



Island County On-Site Sewage System Management Plan

Island County Public Health

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Executive Summary

Introduction

In July 2005, the Washington State Board of Health adopted Chapter 246-272A WAC, which requires local health jurisdictions to develop plans for the management of on-site sewage systems (OSS) within their jurisdictions. In 2006, the Legislature enacted Third Substitute House Bill 1458, amending RCW 70.118A, which requires local health jurisdictions to identify Marine Recovery Areas (MRA) where OSS contribute to marine water quality problems, and to develop management strategies to find and repair all failing OSS within an MRA.

In June, 2006, the Washington State Department of Health (DOH) released the On-Site Sewage System Management Plan Guidance for the Twelve Puget Sound Counties. The document created a template of suggested activities and outlines for local health jurisdiction to tailor as local needs dictate. The DOH guidance document was beneficial to Island County during planning and public discussions. This plan largely follows the basic outline provided in the guidance document.

The Island County Health Department (ICHHD) has undertaken a number of activities in order to develop plan recommendations and to prepare for the requirements of the twelve Puget Sound Counties to develop and submit an On-site Sewage System Management Plan to the State Department of Health by July 1, 2007. ICHHD has conducted internal and interdepartmental planning tasks. ICHHD also contracted support services to enable creation of required OSS data enhancement and an OSS management plan.

In March, 2007 the Island County Board of Health (BOH) adopted an “OSS Workshop” format to plan and prepare for required OSS management planning and implementation. OSS workshop invitations were delivered to representatives and members from a broad range of disciplines and included: State licensed On-Site Sewage System designers, OSS installers, wastewater system inspectors, septic tank pumpers and, realtors. Many Island County government departments were included in the workshops and invitations were distributed to Island County's Water Resource Advisory Committee and Marine Resources Committee. Those organizations represented a wide variety of important OSS and related interests including shellfish growers, agriculture, water system operators and others. During the Island County OSS Workshops all aspects of the OSS Management Plan were discussed and the Island County BOH was able to hear from a diverse and interested group of citizens.

The OSS Management Plan is the result of months of hard work by local government, state agencies and BOH OSS Workshop participants. The plan is divided into the four sections:

- Database Enhancement
- Identification of Increased Risk Areas, Sensitive Areas and Marine Recovery Areas
- Operation and Maintenance Requirements
- Implementation Plan and Summary Timeline

Vision

Island County's vision for development and implementation of its OSS Management Plan is:

OSS are known as to their location, proper design, installation, maintenance and operation so as not to threaten public health

To implement this vision, Island County will:

- Use a risk-based, data-driven decision making model
- Adaptively manage Geographic Risk Areas addressing Increased Risk Areas, Sensitive Areas and MRA
- Provide education and outreach
- Identify unknown OSS
- Use compliance and enforcement tools ensuring correction of problem OSS
- Adequately fund ICHD and associated offices to provide implementation and operational capacity for all parts of the OSS Management Plan

Highlights

Key elements of the plan include the use of:

- Risk-based, data-driven decision making
- Adaptive management techniques to evolve the plan and related ICHD and community activities to achieve plan objectives and WAC compliance
- A comprehensive, county-wide geographic based delineation of tiers of risk based on identified areas of: Increased Risk, Sensitive Areas and MRA
- Island County's existing Water Quality Monitoring Program to provide OSS related quality data for decision making and source identification and compliance assessments
- A phased implementation schedule
- Numerous database enhancement recommendations
- Annual reviews to assess program effectiveness

Compliance

Island County's OSS program will include the following aspects to maximize compliance:

- Risk-based prioritization for compliance actions. ICHD will prioritize its efforts and use of resources based on risk, as identified by OSS risk-tiered geographic areas using data-driven decision making
- Incentives encouraging OSS owners to follow appropriate operations and maintenance activities based on OSS complexity and location within risk-based geographic categories
- Proof of compliance by Island County and other government organizations at time of permitting and at the time of sale of a property

- A strong education program including formal OSS training as part of an incentive program which also informs OSS owners of new requirements and benefits of maintenance and inspection
- Penalties as a last resort to achieve compliance only after exhaustion of all other techniques
- User-friendly reporting processes

Finances

Island County's OSS Management Plan is to be funded to carry out tasks necessary in accordance with WAC 246-272A:

- Develop and maintain a database of records for all known OSS in the county
- Ensure compliance
- Provide education for OSS owners regarding proper OSS operation and maintenance
- Identify Increased Risk Areas, Sensitive Areas and MRA
- Create appropriate operations and maintenance requirements based on risk areas
- Financial assistance in the form of low-interest loans for low-income OSS owners to pay for system repair or replacement

Implementation Plan

An approved OSS Management Plan will be implemented in a phased approach. As with the rest of the plan, the phases and dedication of resources will be risk and data-driven. The phases are:

- Phase I: Start-Up Activities (July 1, 2007 – December 31, 2008)
- Phase II: Implementation Activities (January 1, 2009 and beyond)

Acknowledgements

The Island County Health Department acknowledges appreciation for the advice and support provided during the creation of the Island County OSS Management Plan from Washington State Department of Health, Washington State Department of Ecology, and San Juan, Clallam and Snohomish Counties. Further, it is acknowledged that this plan is the product of the support of many Island County government offices, particularly the timely support of Island County Planning and Community Development.

Part 1: Database Enhancement

Introduction

WAC 246-272A-0015 contains requirements for jurisdictions to develop and maintain an electronic inventory of all OSS in operation within the jurisdiction. This part of the plan describes Island County's OSS inventory management history and also describes how ICHD will comply with the required elements of the system as defined by the regulation. Specifically, this part of the plan addresses the need to "progressively develop and maintain an inventory of all known OSS in operation within the jurisdiction" and "maintain records required under WAC 246-272A, including all operation and maintenance activities as identified."

A. Inventory Data System History

Prior to 1990

ICHD OSS records (Asbuilts) date back to the early 1950's, when each record was assigned a unique identification number. Records consisted of a face page containing ownership information at the time of permit issuance, number of bedrooms the system was designed to serve, and approval date, while the back page consists of a drawing of the system as it was installed. For each asbuilt record a 3" x 5" index card was used to track the OSS by parcel number and cross-references the permit number. Beginning in the early 1980's ICHD created microfiche films for each paper record for easier retrieval and copying.

The 1990's

The creation of microfiche vellums ended in 1991. All records from before 1991 are captured on microfiche vellums. In 1991 ICHD deployed its first OSS data tracking system using Professional File. It was a pseudo-spreadsheet program with very limited capacity. The Professional File data system was used between 1991 and 2004. Data fields in Professional File were text rather than a specific type of data field or limited by a validation rule. As such, the information in the database significantly limited the ability of the system to generate accurate reports. Information stored in the system included: applicant, system type, installer, designer, number of bedrooms, system type, dates of application and asbuilt submittal, permit issuance and asbuilt approval dates, area of installation, and various notes fields. The system did not track failure or repairs as separate entries or operation and maintenance records or reports.

Year 2000 to 2005

Beginning in 2000 ICHD began scanning asbuilt records into a Microsoft Access based data system. Initially, the County's Central Services Department designed an MS Access utility that was used by volunteer employees to create scanned images of asbuilt records and associate various permit-associated data with the scanned image. Approximately 20% of ICHD's asbuilt records were turned into scanned images using this process.

