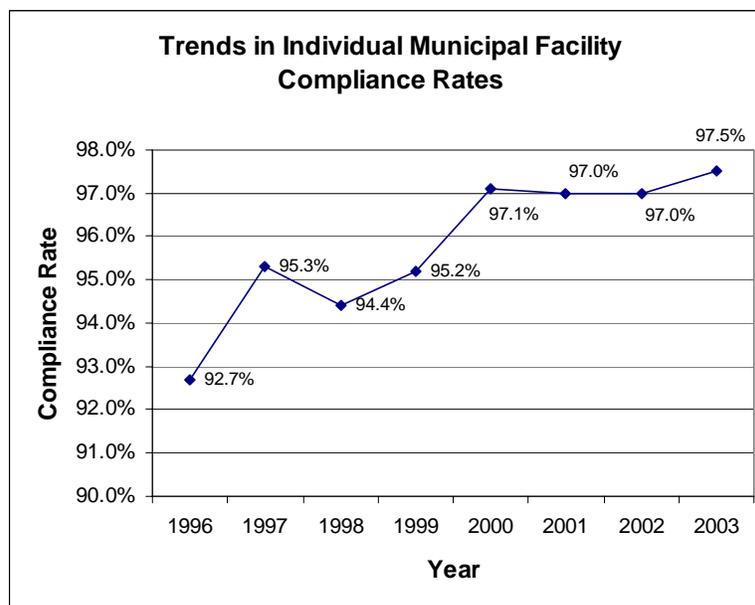


Figure 14

Facilities that report five or more violations per year are targeted by Ecology in order to increase compliance among significant violators. The total number of municipal facilities dropped by three, from 1999 to 2003, for a total of 301 facilities. While the facilities that were in complete compliance did not change significantly, the number of facilities with five violations or more decreased from 1999 by 32 to 125 facilities in 2003 (Figure 15).

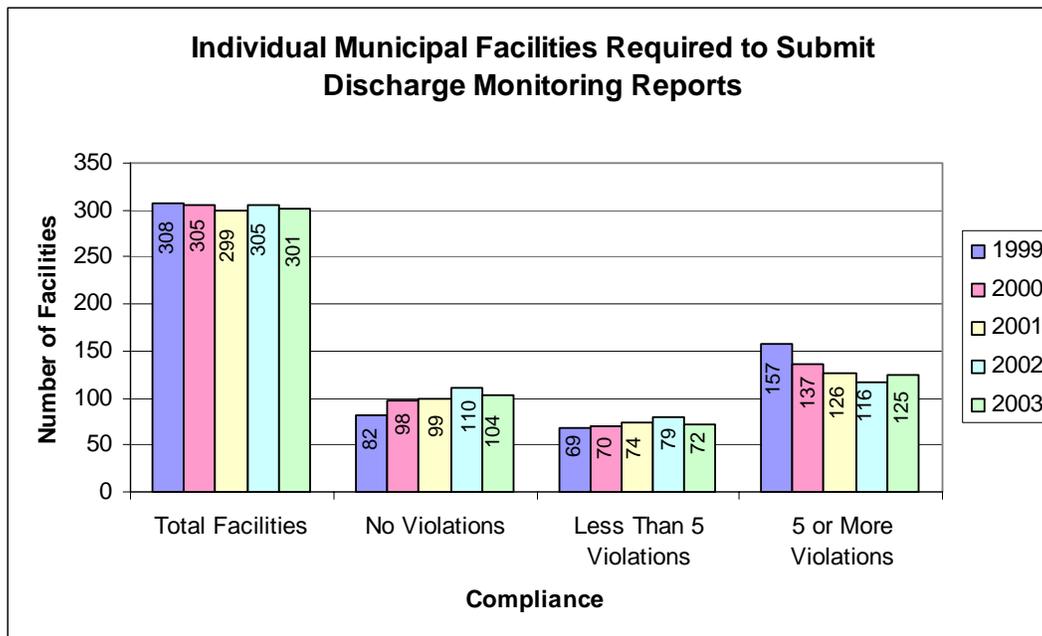


Figure 15

The highest percentage of violating municipal facilities occurred in Ecology’s eastern and central regions (Figure 16). Of the 83 municipal facilities required to submit discharge reports in the eastern region, 69 percent of them had five or more discharge violations for the year 2003 (up 2 percent from 2000), while only 26 percent of the northwest region’s 69 facilities had five or more violations.

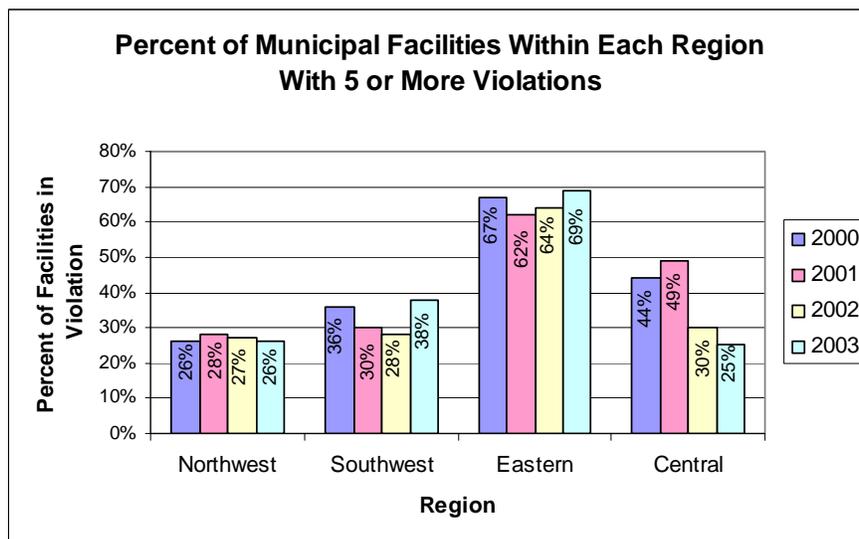


Figure 16

What Actions Were Taken

In 2003, 580 enforcement actions were taken to improve municipal compliance. In addition, 11 moratoria were in place, down three from 2002. (Figure 17).

