On-Site Sewage Systems Program

Directory of Program Elements

Problem Definition

When on-site sewage systems (also known as septic systems) are properly sited, designed, installed, operated and maintained, they can be a viable long-term option for sewage disposal in the Puget Sound area. They can be more cost-effective in rural areas than centralized sewage treatment plants, and by returning wastewater to the ground (rather than discharging to marine waters, as treatment plants do), on-site systems help recharge streams, wetlands and aquifers.

Local health jurisdictions estimate that there are approximately 450,000 on-site sewage systems in the Puget Sound area[1]. Unfortunately, failure rates for on-site systems can be high. Between 1991 and 1995, Mason County discovered failure rates along shorelines as high as 25 percent.[2] And failing on-site sewage systems can significantly degrade Puget Sound's water quality and resources. In the 1990s, with one exception, every restriction or closure of a shellfish growing area was at least partially due to a failing on-site system. The problem also poses health risks to the public, because failing or improperly managed on-site systems can contaminate beaches and drinking water supplies with bacteria, viruses and nitrates.

On-site sewage systems can fail for a variety of reasons. Inappropriate siting, inadequate soils, flaws in design, incorrect installation, improper use, lack of maintenance or simply age can all contribute to the failure of an on-site system.

Institutional Framework

In Washington, on-site sewage disposal is managed at the local level with guidance and support from the state. State Board of Health regulations (Chapter 246-272 WAC) set state standards for the use of on-site sewage systems. Local boards of health implement these regulations. The *Puget Sound Management Plan* calls on the Department of Health to evaluate issues relating to system den-

[1] Survey of Puget Sound Local O&M Programs, June 2000, Puget Sound Action Team.

[2] *Puget Sound Notes,* Number 39, June 1996.

What does "shall" mean?

The Action Team has determined that the actions in this plan are needed to protect and restore Puget Sound. Consistent with the importance of these actions, this plan says that appropriate implementers "shall" perform the actions. However, implementation of many of these actions is a long-term process. The Action Team's work plans will identify the actions that need to be taken each biennium to implement this management plan. Implementation of actions in the work plans is subject to the availability of funds and public input into the decision-making processes of implementing entities. When an action is included in a biennial work plan, the Action Team expects that it will be implemented in accordance with the relevant provisions of the Puget Sound management plan, in accordance with Chapter 90.71 RCW.

sity and siting within or adjacent to sensitive areas. It also calls on the department to maintain its programs for large, on-site sewage systems and alternative (such as sand filters or mounds) and experimental on-site sewage systems.

The management plan calls on local health jurisdictions to develop and implement programs to ensure proper operation and maintenance of on-site systems. Local programs are also to identify areas of special concern as part of operation and maintenance programs and to increase oversight of those areas. Operation and maintenance programs include education, regular notice to homeowners that an inspection is due, periodic monitoring and maintenance of each system, reporting of inspection results and follow-up to ensure that needed repairs are carried out. Local jurisdictions are encouraged to adopt a risk-based approach to system management and to tailor monitoring requirements accordingly.

The Department of Licensing carries out a program to license system designers and certify local health jurisdiction staff. The Northwest On-site Wastewater Training Center will continue to provide necessary education and training for industry professionals and local health jurisdiction staff.

This management plan program calls for measuring program effectiveness by evaluating program development and environmental performance measures. A key environmental measure is the number of shellfish growing areas restricted for harvest as the result of on-site system failures.

Program Goal

To protect the Sound's water quality, shellfish growing areas and other aquatic resources from wastes generated by on-site sewage systems.

Program Strategy

The strategy for achieving this goal is to:

a. establish comprehensive programs at the local level for the appropriate application of on-site sewage treatment and disposal technologies, and for effective operation, maintenance, inspection, education, and financial and technical assistance regarding on-site sewage systems;

b. provide effective state oversight, regulation and financial and technical assistance; and

c. investigate, review, approve, promote and apply, as appropriate, alternative technologies for on-site sewage treatment.

OS-1. On-Site Sewage Regulations and Programs

The Department of Health shall periodically review and, as appropriate, amend the state on-site sewage regulations, Chapter 246-272 WAC. Health shall ensure that the regulations remain consistent with management measures of the Coastal Nonpoint Pollution Control Program and shall evaluate issues related to system density and siting of systems within or adjacent to sensitive areas. The regulations shall continue to require local operation and maintenance programs in the Puget Sound basin, including designation of areas of special concern and enhanced oversight of systems within those areas. Health shall provide technical assistance and program oversight for local implementation of the state regulations. Health shall periodically review and evaluate the effectiveness of local on-site sewage programs at protecting water quality through application of on-site sewage treatment and disposal technology and reducing pollution from failing or inadequately located, constructed, installed or maintained on-site sewage systems.