In 2002, using funding from a Cooperative Agreement from the Centers for Disease Control and Prevention (CDC) to "Increase Capacity to Deliver Environmental Health Services," the ICHD identified the need to develop a comprehensive OSS data system to track all activity associated with OSS design, permitting, installation, repair, complaint investigation, and operation and maintenance activities. Key elements included:

- ICHD identified the Central Services Department of Island County to develop the utility
- The utility was developed using SQL Server and was built as a module attached to the County Assessor's Database where assessment and valuation records are stored
- The data system was designed to track various activities associated with the design, installation and maintenance records for all OSS in operation in Island County with each activity type separated by tabular indexes in the data system
- It was intended that the system would generate reports of all activities associated with individual parcels, geographic regions or the entire county
- The same Cooperative Agreement was used to fund the production of scanned images for the remaining 80% of the asbuilt records not scanned using the previous process (contracted to a private consultant)
- The system was launched on January 1, 2005 and is still in use today
- After the initial design and beta-testing of the system a number of alterations/fixes/problems/changes were identified with the data management system including the report generation capacity of the system
- Due to budget limitations, staffing, and other priorities, the data management issues were not addressed by Central Services. The program did not meet, the required goals of WAC 246-272A with respect to tracking, monitoring and reporting of OSS activity.

B. Current Inventory Management

Funding from DOH, through the Consolidated Contract for the implementation of the OSS Management Plan, process enabled the ICHD to address the inadequacies of the data system launched in 2005. A programming consultant was chosen to coordinate the development of an OSS data system that could meet the needs of the ICHD to track, monitor, and report on all OSS activities within Island County. It was determined early in the development process that the existing OSS data system launched in 2005 did not provide the necessary architecture or support features that would enable it to be expanded by the contractor. The contract supporting the development of the OSS data management system is divided into the following five phases (ICHD is currently in Phase III and anticipates reaching Phase V by June 2007):

Phase I

System Requirement Analysis that documented proposed architecture, screen designs, application behavior. Identify interfaces to other Island County applications, i.e. Real Property (the program supporting the County Assessor's functions).

Phase II

The purpose of the prototype phase is to develop the software to the exact requirements of the Health Department, including functionality and changes required by the Operating Environment. Iterative development will proceed with the designated employees of the Health Department to reach agreement on all required customizations and operational functionality. The deliverable for this phase is a working User Interface which exhibits program operation, menu hierarchies, screens, forms, and reports. The User Interface will not be connected to the database at this point so data will not be able to be saved or retrieved.

Phase III

The purpose of the beta installation phase was to deliver a functioning product that contains all the customizations from Phase II as well as the ability to save, retrieve, and operate on data. It is expected that there will be some bugs present at this point and that the users will test the system in parallel with the current production systems. The deliverable of this phase is the installation of the server and client software on the Island County network system and demonstration that the system operates substantially as agreed. System will include User Level Documentation as well as System Programmer level documentation including but not limited to database schema, data dictionary, and architectural block diagram.

Phase IV

Data conversion will occur during this phase to automatically populate the system with test data from the production systems and data converted from CD archives provided by Island County. During this phase all archived data, including OSS permit information and scanned images of asbuilt records for all Health Department archived files will be brought into the data system.

Phase V

Final acceptance will occur during this phase to recognize that the system is operating properly with the desired features and can be relied upon for production usage. This also marks the start of paid maintenance and support. Planned for mid-2007, it will result in:

- All of the scanned images previously created for asbuilt records will be brought into the system in Phase IV
- The system architecture is based upon a parcel of land as the centerpiece of the system
- For every parcel of land in IC there exists basic information, managed by the County Assessor's Office that includes owner name, street address, parcel #, images, tax valuation, Map ID, appraisal notes, permits, sales history, mapping, legal description, owner address and miscellaneous notes
- When a parcel is queried in the system the data management program imports all of these records into a portion of the display
- The display is separated into four independent windows; 1) event records, 2) data fields associated with individual events, 3) Assessor's records for the parcel, and 4) links to scanned images, digital photos, and hyperlinked documents

- The event record is a display of every activity on a given parcel associated with an OSS. These events include permits, inspections, asbuilts, complaints, O & M activities, routine inspections, and general notes
- When an event is selected from the event log, an adjacent window is displayed with associated data for that event
- For a permit event, the associated records would be the dates of submittal, names of applicants, designer, installer, inspection reports during construction, associations with hyperlinked documents like copies of letters or memos sent to the designer, installer, or owner, permit numbers, and other associated parcels if the drainfield is located off-site from the sending parcel
- For a complaint event the associated data would be the type of complaint, location, status of complaint (open, pending, closed, unjustified), the measures taken to address the complaint, and letters or correspondences
- Every document associated with an event not generated by the HD can be captured by the data system as a scanned image for future retrieval
- Every document generated by the HD can be captured by the data system as a hyperlinked document for future retrieval
- The data system is hosted on a new server dedicated solely for the purpose of the OSS management program
- All HD staff will have simultaneous access to the live system through the County's LAN
- Because all records associated with an OSS for any given parcel are captured by the system, staff will be afforded their first opportunity to have access to a comprehensive collection of records for each parcel that previously could take multiple hours to accumulate in hardcopy form
- Three additional phases of data system enhancement are also planned
- The first enhancement will be establishing a public access portal to the system through two separate kiosk stations located in ICHD offices in Coupeville and on Camano
- These two portals will allow the general public access to a partial set of records associated with the operation of an OSS on any given parcel
- The public can use the system to print copies of any record displayed
- The second enhancement will be to establish a web-link to the same data set housed in the OSS management system so that internet access to this data is realized
- The final enhancement will be the development of a scaled-down version of the data system that will run on handheld PCs (already owned) so that remote data can be entered into the system and displayed for uses in the field rather than the office (also enabling the capture of GPS data)
- Staff will collect information associated with complaints, inspections, permits, asbuilts, troubleshooting, and GPS locations for system components

C. Operation & Monitoring – Record Maintenance

Current Records & Reporting Capabilities: Currently there are approximately 19,400 asbuilt records in the database. These have been kept in the current on-site data base since 2005. All other records are in the real property data base. However, it is yet to be determined if each of

these records represents an OSS that is in active use. It is estimated that there are 2-5,000 unknown systems throughout the county.

Identification of Unknown Systems: Unknown systems will continue to be identified when O&M inspections are completed on homes where there are currently no records. The inspection reports will require the inspector and pumper to identify the system type, tank size and status. This information will be added to the on-site database. The data system enables reporting the number and location of systems inspected, number of failures identified, and any deficiencies noted. This will be linked to the design information which allows tracking of systems not inspected. It will also report an inspection history showing all O&M inspections and maintenance activity for a particular property. In addition, ICHD will track and follow-up on all failures identified through the inspection process.

Part 2: Identification of Geographic Risk Areas -- Increased Risk Areas, Sensitive Areas & Marine Recovery Areas

Introduction

This part of the plan describes ICHD identified areas where OSS could pose an increased public health risk. It also describes environmental and demographic characteristics of Island County and how ICHD coordinates with other jurisdictions and agencies when making decisions about these areas. Portions of needed reference materials for the OSS Management Plan were compiled during the Island County Planning and Community Development's Comprehensive Plan efforts. Several elements of the jurisdictional environment description are based directly on the approved Island County Comprehensive Plan.