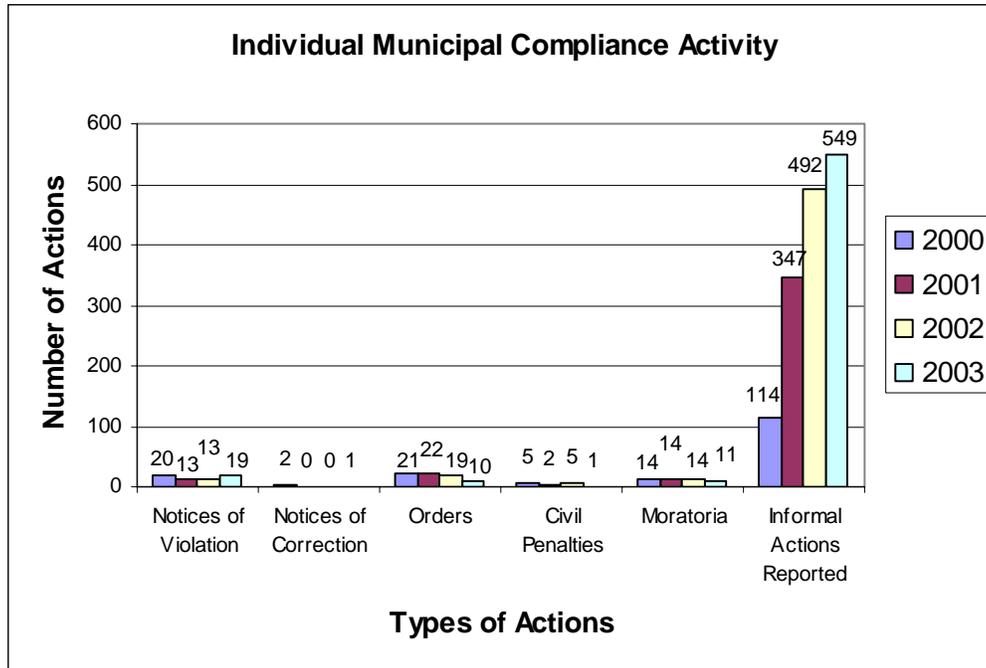


Figure 17

A total of 125 municipal facilities reported five or more violations in 2003. There were 30 facilities in violation that did not receive any enforcement actions (Figure 18). Please note that inspections for facilities with five or more violations are a new category for 2002.

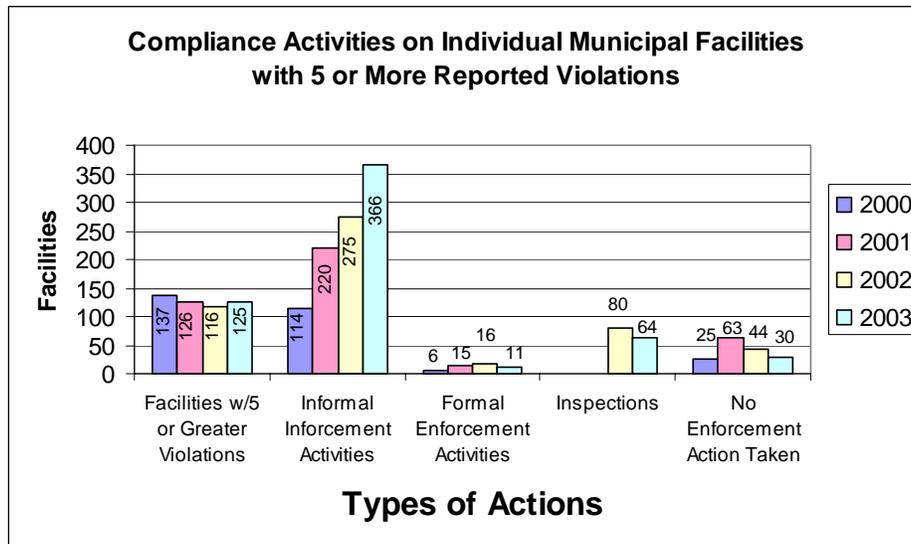


Figure 18

General Permit Compliance

Permit Universe/Complexity

General permits are NPDES and/or state wastewater discharge permits that are developed for a category of discharger instead of an individual facility. Facilities covered by general permits typically have simple manufacturing processes, a limited number of pollutants, and pollution control that is often best served by the use of best management practices (BMPs) rather than a complex treatment process. The general permit holders that submit monitoring data, usually on a monthly or quarterly basis, are fish hatcheries, water treatment plants, sand and gravel operations, boat yards, and fruit packing plants. The other types of general permits (storm water and dairies) are monitored by site inspections. Compliance by construction and industrial stormwater permit holders is verified only through site inspections. The number of general permits by type can be seen in Figure 19 for the last three calendar years. The aquatic pesticides general permit was new in 2002.

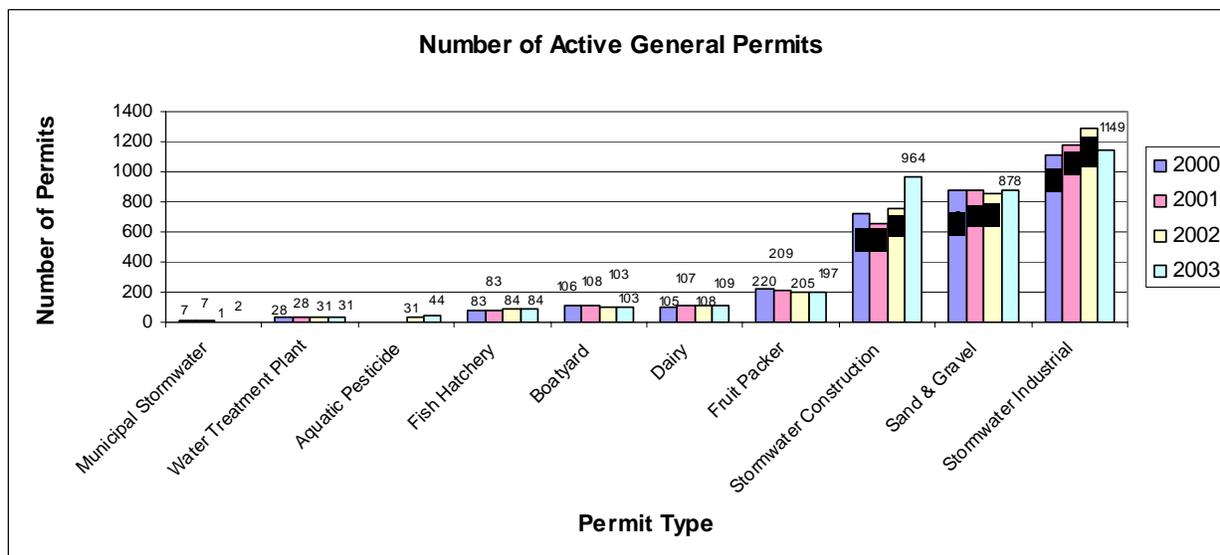


Figure 19

What Violations Occurred

Figure 20 illustrates the number of compliance opportunities available as a whole for general permits.