Target Date for OS-1: Ongoing.

OS-2. Local On-Site Sewage Operation, Maintenance, Inspection and Education Programs

Local health jurisdictions shall develop operation and maintenance programs so that on-site sewage systems perform as designed and do not threaten aquatic resources and public health. These programs shall provide for regular notification, education, inspection (including periodic system monitoring), maintenance, reporting of inspection results and follow-up by the local health jurisdiction to ensure that failing systems are repaired or replaced. These programs shall also provide for identification of areas of special concern and enhanced oversight of systems within those areas. Local governments, in conjunction with health jurisdictions, shall select and establish appropriate mechanisms for funding on-site sewage programs, such as on-site sewage maintenance utilities, clean water districts or shellfish protection districts, public/private partnerships, or other means. Local

health jurisdictions are encouraged to adopt a risk-based approach to system management and tailor inspection requirements according to the relative risk of site conditions, proximity to sensitive areas, system complexity and/or other appropriate factors.

Target Date for OS-2: All counties shall implement local operation and maintenance programs by 2000, as required by Chapter 246-272 WAC.

OS-3. Certification of On-Site Professionals

Health shall develop a program, including any required legislation or amendments to Chapter 246-272 WAC and RCW 18.43.070, for state licensing or certification of installers, maintenance specialists, pumpers and others involved in the installation and maintenance of on-site sewage systems. Health and local health jurisdictions shall require all on-site sewage systems to be designed, installed, permitted and maintained by certified or licensed professionals.

The Department of Licensing shall continue to license system designers and certify local health jurisdiction staff under RCW 18.210.

The Northwest On-site Wastewater Training Center, in cooperation with Washington State University (WSU) Cooperative Extension, the Washington On-Site Sewage Association and Health, shall continue to provide education and training for industry professionals and local health jurisdiction staff.

Target Date for OS-3: Health shall develop licensing or certification programs for installers, maintenance specialists and pumpers by December 2002.

OS-4. Large On-Site Sewage Systems and Septage

Health, with assistance from the Department of Ecology, shall maintain its program for large on-site sewage systems. Health shall:

a. maintain an inventory of systems;
b. assess the need for new performance, siting or other requirements;
c. maintain an operational permit program; and
d. maintain a database of these systems.

Health shall provide technical assistance and training on such systems for local health agency staff and shall prepare design, performance and other manuals and materials as needed.

Ecology, with assistance from Health and other interest groups, shall continue to develop rules and guidelines for the management of biosolids, including holding-tank septage. Health, along with Ecology shall, as necessary, develop guidance and provide training and technical assistance for local governments on the environmentally sound disposal of septage.

Target Date for OS-4: Ongoing.

OS-5. Alternative and Experimental On-Site Sewage Systems

Health shall maintain its program for alternative and experimental on-site sewage systems. Health shall:

a. investigate, evaluate, review, approve, guide and encourage the appropriate implementation of alternative and experimental technologies for on-site sewage systems;
b. assist in the development of coordinated systems for collecting and managing data at the state and local health agency levels to provide an inventory of alternative and experimental systems;
c. assess the need for new performance, siting or other requirements;
d. evaluate the effectiveness and status of local approval and application of alternative systems; and
e. develop a database, in conjunction with local health departments.

Health shall provide technical assistance and training on such systems for local health agency staff and shall prepare design, performance and other manuals and materials as needed.

Target Date for OS-5: Ongoing

OS-6. Measuring Program Effectiveness

The Puget Sound Action Team support staff shall facilitate evaluation of program results by evaluating program and environmental performance measures. This supports the adaptive management approach described in the Estuary Management Program of this management plan. At a minimum, these evaluations should incorporate information from the following monitoring and assessment sources.

a. Program measures that track implementation of this program:
   - Adoption and implementation of local operation and maintenance programs Sound-wide

b. Case studies that assess the effectiveness of program actions:
   - Individual local operation and maintenance programs (e.g., methods used, successes, challenges, lessons learned)

c. Performance of environmental conditions for which this program is a major or important determinant (recognizing that these measures may be affected by several plan programs):
   - Commercial and recreational shellfish growing areas downgraded as a result of failing on-site sewage systems;
   - Surface waters listed on the state's 305(b) list due to failing on-site sewage systems

Target Date for OS-6: Ongoing