A. Description of the Jurisdictional Environment

Background

Island County is comprised of several islands located at the northern end of Puget Sound, whose population centers are on Whidbey and Camano Islands. Island County land area is 204 square miles or 130,779 acres. Whidbey Island is the largest island in Puget Sound and is about 40 miles long and ranges from 1 – 10 miles wide. Camano Island, east of Whidbey, is the second largest island in the Sound. It is about 15 miles long and from 1 – 7 miles wide. The principle urban centers are Oak Harbor, Coupeville, Freeland, Langley and Clinton.

Population Growth

Population growth in Island County has been driven largely by the in-migration of people from other sections of the state and country. Island County has experienced rapid population growth in every decade, except the years between 1920 and 1930. The most dramatic increases occurred between 1940 and 1960, a result of establishing Whidbey Naval Air Station on North Whidbey; and between 1970 and 1980, as the Everett Boeing plant expanded within close commuting distance to South Whidbey.

Since 1900, most of Island County's population has resided in rural unincorporated portions of the county. Even so, the incorporated areas (until 1970) traditionally had attracted a larger share of in-migration than unincorporated areas. Between 1970 and 1980 this trend reversed. In the last three decades, unincorporated areas have maintained a constant 68% share of the total Island County population. Between 1980 and 1996, population in both the incorporated and unincorporated parts of Island County has increased by more than 50%. This is consistent with statewide trends of continued migration from more urban counties to rural counties.

Population Projections

Island County uses Office of Financial Management (OFM) high series population projections for the purpose of long-range planning. The OFM high series projects Island County population growing to 118,800 people by the year 2020. OFM states that the high and low series population projections are formulated in addition to the medium series as a means of taking into account the fundamental unpredictability of long-range population projections. Based on an analysis of the

building permit activity on Whidbey and Camano Islands from 1990 through 1996, Island County feels that the high series population projection is most appropriate.

Socio-Demographics:

As of the 2000 census, there were 71,558 people, 27,784 households, and 20,254 families residing in the county. The population density was 343/mi². There were 32,378 housing units at an average density of 155/mi². The racial makeup of the county was 87.17% White, 2.36% Black or African American, 0.97% Native American, 4.19% Asian, 0.44% Pacific Islander, 1.43% from other races, and 3.44% from two or more races. 3.97% of the population was Hispanic or Latino of any race.

There were 27,784 households out of which 33.30% had children under the age of 18 living with them, 62.20% were married couples living together, 7.80% had a female householder with no husband present, and 27.10% were non-families. 21.50% of all households were made up of individuals and 8.30% had someone living alone who was 65 years of age or older. The average household size was 2.52 and the average family size was 2.93.

In the county, the population was spread out with 25.50% under the age of 18, 8.50% from 18 to 24, 28.00% from 25 to 44, 23.70% from 45 to 64, and 14.30% who were 65 years of age or older. The median age was 37 years. For every 100 females there were 100.40 males. For every 100 females age 18 and over, there were 97.90 males.

The median income for a household in the county was \$45,513, and the median income for a family was \$51,363. Males had a median income of \$35,331 versus \$25,612 for females. The per capita income for the county was \$21,472. About 5.10% of families and 7.00% of the population were below the poverty line, including 8.80% of those under age 18 and 4.40% of those ages 65 or over.

Rural Character

Rural character is one of Island County's most valued assets, providing the quality of life desired by many island residents. Rural areas simply have a different "feeling" than urban centers. Lacking the constant pressures that people experience in crowded urban areas, a rural atmosphere allows people to set their own pace. People in rural areas expect, tolerate, and prepare for the minor inconveniences that come with living in widely scattered and sparsely developed areas.

The historical pattern of growth in Island County has led to very few remaining large parcels of land. Though since 1984, five acre lots have been required for new development in the rural portion of the county, much of the county was subdivided into much smaller parcels prior to 1984. Residential development encompasses much of the County's shoreline. Communities comprising small lots are interspersed with areas of suburban-sized lots, as well as rural lots of 5, 10, and 20 acres. Although parcel sizes are widely mixed in the County, very small lots predominate in shoreline areas. This historical pattern satisfies the desire of many to live along the shoreline while preserving a degree of rural character throughout. This presents a challenge in regard to some elements of OSS management planning and complying with 246-272A WAC.

Rural areas provide an opportunity for different life styles to exist side-by-side in security and privacy. Diversity in life styles and land uses is part of the rural character. Each landowner uses his/her property differently. Driving down a road, one might see hobby farms with large gardens and several animals (cows, horses, and goats) as well as home industries and residential estates. Private wells and small community water systems are the norm, as are individual sewage disposal systems. Island County faces the dual challenge of dealing with more intensive development, a by-product of high growth rates while maintaining safely operating OSS that are not a threat to public health.

The development pattern that has dominated the rural growth that has occurred in Island County is also responsible for the establishment of the need for on-site sewage system capacity. Aside from the City of Oak Harbor, Naval Air Station Whidbey, the Town of Coupeville, and the City of Langley, all other areas of the county rely upon OSS for liquid waste disposal. This represents approximately 70% of the population.

Community Services and Facilities

As population growth continues, the County will increase expenditures for basic public facilities and services. Public facility planning focuses on providing adequate public facilities and services required under the Growth Management Act. The County's Capital Facilities Plan will be an important tool linking land use and capital facilities planning with long-term fiscal planning. Participation by special purpose districts (pursuant to RCW 36.70.520) in this planning effort will be important to the county's future. Intensively developed residential areas with septic tank drainfields require close monitoring to protect water quality. Alternative sewage treatment solutions may be needed for areas where concentrations of septic tank failures occur, yet population density may not support development of regionally centralized sewage treatment facilities.

Land Use

Data obtained from the County Assessor's office indicates that parcels comprising nearly 71% of Island County's land area contain some form of development, with the parcels comprising the remaining 29% (38,630 acres) left in some form of open space. Approximately 75% of the 38,630 acres in open space is in "temporary" status. This includes lands owned by the Department of Natural Resources and forest/agriculture properties in an open-space tax deferral program. This means that, except for critical areas such as wetlands, deepwater habitats, tributary streams and their buffers, shorelines, habitat for protected species, and resource lands of long-term commercial significance, between 50% and 75% of lands in "open space" have the potential to be developed in the future. Roughly 10% of the County's land area represents publicly owned State and County parks and scenic easements (such as Ebey's Landing) that are "protected" from future development.

Land Use Inventory

Island County has a total area of 130,779 acres (204 square miles). Included are the incorporated Urban Growth Areas of Oak Harbor, Langley and Coupeville, totaling 3,173 acres, and 10,573 acres of government lands. Government lands are federal and state holdings that are not zoned,

including state parks and Whidbey Naval Air Station. The remaining 111,733 acres fall within an array of zoning categories. These zones are intended to allow specific uses in pre-determined areas. Land consumption within residential zones (RS and RR) can be analyzed in even greater detail. A sub-category, Private Residential Communities (PRCs), has been identified representing all planned residential developments and subdivisions with five or more lots.