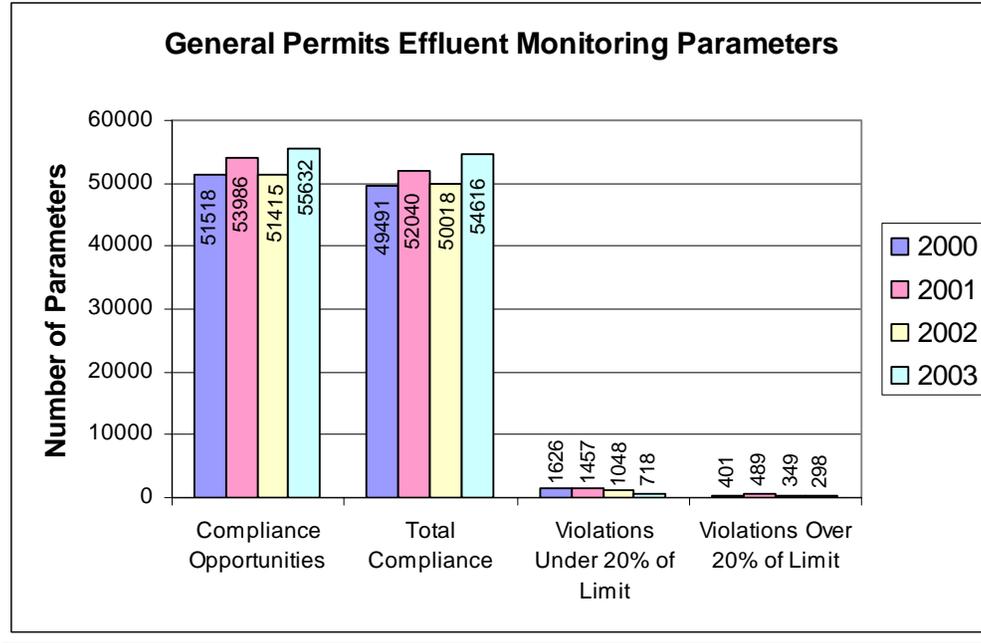


Figure 20

The percent of violations for the general permitted facilities that submit discharge monitoring reports is lower than the individual permits discussed earlier. In examining these general permits by region in Figure 21, all regions have a compliance rate of 97.5 percent or greater.

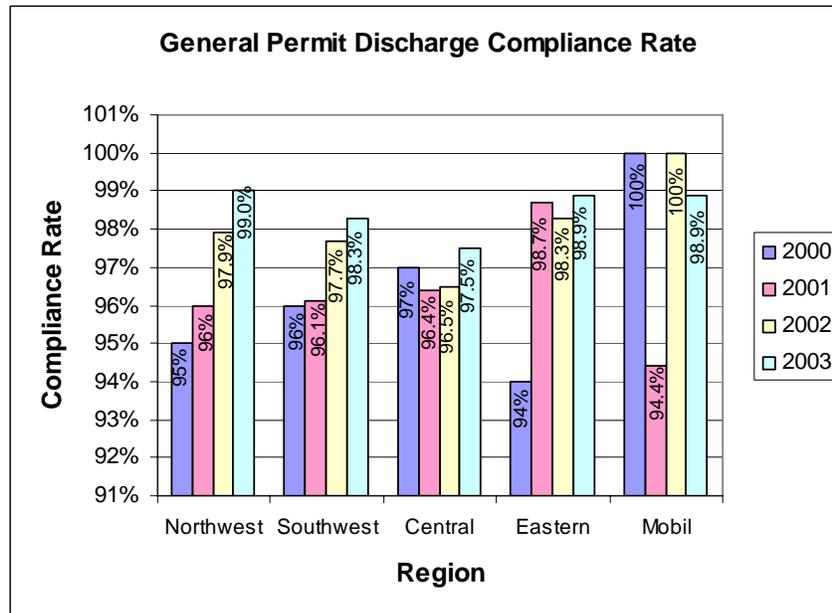


Figure 21

For general permits that require discharge monitoring reports, the compliance rate was maintained in the past at an average of 96 percent (Figure 22). In 2003, the compliance rate increased by two percent from 2001.

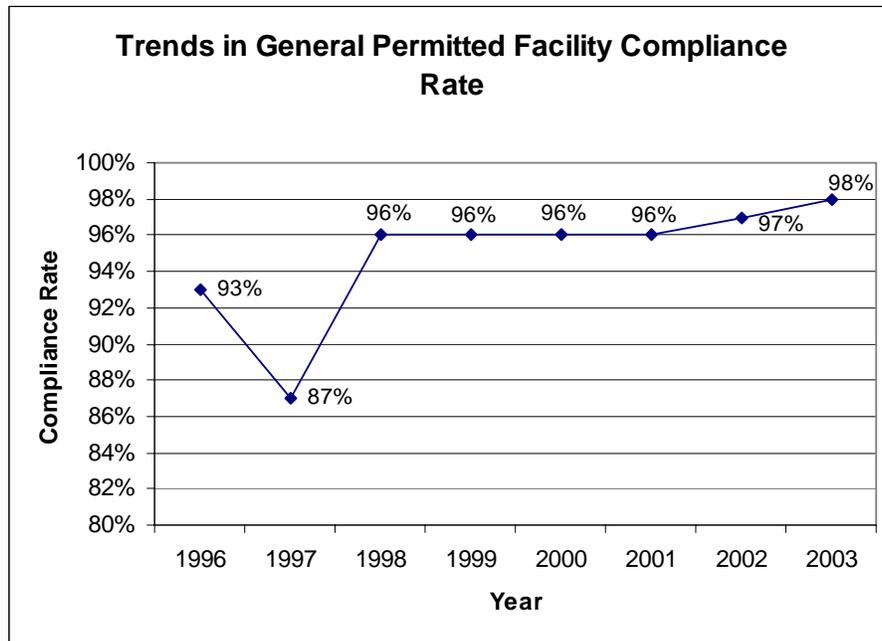


Figure 22

Of the 868 facilities covered by general permits with discharge monitoring requirements, 684 maintained total compliance, but 58 permitted facilities had five or more violations in 2003 (Figure 23).

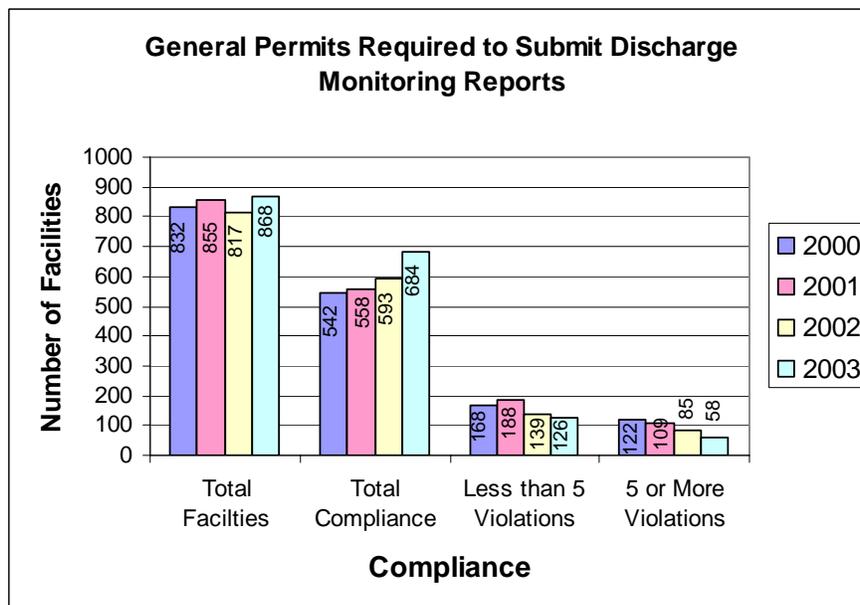


Figure 23

Facilities covered by general permits have a lower percentage of facilities with five or more violations compared to facilities with individual permits. Currently Ecology's central and southwest regions had the most facilities with five or more violations and the eastern and northwest regions had the fewest (Figure 24). Mobile facilities are facilities such as sand and gravel operations that move from site to site and between regions.

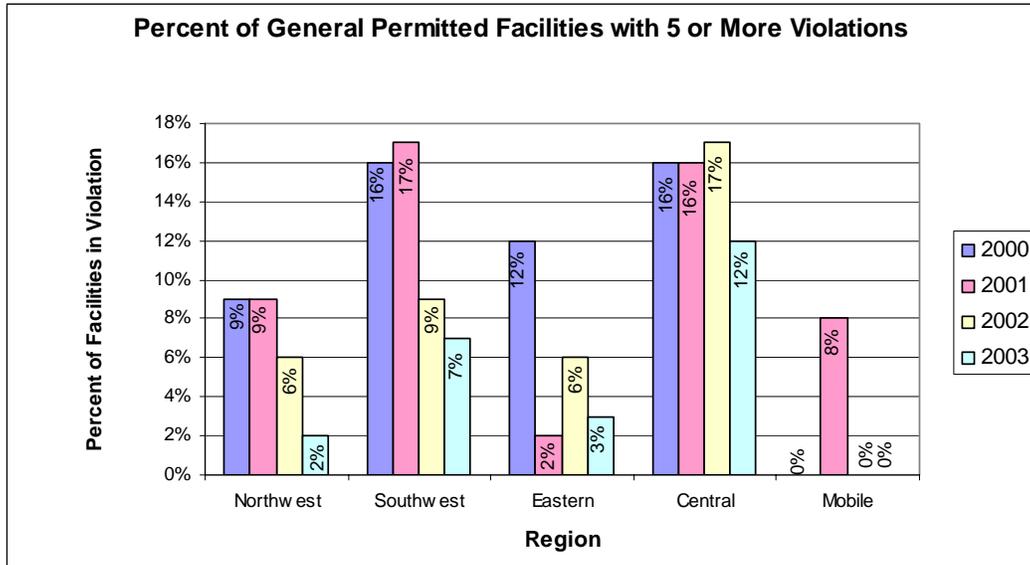


Figure 24

What Actions Were Taken

A total of 276 enforcement actions were documented by Ecology to improve general permit compliance in 2003. These actions were comprised primarily of informal compliance actions. (Figure 25).

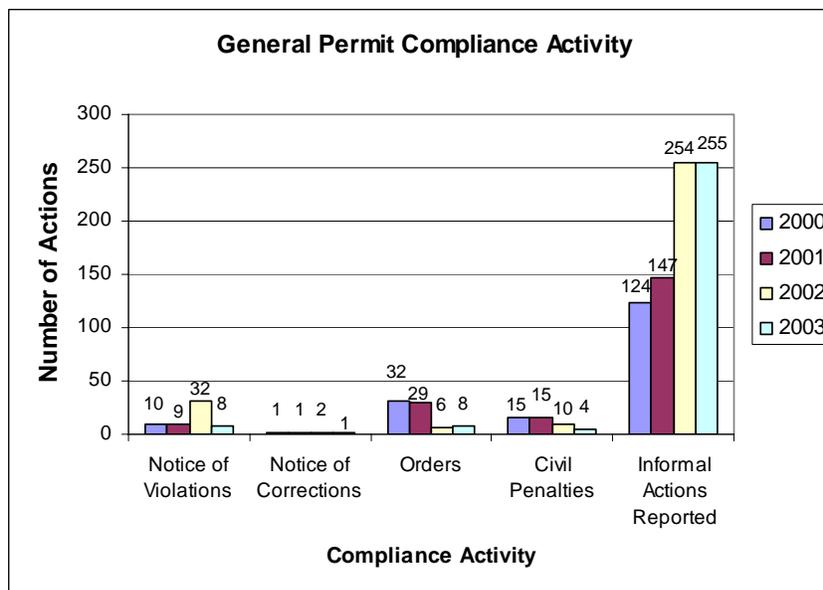


Figure 25

Figure 26 shows trend similar to the individual permits; of the facilities with five or more violations, 22 percent have not had any documented enforcement action. Note that the category for inspections for facilities with five or more violations was new in 2002.