The majority of land in Island County (38%) is zoned Rural Residential. Within this zone there are 8,360 parcels (48,727 acres). Fifty-one percent of these parcels (28,870 acres) are considered to be unimproved (Figure 3.3). “Unimproved” properties are parcels that do not have a residence or business on them. While the majority of land is within the RR zone, the majority of parcels lie within PRCs. Most of the PRCs are zoned RS. There are 21,685 parcels located in PRCs, of which 9,221 (or 43%) remain undeveloped. The RS zone allows the highest density available at 3.5 dwelling units per acre. There are 6,171 parcels in the RS zone outside PRCs; of these, 2,714 are unimproved. As a whole, residentially zoned lands (RS and RR zones) make up 62% of Island County’s land composition, or 81,348 acres. Nearly 45% of all residential parcels are unimproved.

Lands zoned Forest Management (FM) and Agriculture (AG) comprise a significant portion of land in Island County. These properties serve as the county’s resource land base. Lands designated FM and AG includes 10,990 acres and 4,601 acres respectively. Combined, FM and AG lands make up 12% of all county lands. Approximately 77% of these parcels remain unimproved.

Split zoned parcels have two or more zoning classifications on one piece of property. Island County has many split-zoned parcels, covering 13,648 acres (approximately 10% of the county’s total acreage.). Thirty-eight percent of these parcels have more than half of their acreage in the AG or FM zone. At a minimum, an additional 668 acres of AG lands and 1,476 acres of FM lands are disguised as split zoned parcels. Approximately 50% of split zoned parcels are unimproved.

The final zoning class encompasses Commercial and Industrial uses (those classified as NR, NRF and NRC). These parcels account for a small, yet significant portion of the land composition. NR, NRF and NRC properties account for 1,146 acres or approximately 1% of the county. There are 348 parcels designated non-residential. Of these, 45% have not been developed. The remaining lands in Island County include government lands (8%); roads, lakes and tidelands (4%); and incorporated Urban Growth Areas (2%).

Urban Element Designations

Currently, the only urban element designation in Island County is for the municipal Urban Growth Areas of Oak Harbor, Langley and Coupeville. Existing Master Planned Resorts may be designated as urban pursuant to the standards and criteria set forth in this section.

Water Supply

Water Resource Inventory Area 6 (WRIA 6) corresponds with the boundaries of Island County. In 1982, the Environmental Policy Agency declared both Whidbey and Camano Islands as Sole

Source Aquifers. The designation acknowledged the County's reliance on groundwater as a potable water source. The County is in fact served by multiple aquifers; the sole source designation refers to the County's reliance on groundwater for drinking water rather than a singular aquifer.

A number of water supply and groundwater resource protection and management policies, plans and regulations have been adopted and implemented in recent years. These elements manage adequacy and protection of the resource through a common goal of non-degradation. As described in Island County Comprehensive Plan, Island County has proactively achieved a technical understanding of its water resources through numerous studies. Island County has shown foresight in proactively managing the groundwater resource. In many cases, such as the Sea Water Intrusion Protection Code and aquifer testing requirements, Island County has lead much of the state in developing resource evaluation and management policies and received related State approvals. Ongoing water quality and water level monitoring programs, comprehensive databases, and construction of groundwater flow and sea water intrusion models provide best available monitoring and management data.

Island County's groundwater and surface water resources are derived from local rainfall which is characterized as geographically variable. Due to the rain shadow created by the Olympic Mountains central Whidbey Island generally receives half the rainfall of southern Whidbey and Camano Islands. These conditions often result in low rainfall, significant fluctuations in runoff (both naturally occurring and manmade surface water conveyance) and discharge to the marine environment. Streams and small tributaries flowing to the Puget Sound are highly responsive to precipitation and in many cases are intermittent. Island County is known to have a few streams that support small populations of spawning coho, chum and/or cutthroat trout where the habitat is accessible and stream flow is sufficient. Island County near shore waters provide critical habitats for juvenile and adult salmon and their prey, forage fish.

B. Designating Geographic Risk Areas

The unique environment of Island County presents challenges for locating, designing, installing and maintaining on-site sewage disposal systems. With miles of shoreline, limited year-round streams, sole source aquifer status, fluctuating populations associated with vacation properties, and growth pressures the identification of risk-based geographic areas was a challenging task. Geographic Risk Area map delineation at the parcel level will be accomplished during Phase 1 of OSS Management Plan implementation.

Island County BOH OSS Workshop members reviewed various data to determine how to designate risk-based geographic areas in order to protect public health and that of the environment. The conclusion of the public workshop process was the creation of Geographic Risk Areas (GRA) for the entire county. The four categories from highest risk to least risk are: Category I: MRA, Category II: Sensitive Areas, Category III: Increased Risk Areas and Category IV: All Other Areas. Island County GRA is based on a risk assessment of available data to determine if OSS risk factors are significant enough to warrant inclusion in one of three higher risk categories (Figure 1). Those categories are (Category IV contains all other areas not identified below):