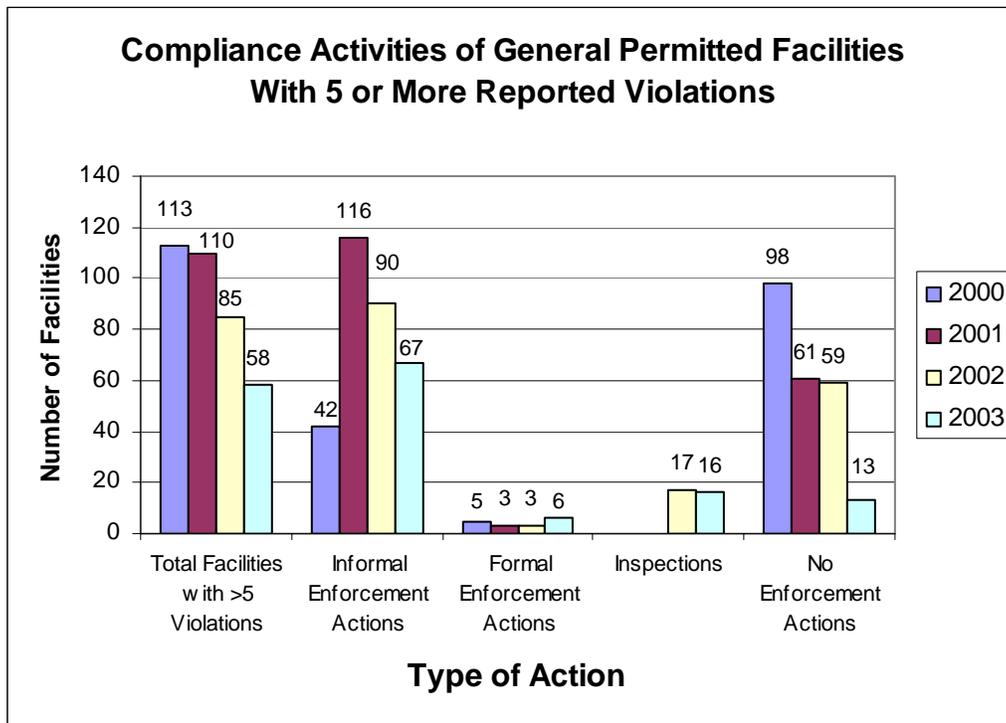


Figure 26

Dairy Compliance

Permit Universe/Complexity

Commercial dairy farms are managed through a program of inspections and targeted permitting. In order to conduct these inspections, there was a total of seven full-time equivalent employees (FTEs) assigned throughout Washington.

Ecology conducted inspections of the approximately 621 commercial dairy farms in Washington State until July 1, 2003, when Ecology transferred the inspection and compliance process to the Department of Agriculture. Each adult cow produces waste each day equivalent to 20 human beings. That means that a 1,000-cow dairy produces as much waste as 20,000 people do each day. Generally, proper waste management involves containing manure and contaminated



runoff in an above-ground earthen storage pond in the winter and applying the waste during the spring and summer growing seasons as a beneficial source of nutrients for crops. Currently there is a trend toward fewer but larger farms. It is expected the number of dairy farms will continue to decrease as their herd sizes continue to increase.

All dairy farms must have a dairy nutrient management plan (DNMP) in accordance with the 1998 Dairy Nutrient Management Act, Chapter 90.64 RCW. All commercial dairy farms were required to have their DNMP approved by their local conservation district by July 1, 2002. Both the dairy farm and conservation district must certify the DNMP was fully implemented by December 31, 2002. Failure to meet these statutory deadlines resulted in penalties being issued under Chapter 90.64 RCW. The plan is normally developed in cooperation with the local conservation district. The status of dairies that have DNMPs and certification is charted in the graph on the following page (Figure 27).

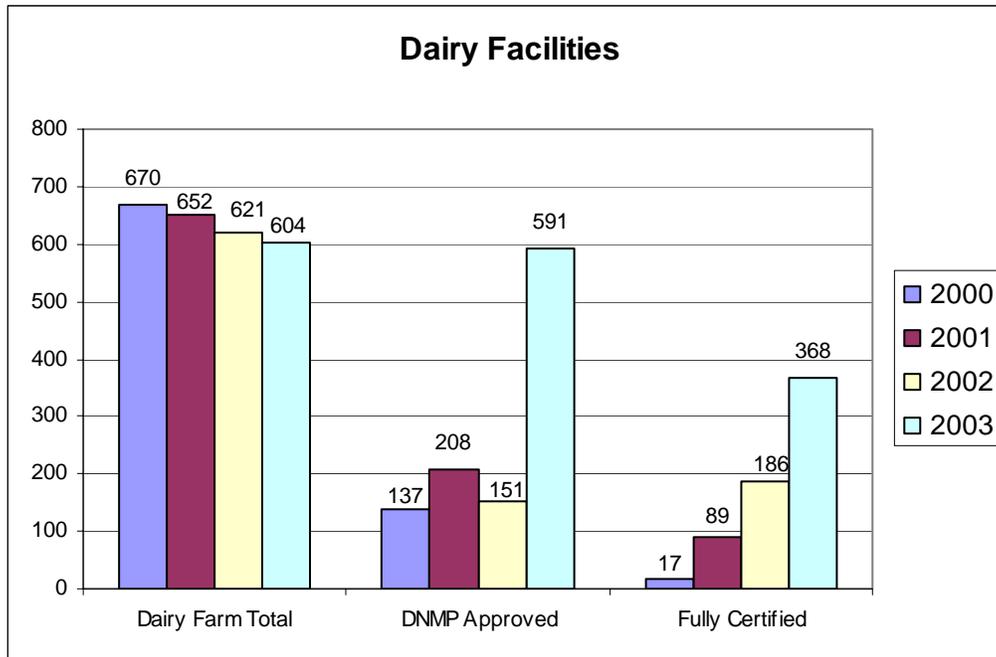


Figure 27

Up to July 1, 2003, if Ecology inspectors discovered an unauthorized discharge of dairy wastes to waters of the state, the dairy was required to obtain a dairy operation NPDES and state waste discharge general permit. Facilities that comply with their permit for five years can request that their permit be cancelled. Ecology and the Department of Agriculture will make the final determination as to whether the permit can be cancelled. If cancelled, the dairy can exit the permit program and return to “inspection-only” oversight for adherence with state water quality law. It is still required to have a DNMP.

Permits are required if a dairy discharges to waters of the state (ground water or surface water). Permits are frequently accompanied by an administrative order with a specific timeline for corrective action to ensure the problem is promptly resolved. Dairy inspectors also used informal enforcement tools to gain compliance.

Ecology completed initial inspections of all dairy farms in June 2001 and, at the time of inspection, found that about 73 percent of farms are in compliance with major recommended water quality protections. In 2003, about 109 farms statewide have coverage under the Dairy Operation NPDES/State General Discharge Permit. The number of permitted farms is increasing slightly.

For 2003, an informal or formal enforcement actions were taken at over 104 different dairy farms. Formal enforcement actions had been taken for both permit violations and unauthorized discharges from non-permitted facilities. See Figure 28 for the number of formal and informal enforcement actions. On July 1, 2003, the Department of Agriculture took over the compliance of the Dairy Operations NPDES/State General Discharge Permit. Ecology is continuing to issue the general permit, but the Department of Agriculture has taken all other dairy-related actions.

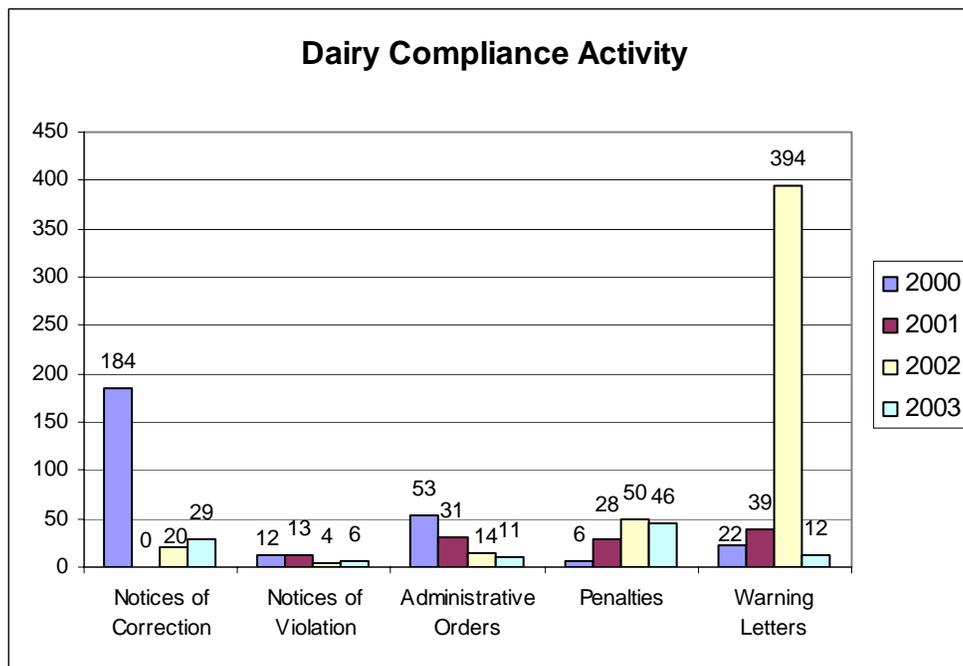


Figure 28

Nonpoint Compliance

Introduction

Nonpoint water pollution is defined as “pollution that enters any waters of the state from any dispersed land-based or water-based activities ...not otherwise regulated under the National Pollutant Discharge Elimination System program (NPDES).” (Chapter 173-201A-020 WAC) Forty-four separate state laws apply to nonpoint water pollution and are administered by 13 separate agencies. Most county and municipal jurisdictions also have ordinances that apply. The situations are as varied as our climate and economy—dry land agriculture in eastern Washington, marine sewage complaints on the Puget Sound, or bulldozing by a neighbor near a trout stream in the mountains.

The inclusion of the municipal stormwater program, boat yard, sand and gravel operations, and portions of the dairy program in the NPDES permit program has reduced the size of the nonpoint universe. The forest practices program and non-permitted aquatic pesticide control are two formal efforts to control nonpoint source pollution. Specific strategies to reduce nonpoint pollution often include developing total maximum daily loads (TMDLs) for nonpoint parameters and then working with local basin groups to identify strategies for implementing nonpoint controls. The primary thrust for compliance is to provide technical assistance and information to landowners to prevent pollution.

When the effort to prevent pollution is not successful, the general approach is to try to identify the local authority or jurisdiction and work with it to settle the matter at the lowest level of enforcement. Developing and managing these relationships is key to preventing and minimizing pollution problems. When the violation causes significant environmental harm, is not pursued by a local authority, or is significant due to its environmental impact, Ecology may take formal enforcement action. See Figure 29 on page 31 regarding the number of nonpoint compliance and enforcement activities from 2000 through 2003. NOTE: The data for 2000 cover only the period from July through December; and the data for 2003 cover only the period of January 1 to June 30.