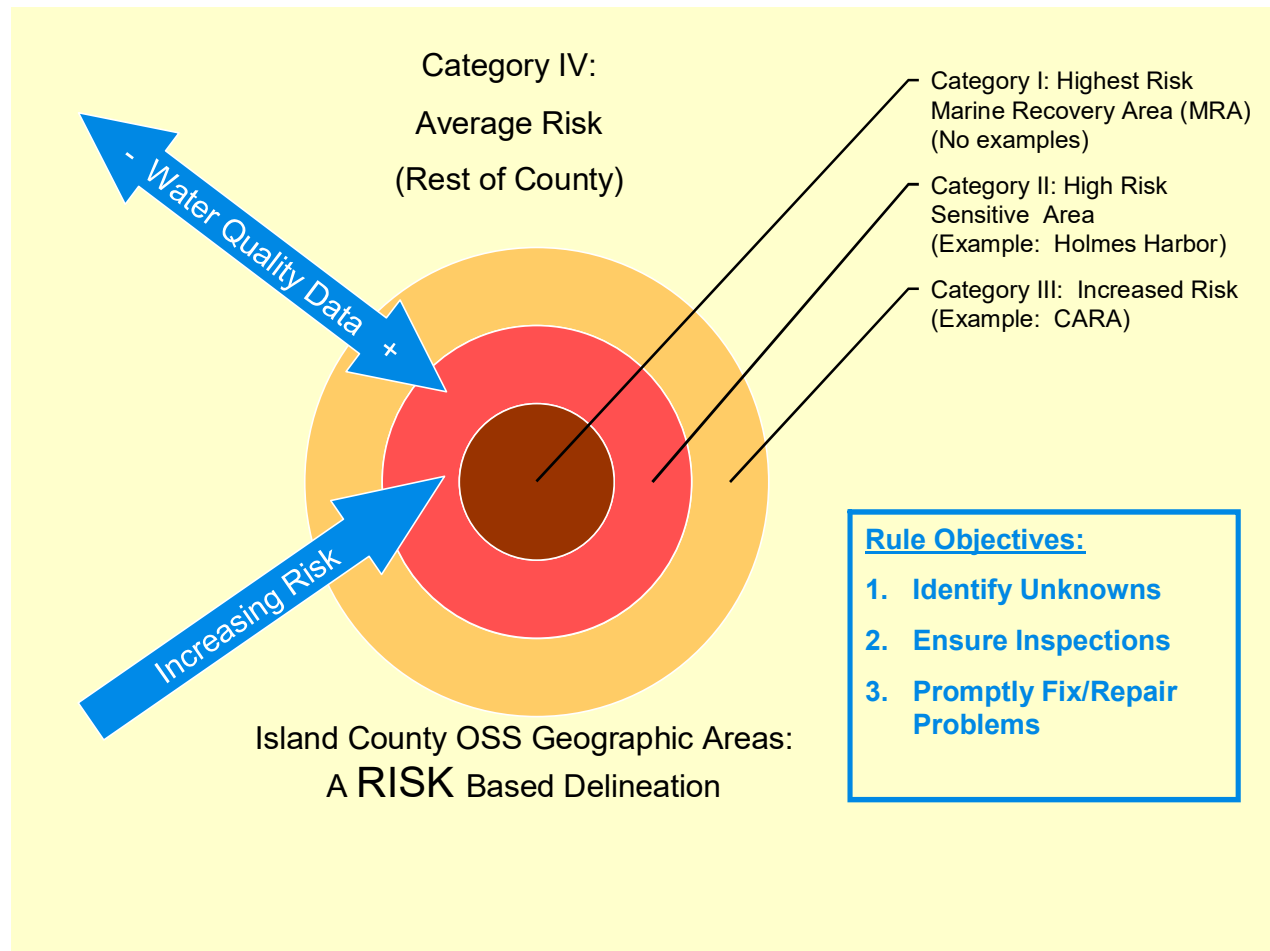


Figure 1: Island County's OSS Management Plan Decision Making Model

- Category III: Increased Risk – areas designated in accordance with Washington State directed areas requiring "priority" when local health jurisdictions are going to "identify any areas where OSS could pose an increased public health risk," (WAC 246-272A-0015 and DOH On-Site Management Plan Guidance, Part 2, Activities, Paragraph B). Island County examples: Critical Aquifer Recharge Areas (CARA) and Partridge Point's identification for OSS failure risk by DOH
- Category II: Sensitive Areas - are those Category III areas where additional water-quality data exists that merits closer OSS monitoring. Island County example: Penn Cove's listing on DOE's 303(d) list and the South Holmes Harbor Shellfish Protection District.
- Category I: MRA are those Category II areas where a water quality impairment has been identified and the impairment has been linked to OSS failure data.. There are no known areas meeting MRA requirements at this time

GRA Category II – Sensitive Areas satisfy code requirements for jurisdictions to identify areas where on-site sewage disposal systems could pose an increased risk to public health. In addition,

Category I – MRA satisfies the requirement for the local health officer to propose a Marine Recovery Area where existing, failing OSS may affect water quality in marine waters. Finally, the workshop group felt it was important to review the program annually and use adaptive management to determine appropriateness of data, boundaries and risk factors.

C. Increased Risk Areas (Category III)

From a base condition of Geographic Risk Area (GRA) Category IV, Island County first determined which areas, by exception, fit into GRA Category III: Increased Risk Areas. Since the OSS Management Plan is risk-based and data-driven, the BOH OSS Workshop group relied upon the ten elements documented by the State of Washington as involving "increased public health risk." The list below includes those identified in WAC 246-272A-0015 and DOH OSS Management Plan Guidance as needing "priority" when considering "where OSS could pose an increased public health risk." These area descriptions and other related, available data were used by OSS Workshop group to assess geographic risk.

1. **Shellfish protection districts or shellfish growing areas** – There is one shellfish protection district in Island County, located at the southern end of Holmes Harbor. It consists of two small watershed basins and was established by Island County in early 2007. Additionally, all county shoreline areas are potential shellfish growing areas according to DOH mapping data. Some areas are classified while others remain unclassified pending future action by DOH.
2. **Sole source aquifers designated by the USEPA** – Whidbey and Camano Islands have been declared a sole source aquifer by the USEPA. The Island County Board of Health OSS Workshop group determined an entire county-wide sensitive area delineation was impractical and so general as to be meaningless. The item was refined for local health jurisdiction purposes to include those parts of the county classified as High Susceptibility Critical Aquifer Recharge Areas (CARA). These areas have been delineated using best available science during the County's Watershed Planning process and in general, represent areas where surface contaminants can enter groundwater systems more readily based upon depth-to-water, surficial geology, recharge rates, and percolation rates.
3. **Areas in which aquifers used for potable water as designated under the Washington State Growth Management Act, chapter 36.70A RCW are critically impacted by recharge** – Island County's Critical Aquifer Recharge Areas (CARA) are known and delineated. These areas have been adopted by Island County in the Critical Areas ordinance and provided additional protection. The OSS Workshop members utilized the CARA maps.
4. **Designated wellhead protection areas for Group A public water systems** – There are approximately 350 Group A water systems in Island County. For those system that have submitted a waiver for soluble organic chemical sampling, wellhead protection areas have been delineated. Those areas, based on concentric circles placed around the wellhead, reflect different transit times for potential contaminants to the wellhead. Based on the hydrogeology information reviewed it was determined these protections areas are either encompassed within other Category III geographic areas or high susceptibility aquifer recharge areas represent a greater potential for aquifer contamination and should, therefore, represent this risk category.

5. **Up-gradient areas directly influencing water recreation facilities designated for swimming in natural waters with artificial boundaries within the waters as described by the Water Recreation Facilities Act, chapter 70.90 RCW** – There are no designated county natural water swimming in Island County that meet this definition.
6. **Areas designated by the Department of Ecology as special protection areas under WAC 173-200-090, Water quality standards for ground waters of the state of Washington** - There are no areas designated by the Department of Ecology for special protection in Island County.
7. **Wetland areas under the production of crops for human consumption** – Any limited areas in Island County that are defined as wetlands and used for crop production are not also used for the siting of on-site sewage disposal systems. None of these areas are proposed to be included in the higher risk category.
8. **Frequently flooded areas including areas delineated by the Federal Emergency Management Agency and or as designated under the Washington State Growth Management Act, chapter 36.70A RCW** – There are several FEMA flood areas mapped in the county. Since Island County does not support any river systems, most of the areas are extremely limited in size and occur adjacent to low-bank marine waterfront. These areas are captured in data mapping of other Cat III areas.
9. **Areas where nitrogen has been identified as a contaminant of concern** – No specific areas have been identified. Potential future designation of areas under this definition will be supported by ICHD’s groundwater protection program that collects and analyzes groundwater quality data on a regular basis.
10. **Other areas designated by the local health officer** – No other areas have been designated by the local health officer.

In addition to these ten items, the Island County BOH OSS Workshop group also considered other related water-quality data. This included information provided to Island County beyond the data making up items 1 – 10 above. Based on review, analysis and consideration of the additional data an eleventh element was added to this risk category. That element is:

11. **Other areas of increased risk based on other water quality data** – During recent years DOH has identified several areas of concern. First, DOH Office of Food Safety and Shellfish Programs' 2001 Shoreline Survey of the SW Whidbey Island Shellfish Growing Area mandated that DOH prohibited the harvest of shellfish along portions of Maxwelton, Deer Lagoons and Cultus Bay shoreline and recommended the closure of public beaches (see DOH January 16, 2002 memo). Secondly, DOH has identified Shellfish Growing Areas Potentially Impacted by OSS based on shoreline survey and sanitary surveys that includes areas near Partridge Point, Penn Cove and Saratoga Passage (see DOH Puget Sound County Environmental Health Directors Meeting, March 14, 2007 Shoreline Survey Program presentation).