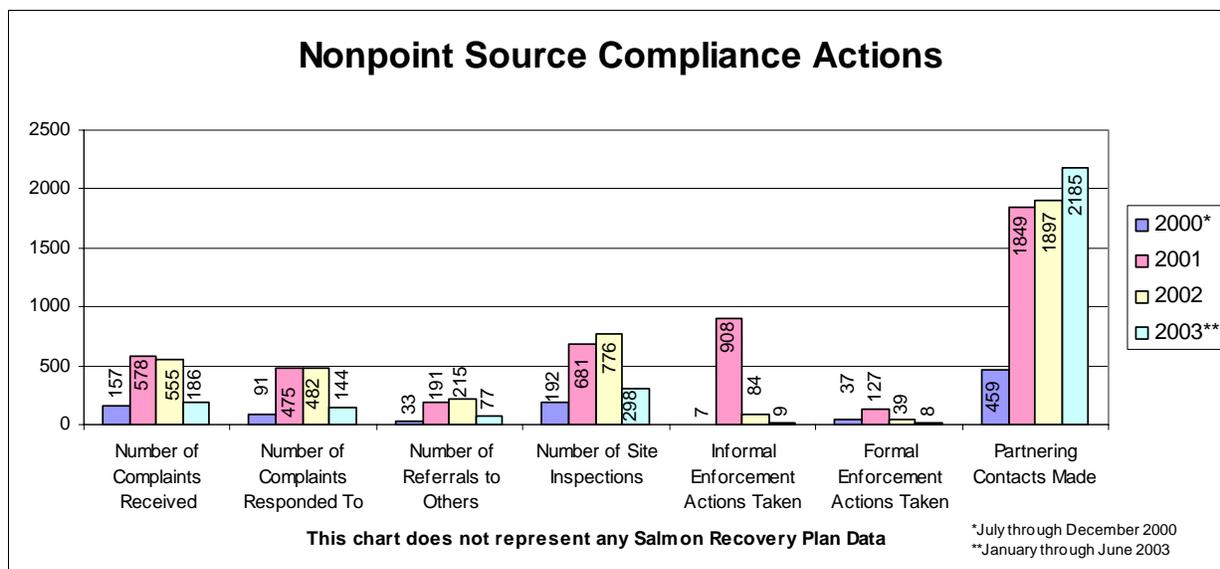


Figure 29

Nondairy Agricultural Compliance

Nonpoint sources are the leading cause of water pollution across the nation and in Washington State. Technical studies in our state show that farms producing crops and raising livestock can contribute to water pollution. This is particularly true when runoff from several small farms in one watershed combines to create an even greater water quality problem. To help address agricultural sources of water pollution, the Washington Conservation Commission, local conservation districts (CDs) and Ecology entered into the Agricultural Compliance Memorandum of Agreement in 1988.

The agreement defines a consistent series of steps that coordinate Ecology’s water pollution control responsibilities with CD programs that provide technical assistance to landowners and farm operators. Through the local CD office, a farm owner or operator may receive technical assistance to help develop and implement a water quality management plan, or “farm plan.” Farm plans identify reasonable and economical ways to manage the farm to prevent or correct water pollution problems.

Nonpoint Compliance Associated with the Governor’s Salmon Recovery Plan

The Governor’s Salmon Recovery Plan seeks to achieve compliance with water quality laws and protection for fish through a balanced program of education, technical assistance, and cost sharing with a regulatory backup. In the case of agriculture, this consists of providing millions of dollars for conservation districts and the Natural Resource Conservation Service for technical assistance. It also includes nearly \$200 million for cost sharing under the Conservation Reserve Enhancement Program (CREP), as well as a number of other financial assistance programs.

A balanced program consists of enforcement where voluntary efforts alone do not achieve compliance. Even where enforcement may be necessary, these other incentives would be in place and enforcement would be used to complement those efforts.

Enforcement does not necessarily mean a penalty. Ecology’s policy is to use the least amount of enforcement necessary to achieve compliance. In many cases this could be a Notice of Correction, Notice of Violation, or an Administrative Order. Ecology works with local watershed groups to identify areas where enforcement may be necessary. It may be called for as an element of a TMDL, or triggered by a shellfish closure and lack of voluntary compliance. Limiting factors analysis for salmon restoration may also indicate where enforcement may be appropriate. Actions that would trigger enforcement include repeat violations, follow-up to an initial inspection, and referrals from local governments and conservation districts. When viewed in the context of programs like CREP, the cost of enforcement represents a very small percentage of the overall strategy. At the same time, it is the backstop necessary to encourage people to move forward in a voluntary manner.

In order to put this strategy in place, the Legislature gave Ecology three FTEs for water quality compliance on behalf of salmon recovery. The data below indicate the work these FTEs have been doing from 2000 through 2003 (Figure 30). NOTE: The 2000 data contain information only from July through December; and the 2003 data contain information only from January 1 to June 30.

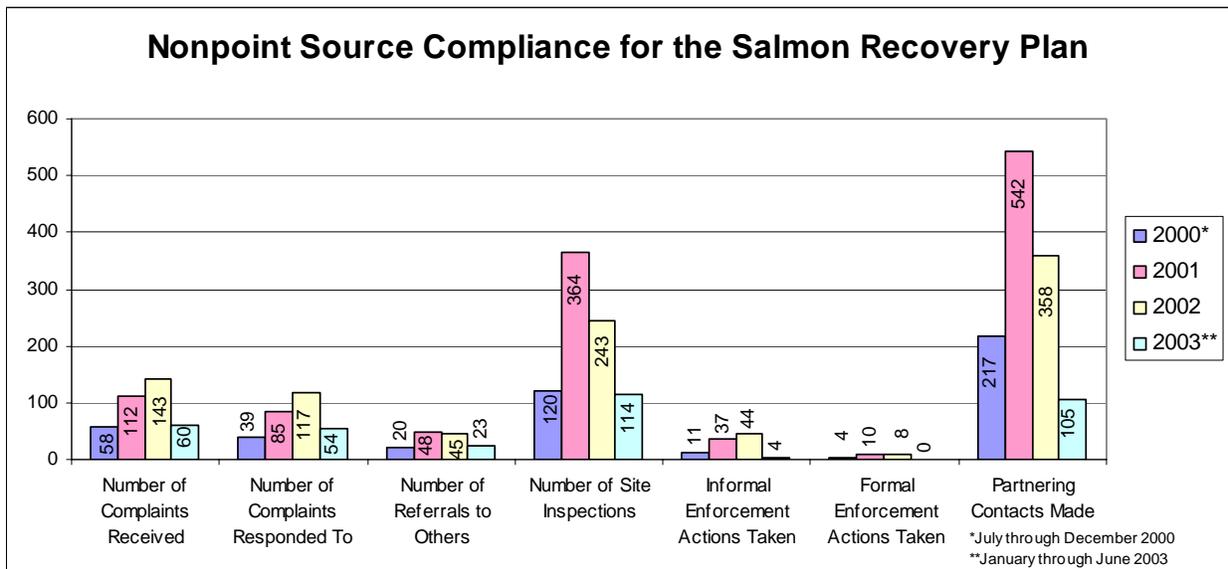


Figure 30

Timber, Fish, and Wildlife (TFW) Compliance

The Department of Natural Resources (DNR) is the lead agency for enforcement of forest practices. Ecology approves the water quality rules that are adopted by the Forest Practices Board. Ecology provides DNR and landowners with assistance on water quality issues as forest practices are proposed.

Ecology may take independent action under its enforcement authority in Chapter 90.48 RCW. However, this can occur only after consultation with DNR, and only if the non-compliance with

water quality standards occurred as a result of violations of the forest practices rules and any forest practice permits or enforcement orders.

Under the Forest Practices Act, Chapter 76.09.100 RCW, if Ecology determines that a person has failed to comply with the forest practices rules relating to water quality protection and DNR has not issued a notice to comply or stop work order, Ecology can inform DNR. If DNR does not take action within 24 hours, then Ecology may petition the chair of the forest practices appeals board to require DNR to take action.

Pesticide Compliance

Use of Aquatic Pesticides

Each year, Ecology issues about 100 short-term water quality modifications allowing for the direct application of aquatic pesticides to waters of the state. The majority of these short-term modifications are issued for the control of noxious and non-noxious submersed plants in lakes, streams, and rivers. Short-term modifications are also issued for the control of mosquito larvae; the control of two species of noxious, invasive cordgrass (spartina) in marine tidelands; and the management of certain fisheries, Gypsy moths, and ghost shrimp.

The only documented enforcement actions for aquatic pesticides for the year 2003 were two immediate action orders.

Summary

The total number of permits continues to incrementally increase, even though the same number of staff members is available to conduct enforcement. This continues to force the agency to prioritize which of many compliance problems are most harmful to the environment.

The compliance rate remains high for municipal and industrial facilities with individual permits, based on the number of parameters each facility must report through the discharge monitoring report system. The number of industrial facilities has increased. However, the total number of parameters monitored by the facilities has decreased in the last two years. The number of municipal and industrial facilities with five or more violations has decreased.

Nonpoint compliance is occurring as shown by the activities tracked over the past 2.5 years. As the Department of Ecology attains more data over several years, measuring compliance for the nonpoint sector will be much easier.

Ecology is hoping that this report will be informative internally to the department as well as to the public. We look forward to receiving constructive comments from users of this information, so that next years report can be improved.

Appendix

Table 1 Expanded Major Laws and Regulations Administered by the Water Quality Program.

TITLE	STATE LAW	STATE RULE	FEDERAL RULE
Water Pollution Control	CHAPTER 90.48 RCW		
Technical Assistance Programs	CHAPTER 43.05		
Pollution Control Hearings Board	CHAPTER 43.21B RCW		
Forest Practices Act	CHAPTER 76.09 RCW		
Dairy Nutrient Management Act	CHAPTER 90.64 RCW		
Protection of the Environment			Code of Federal Regulations Title 40
Water Quality Standards for Ground Water		CHAPTER 173-200 WAC	
Water Quality Standards for Surface Waters		CHAPTER 173-201A WAC	
Forest Practices Rules and Regulations to Protect Water Quality		CHAPTER 173-202 WAC	
Whole Effluent Toxicity Rule		CHAPTER 173-205 WAC	
State Waste Discharge Permit System		CHAPTER 173-216 WAC	
National Pollutant Discharge Elimination System Permit Program		CHAPTER 173-220 WAC	
Discharge Standards and Limitations for Domestic Wastewater Facilities		CHAPTER 173-221 WAC	
Certification of Operators of Wastewater Treatment Plants		CHAPTER 173-230 WAC	
Submission of Plans and Reports for Construction of Wastewater Facilities (CSO Facilities)		CHAPTER 173-240 WAC (CHAPTER 173-245 WAC)	

Table 2. Types of General Permits Issued by the Department of Ecology

PERMIT TYPE	# OF CURRENTLY ACTIVE PERMITS	DISCHARGE DESCRIPTION
NPDES Major	80	A wastewater discharge permit issued to a facility that discharges waste water to surface water and is deemed to be a “major” discharger by EPA and the state of Washington. A “major discharger” is a facility discharging to surface water that scores 80 or more points on the EPA NPDES permit rating work sheet. The criteria evaluated include: toxic pollutant potential, wastewater flow and stream flow volumes, conventional pollutant loading, potential for public health impact, potential for water quality impact, proximity to near coastal waters.
NPDES Minor	375	A wastewater discharge permit issued to a facility that discharges waste water to surface water and is deemed to be a “minor” discharger by EPA. A “minor discharger” is a facility discharging to surface water that scores less than 80 points on the EPA NPDES permit rating work sheet.
State to Ground Water	167	A wastewater discharge permit issued to a facility that discharges waste water by land application to underground water.
State to POTW	172	A wastewater discharge permit issued to a commercial or industrial facility that discharges waste water to a municipal sanitary sewerage system.
NPDES Stormwater Construction General Permit	964	All building construction activities clearing five or more acres of land.
NPDES Industrial Stormwater General Permit	1149	All industries with a surface water discharge that have a potential to pollute state waters.
Municipal Stormwater General Permit	2	Stormwater discharge is the runoff from roofs, pavement, and compacted surfaces in urban areas that have the potential to pollute state waters.
Boatyard General Permit	109	Commercial business engaged in the construction, repair, and maintenance of small vessels, 85 percent of which are 65 feet or less in length or which constitute less than 85 percent of gross receipts.
Dairy General Permit	109	Commercial dairy farms meeting the definition of a concentrated animal feeding operation (CAFO) are required to apply for permit coverage and develop and implement a dairy nutrient management plan to strictly limit the discharge of manure and contaminated runoff to surface or ground water.
Fish Hatchery General Permit	84	All upland fin-fish hatching or rearing facilities that discharge at least 30 days a year to surface waters of the state which: produce more than 20,000 lbs. of fish per year, or feed more than 5,000 lbs. of fish food in any one calendar month, or are considered to be a significant contributor of pollution as determined by Ecology.
Fresh Fruit Packer General Permit	197	All new and existing fresh fruit packing facilities that receive, pack, store, and/or ship either hard or soft fruit.
Water Treatment Plant General Permit	31	Discharges of waste water from the production of potable water at facilities with a maximum production capability of 50,000 gallons per day. Plants producing industrial water are also included if water treatment is their primary function.
Sand and Gravel General Permit	878	Discharges of process water, mine dewatering water, and storm water associated with sand and gravel operations, rock quarries, and similar mining operations, including stockpiles of mined materials. Also covers concrete batch operations and hot mix asphalt production.