The BOH Workshop group discussed all eleven elements and related data, including where on-site sewage disposal systems may pose an increased risk to public health. One of the difficulties the group had was trying to determine the appropriate geographic boundary associated with data for some of the elements. In some cases, little to no data was available on establishing boundaries. The group used available data and formed boundary areas of GRA Category III:

Increased Risk (See Map A). GRA map delineation at the parcel level will be accomplished during Phase 1 of OSS Management Plan implementation.

D. Sensitive Areas (Category II)

The BOH OSS Workshop group next considered all available data to satisfy code requirements for jurisdictions to identify areas where on-site sewage disposal systems could pose an increased risk to public health. In order to qualify as a Sensitive Area, a location had to be part of Category III: Increased Risk and be represented by additional water-quality data indicating an impairment of a surface or groundwater. Based on these criteria it was determined that two areas met the requirements of a Sensitive Area. The first Sensitive Area surrounds Penn Cove by virtue of its DOE 303(d) listing by DOE. The second Sensitive Area is the Southern Holmes Harbor Shellfish Protection District, due to existing water quality data from multiple sources (See Map A and the Island County Southern Holmes Harbor Shellfish Protection District Strategy Plan).

E. Marine Recovery Areas (Category I)

Chapter 70.118A of the Revised Code of Washington requires the twelve Puget Sound local health jurisdictions to identify and develop Marine Recovery Areas (MRA). The law requires the local health officer to propose an MRA where existing on-site sewage disposal systems are a significant factor contributing to concerns associated with:

- Threatened or downgraded Shellfish Growing Areas
- Marine water with low dissolved oxygen or fecal coliform
- Marine waters where nitrogen has been identified as a contaminant of concern

Based on available data the Island County Board of Health Workshop group concluded there were no marine areas meeting the Marine Recovery Areas criteria at this time. Therefore, no Marine Recovery Areas were designated. However, the county will review surface and marine water quality data annually and identify an appropriate Marine Recovery Area should the need arise.

F. Coordination with Planning Entities

Coordination with the various planning entities has been an on-going activity within Island County for a number of years. With few incorporated towns, the main coordination is primarily with Island County Planning and Community Development Department (ICPCD). ICHD and ICPCD are located near one another and have a good working relationship. Staff interacts daily with coordination occurring on several levels.

A draft *Interdepartmental Data Sharing and Communication Protocol* has been developed between ICHD and ICPCD. Establishing a communication protocol was necessary to ensure that the ICPCD Water Quality Monitoring Program and the On-Site Wastewater Program coordinate on-going efforts to identify and correct contaminant sources.

As needed, appropriate sewage permit applications are routed to ICPCD for a critical area review. Review includes setback and compliance with numerous critical areas including wetlands, archaeology sites, steep slopes, frequently flooded areas, Bald Eagle sites, critical aquifer recharge areas, Marine Fish and Wildlife Habitat Conservation Areas, and other critical habitats. Second, ICHD is asked to review and comment on changes/updates to the Comprehensive Land Use plan, Critical Area Ordinance and other land use issues. Finally, ICHD works closely with ICPCD to determine which code revisions and plans must undergo a State Environmental Policy Act (SEPA) review.

Part 3: Operation & Maintenance Requirements

Introduction

This section describes Operations and Maintenance (O&M) requirements that ICHD had in place prior to the development of this plan. It also describes the OSS requirements for all Geographic Risk Categories (GRA) when the plan is implemented. The section is divided into four parts. Part A describes the program in place prior to the adoption of WAC 246-242A. Part B includes additional requirements of GRA Category IV as identified in Part 2 of this plan, Part C will describe actions for GRA Category III: Increased Risk, Part D describes actions for GRA Category II: Sensitive Areas and Part E will describe actions for GRA Category I: Marine Recovery Areas.

A. Existing County-Wide Operation & Maintenance Program

System Maintenance

On-site sewage systems need periodic evaluation to assess proper function and to identify needed maintenance activities or changes in operation. Elements of the existing program include:

- Maintain Septic Pumper Database:

Septic tank pumpers licensed by the Island County Health Department provide record of each septic tank pumped in Island County either directly or through the Whidbey Island Sewage Treatment Facility. The pumping records are input into a database that interfaces with the County Assessor's property records.

- Pumping Reminder Mailing:

The database is periodically used to generate a report and mailing labels for the properties with no record of septic pumping within the last three years.

- Septic Certification for Lending Institution Purposes:

Individuals licensed by ICHD and the Washington State Department of Licensing conduct inspections and certifications at the time of sale or title transfer. ICHD reviews evaluations and provides input when deemed necessary.

- Operation and maintenance requirements for systems of greater complexity:

ICC 8.07C has adopted the State Department of Health Revised Standards and Guidelines (RS&G) for the review of on-site sewage system design. The RS&G's require for design approval various levels of operation and maintenance standards. These standards vary from providing the homeowner with a User's Manual to requiring a recorded Operation and Maintenance agreement between the homeowner and a licensed professional for the life of the system.

- Operation and maintenance activities for on-site sewage systems serving non-residential establishments:

Commercial and food service establishments are required to obtain annual operating permits for the on-site systems serving their establishments. Renewal of such permits also requires the submission of a maintenance record detailing the frequency and extent of all operation and maintenance activities provided to the system. Acceptance of the system evaluation by ICHD is required prior to annual permit issuance.

Individual homeowners are required to evaluate the level of solids within the septic tanks serving their homes once every three years. Septic tanks are required to be pumped when the level of solids reaches one-third the volume of the tank. Homeowners are also responsible for providing protection of their on-site systems from developmental impacts such as buildings, parking, and surface water.

- Digitally scanned on-site sewage records in centralized database:

These electronic records will be used to provide accessible information on the location of all on-site systems within the jurisdiction, evaluate the frequency of operation and maintenance activities for those systems, and provide a link to all other county programs that issue development permits.

Education

Public Education is provided to property owners with on-site sewage disposal systems. Operation and Maintenance information is disseminated through one-on-one direct contact, public education activities, and group presentations.

- Direct Contact (telephone calls and office visits for information), site visits, “asbuilt” sticker and O&M brochures sent at the time of new installation or repair:

Telephone Calls and Office Visits (average 1-2 per week) and site visits (in conjunction with complaints - average 10 per month).

“Asbuilt” stickers sent starting in 1993. “Asbuilt” stickers are distributed to property owners with newly installed or repaired sewage systems along with a Homeowners manual and Maintenance Guide. The sticker is intended to be placed in a prominent location and be used by the owner to record maintenance dates and activities. An on-site educational brochure is included for the appropriate type of system installed.

- Public Education (Fairs, Festivals, Forums):

Materials Available - Velcro On-Site Display, static septic system model and a working model septic tank and drainfield, and O&M brochures.

Yearly Events: Sound Waters Workshop sponsored by IC Beach Watchers, Master Gardeners Workshop sponsored by IC Master Gardeners, Penn Cove Water Festival and Island County Fair.

- Group Presentations (Homeowners Associations, Civic Groups, Property Managers, Real Estate Professionals):

Materials Available: 40 minute O&M On-Site Slide Presentation, Brochures.

Beach Watcher Classes Average class size 25. Presentations have been given since 1990. Classroom time: 2 hours.

Waste Warrior Classes. Average class size 20. Presentations have been given since 1992. Classroom time: 2 hours.

N. Whidbey Property Managers Association. Attendance 20 property managers. Every two years. 30 – 40 minute presentation.

Quarterly O & M Workshops are provided in partnership with IC Waste Warriors through funding by ICHD. Two-hour workshops are provided throughout the County.

- Effectiveness:

Public Education: Approximately 100 on-site brochures given out per day at Festivals and Fairs.

Group Presentations are very effective at providing understanding and knowledge of the operation and maintenance requirements of on-site sewage systems.

Regulation and Correction of Failing Systems

Investigation of sewage complaints includes education about on-site system and non-point pollution. Enforcement and resolution of failing drainfields occurs through site inspections, education, stop work orders and order letters, and the provision of loan funds for homeowners meeting financial eligibility requirements.

- Investigation of failing drainfield complaints and appropriate corrective action for confirmed failures including repair and enforcement. Information disseminated to homeowners includes, List of Licensed Island County Installer/Designers, List of Licensed Island County Septic Pumpers with 10 Septic System Do's and Don'ts on the back, General Information for Sewage Disposal Permits for Residential Construction, O&M brochure appropriate for the system type:

ICHD averages of 100 complaints per year regarding failing on-site systems.

State Revolving Loan Fund. Low interest loans and grants to low income Island County households for drainfield repairs.

- Effectiveness:

Most property owners respond quickly when notified of problem, especially at the time of sale of a home. Numbers of complaints have dropped from an average of 210 per year for 1991 – 1993, 125 per year for 1994 –1996 and 100 per year for 1996 -2000. In addition to the homeowner with the problem, operation and maintenance information is often given to the complainant.

Additionally, there are approximately 2,000 - 5,000 unknown systems and numerous known systems without adequate records. Therefore, in order to identify unknown systems and to complete our records of known systems, an as-built drawing must be on file for all systems prior to obtaining a building permit or at time of sale. Said drawing must be completed by a licensed installer, a licensed wastewater system inspector or state-licensed designer. Those licensing systems are yet to be finalized at the present time.

B. County-Wide Operation & Maintenance Program under WAC 246-272A (July 1, 2007)

The following elements are revisions and additions to the operation, monitoring and maintenance program for Island County. The structure of the revised O&M program is based on the following underlying elements:

- A strong education program that informs owners of new requirements and benefits of maintaining and inspecting their OSS.
- Requirements for OSS inspections described in paragraph B are understood to be basic, county-wide actions and the follow-on paragraphs C and D focus on higher risk area activities.
- Risk-based, data-driven prioritization of compliance actions. As compliance actions move to the higher risk Category III and Category II there are most resources invested by Island County resolve the compliance issue.
- Incentives to encourage OSS owners to become educated, involved, and informed regarding their OSS systems. Incentive programs should include self-education and programs to assist lower-income owners with inspection and repair costs.
- Penalties as a last resort in order to achieve compliance by OSS owners. This step should only incur after education, notices, warnings, incentives and all other measures have failed.
- OSS owner-friendly programs and processes. It is fundamental to the plan that in order to engage the public, program elements need to be accessible, transparent and easy to use.

The program is divided into three areas:

- Inspection Requirements & Frequency
- Education
- Compliance & Enforcement

The program was developed after reviewing several EPA identified operation and maintenance models and several regional programs. The program is the product of the public process of engagement that was carried out during the Island County Board of Health's workshops. The program calls for more active education, inspections, compliance and enforcement than contained in previous county OSS programs. As is described further in Part 4 of the plan the needed resources for OSS plan implementation is not contained in the ICHD budget. Funds will be programmed from Island County's general fund for Phase 1 operations, while Phase 2 funding sources will be determined during Phase 1 (see Part 4 for further details). The goal of Phase 1 is to be self-contained both in terms of program operations and funding so as not to degrade other existing ICHD programs, while allowing for full preparation of Phase 2: O&M program implementation.

Inspection Requirements and Frequency: The property owner is responsible for properly operating and maintaining the on-site sewage system according to the original design standards. All sewage disposal systems need on-going inspections to insure proper operation; however, not all systems require the same inspection frequency.

After reviewing State DOH guidelines and discussing system complexities the following inspection frequencies and requirements were developed:

1. The OSS owner is responsible for ensuring OSS inspection by a wastewater system inspector according to items 2, 3, 4 and 5 below except:
 - a. The resident owner can inspect their system provided the owner has demonstrated knowledge.
 - b. Verification of knowledge (e.g. certificate, passing test score, etc.) must be included with the inspection report.
2. All systems must be inspected in accordance with WAC 246-272A-0270. Said inspections must be completed as follows:
 - a. At least every three years for systems consisting solely of a septic tank and gravity subsurface soil absorption system (SSAA);
 - b. Annually for all other systems unless more frequent inspections are specified by the local health officer.
3. Systems serving commercial establishments or larger OSS must be inspected as follows:
 - a. Food Service Establishments must be inspected annually;
 - b. Mobile Home Parks must be inspected annually.
 - c. Community on-site sewage systems or large on-site sewage systems shall be operated and maintained in accordance with the permit authorizing their construction. In the case where the construction permit does not address maintenance and operation, they will be inspected annually.
4. The homeowner or maintenance contractor shall report fully on the status of the on-site system using a form prescribed by the Health Officer or via electronic submission if available. A filing fee may be established by the Health Officer.
5. The homeowner or maintenance contractor shall report immediately any identified on-site system failure to the department.

Education: ICHD will develop and provide educational materials regarding operation and maintenance of on-site sewage systems to system owners. Resources may include but are not limited to brochures, videos, newspaper articles, and classes/seminars. Educational outreach may include the following:

1. Reminders and/or informational notices placed in the local papers periodically but not less than once a year.
2. Notification reminders, including an educational packet containing information on the proper system type.
3. Videos or CDs placed in the local libraries.
4. Educational information will be distributed to installers and maintenance providers
5. All existing system owners will be encouraged to install features to allow proper monitoring and inspections, such as access risers, observations ports, and clean-outs, to be effectively monitored and inspected. Many older systems do not contain these essential features.

Finally, partnerships with contractors, realtors and other groups will be used to disseminate educational information to system owners. Effectiveness measurement is a core requirement of education and outreach activities of the OSS Management Plan. These measures will be included in the basic, county-wide program and will be a critical feature to higher risk Category III and II areas as well.

Compliance & Enforcement: On-going active enforcement is essential for an effective O&M program. A monitoring program will be established to verify inspections are being conducted as outlined above. Listed below are the steps ICHD will take to ensure inspections are occurring as required:

1. Notification reminders/educational packets will be sent to property owners during the year the inspection is due.
2. Notice of compliance will be sent to property owners who are 90 days or more behind on the required inspections.
3. Verification that the O&M inspections have been completed per the established inspection schedule will be required prior to obtaining a building permit on the property or at the time of property sale.
4. Incentives will exist to encourage compliance. A basic owner inspection incentive is one of education. As described above, an owner who demonstrates OSS knowledge by successfully attending an appropriate OSS course can avoid inspection fees by inspecting their own OSS. Further, incentives will be provided to lower-income owners to assist with inspections and repairs.
5. An Administrative penalty may be assessed by ICHD for lack of compliance as a last administrative resort. (There will continue to be the option in situations which are a risk to public health the option of seeking injunctive relief from the Island County Superior Court.)

C. Geographic Risk Category III: Increased Risk Areas Additional Requirements

Island County determined the following additional O&M requirements will be instituted by ICHD in Increased Risk Areas:

1. Increased monitoring of Island County's Water Quality Monitoring Program data
2. Increased focus on access and analysis of related government water quality and hydrologic data (sources including Island County, DOE, DOH and the federal government)
3. Increased timeliness in responding to OSS failure notices
4. Increased focus on eliminating the number of unknown OSS
5. Increased use of sanitary surveys and windshield surveys
6. Increased coordination with WSU Beach Watchers and other education and outreach programs for targeted public outreach, with effectiveness measures for all program elements, including any Septic 101 compliance/incentive classes
7. Increased coordination and communication with affiliated government organizations, such as local conservation districts
8. Increased coordination and communication with Island County Planning and Community Development and Public Works to increase situational awareness of Geographic Risk Areas
9. Increased communication with Island County's Water Resources Advisory Committee and Marine Resources Committee for project planning and citizen outreach
10. Annual Category III risk assessment reporting to Island County Board of Health for its consideration

D. Geographic Risk Category II: Sensitive Areas Additional Requirements

Island County determined the following additional O&M requirements will be instituted in Sensitive Areas:

1. Carry forward all elements of Category III requirements
2. Increased use of Island County's Water Quality Monitoring Program
3. Watershed targeted ICHD public education and outreach program with performance evaluation effectiveness measures developed during Phase 1 of this plan
4. Elimination of unknown OSS as identified during Phase 1 of this plan
5. Annual Category II risk assessment reporting to Island County Board of Health for its consideration

E. Geographic Risk Areas I: Marine Recovery Area Strategy

No Marine Recovery Areas were identified based on analysis of existing data. In order to maintain Island County's risk-based and data-driven philosophy, an annual MRA risk assessment report will be conducted and provided by ICHD to the Island County Board of Health for consideration.

Part 4: Implementation Plan & Summary Timeline

Introduction

This section describes the Island County implementation plan resulting from the Board of Health OSS Workshop group determinations described in Parts 1 – 3. Island County believes that successful implementation of the OSS Management Plan will depend on a stable funding source and phased implementation. As with the rest of the plan, implementation will be risk and data driven, as well as be based on the availability of resources in order to carry out the two implementation phases. Those phases are:

- Phase I: Start-Up Activities
- Phase II: Implementation Activities

Phasing: In order to effectively implement and manage the above program the phases include:

Phase 1: Start-Up Activities (July 1, 2007 to December 31, 2008)

During the initial phase the county will finalize mechanisms to notify system owners, receive and track inspection reports, refine the enforcement procedures, track compliance and determine the resources necessary to fully implement the plan. Before ICHD can implement the plan to comply with WAC 246-272A requirements, it must ensure that regulatory, administrative, financial, and public outreach elements are in place for effective and coordinated implementation.

The needed resources for Phase 1 Start-Up Activities will come from Island County's current expense account. Those funds will be dedicated solely to the OSS O&M program in order to maintain current ICHD operations in parallel with the ramp up from July 1, 2007 through December 31, 2008. All Phase 1 funds will be used to select, train and employ O&M staff members who will review all inspection reports, track compliance and respond to failures. As is further described at the conclusion of this part the needed resources for Phase 1 was not previously programmed into the ICHD budget and will programmed from Island County's general fund. The goal of this phase is to be self-contained both in terms of program operations and funding so as not to degrade other existing ICHD programs, while allowing for full preparation of O&M program implementation.

Specifically this phase will accomplish:

1. Regulatory Updates

Based on WAC 246-272A and related Island County Board of Health OSS Workshop group products, regulatory updates to the OSS ordinance will be required. During this phase required updates not completed prior to July 1, 2007 will be accomplished. Amendments may include elements such as:

- Professional Maintenance Provider certification/license requirements

- OSS owner 'training' approval requirements
- Enforcement procedures for O&M non-compliance
- Requirements for OSS inspection at time of property transfer

2. Financial Administration

As previously described, OSS management capacity is directly related to funding levels. During this phase ICHD will accomplish the following activities to establish a funding source for both program phases:

- Initially (July 1, 2007 – December 31, 2008) funding for the program will come from contributions from the County's Current Expense Fund
- Research development of grant and loan programs for hardship case OSS repair and replacement
- Research development of hardship case low-cost/no-cost inspection program
- Implementation of administration of revenue tracking, grant and loan program and hardship cases

3. Notification and Records Tracking and Retention

During this phase ICHD will develop and implement notification systems for OSS owners whose inspections are due and to ensure that all OSS records are maintained properly. Necessary activities include:

- Track proper functioning of notification system
- Validation of record retention system

4. Education and Outreach

As described earlier, this OSS Management Plan is based on a belief that success depends on OSS owner's commitment to system O&M and repair. An effective education and outreach program will increase OSS owner knowledge of new inspection requirements and their relationship to the community. The following activities will be accomplished during this phase of the management plan:

- Develop OSS owner inspection training program
- Develop general public education outreach materials
- Implement programs

Phase 2: Implementation Activities (Starting January 1, 2009)

Phase 2 begins at the conclusion of Phase 1 activities. This represents the accomplishment of needed regulatory changes, establishment of funding, licensing of maintenance providers, OSS owner training program creation and implementation public education and outreach program. To accomplish full implementation of the remainder of OSS Management Plan the following tasks need to be accomplished during this phase:

1. Public Notification
2. Ensure Adequate Inspection Capacity
3. Track Inspection Activity
4. Accomplish Category III targeted activities
5. Accomplish Category II focused activities
6. Continued Public Education and Outreach

Resources Needed to Implement OSS Management Plan

ICHD currently does not have sufficient capacity to implement all of the activities outlined in this plan. The Island County Health Department estimated the annual costs for program implementation and operation is approximately \$320,000 (2007 dollars). This includes funding for the hiring of additional ICHD employees, vehicles, education and outreach, as well as other associated costs.

As described earlier needed resources for Phase 1 Start-Up Activities will come from Island County's current expense account. Those funds will be dedicated to the OSS O&M program in order to maintain current ICHD operations in parallel with the ramp up from July 1, 2007 through December 31, 2008. Prior to entering Phase 2, a long-term funding mechanism will be identified by the Island County Board of Health and the Board of Island County Commissioners.

Appendix: Maps

Map A: Geographic Risk Areas (GRA) Category I - IV: Increased Risk Areas, Sensitive Areas and Marine Resource Areas (GRA map delineation at the parcel level will be accomplished during Phase 1 of OSS Management Plan implementation).