Septage Capacity Assessment

Prepared for:
Washington State Association of Local Public Health Officials (WSALPHO)

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Septage Capacity Assessment

Project Information

Project: Septage Capacity Assessment

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Executive Summary

As Washington grows in population and housing, the ability to successfully manage sewage waste is a critical component. Proper management enables the state to accommodate existing development while anticipating the added infrastructure required to support our growing population. To better understand the current and future conditions of septage waste management, SCJ Alliance, also called "the project team," conducted the following study on behalf of the Washington State Association of Local Public Health Officials (WSALPHO). This study examines current and future septage generation levels, assesses the septage handling industry's current state, considers existing facilities' ability to receive septage waste, identifies septage management challenges and opportunities, and provides recommendations for next steps.

In this Section:

- What is septage and why is this study important?
- Key findings
- Opportunities and recommendations

What is septage and why is this study important?

Septage is the waste removed from septic tanks, cesspools, portable toilets, RV holding tanks, and similar systems used to store domestic sewage. Proper septage management is vital to preventing system failures, sewage spills, and pollution emissions into the environment. If not managed correctly, these systems can contaminate groundwater, harm wildlife, and threaten public health in Washington. While septic systems are most common in rural areas, they are used across the state in areas where sanitary sewer collection systems are not available. As the population increases, the amount of wastewater also increases, further straining the state's ability to manage it properly.

The importance of this study lies in addressing current system shortfalls and preparing for future demands. By collecting more targeted data, planning better sewage management, working with the industry, and improving infrastructure, Washington will be well-positioned to manage the growing demand for wastewater treatment and septage management as more housing is built.

A pump truck servicing a residential septic system.

Key findings

Capacity issues:
Many wastewater treatment facilities (WWTFs) manage and treat sewage from urban service areas but often lack the capacity to handle septage or can only accept small amounts because of treatment limits. Septage Management Facilities (SMFs) and WWTFs provide an important function by increasing capacity for septage treatment and management in rural areas. These facilities also have the potential to be more readily established and operated, often by private businesses.

Data gaps:
Data on septage production and treatment facility capacities is limited, hindering the accuracy of assessments of the state's septage management needs.

Logistical and cost challenges:
Septage handling can be expensive. Long hauling distances due to a lack of nearby treatment facilities, higher nutrient levels that increase the difficulty and cost of treating the waste, and limited capacity at treatment facilities all add to the cost, which is passed on to the owner of the sewage system. Treatment of fats, oils, and grease (FOG) also creates extra costs and handling challenges.

Regulatory and permit challenges:
Discharge permits and regulatory restrictions limit the ability of some WWTFs to accept septage. Also, because of limited staff and funding, there is not enough enforcement of inspections for on-site sewage systems (OSS), particularly when homes are sold. This means problems with septic systems might not be identified and repaired, which would otherwise benefit both the buyer and the environment.

Comprehensive planning:
While the Growth Management Act (GMA) aims to ensure adequate infrastructure to support development, most comprehensive plans do not account for septage treatment and management facilities associated with OSS. Notably, some counties do not have any septage receiving facilities.

This study uncovered key concerns, including the low number and poor distribution of facilities actively receiving septage, especially in rural areas. The data provided by WSALPHO and the Department of Ecology, along with the additional data collected in this study, provides a relatively good understanding of the current state of septage management and its challenges across the state. However, more focused data collection, analysis, and interpretation will provide a clearer pathway to develop a more robust and resilient infrastructure for future septage management.

Opportunities and recommendations

Based on the research, analysis, and discussions alongside various stakeholders, the following recommendations and opportunities are proposed:

Recommendations requiring legislative action:

- Fund a fiscal analysis of potential infrastructure solutions for wastewater treatment facility capacity challenges across the state.
- Amend the Growth Management Act for all counties to account for local OSS and treatment facilities serving their jurisdiction.

Staffing, data, and capacity building opportunities:

- Explore solutions with self-funding mechanisms to address staffing capacity challenges for collecting and reporting septage data at the state and local levels.
- Fund ongoing, statewide septage data collection and create avenues for digitizing records for efficient management and data analysis.
- Enhance interagency coordination for efficient data utilization and planning.
- Support local financial assistance programs for septic system inspection and maintenance, especially as they relate to cost-burden status or environmentally sensitive areas.

Collaborative partnership opportunities:

- Continue building relationships and coordinating planning efforts with each Tribal Nation in Washington on septage waste management, respecting each Tribe's inherent sovereignty and self-determination.
- Explore opportunities for public-private partnerships to improve septage waste management.
- Improve public education of OSS maintenance requirements and accessibility through partnerships, regional coordination, and training program opportunities.

Without implementing strategic solutions, the state's projected growth will likely further stress already strained wastewater treatment and management systems. In turn, this has the potential to hinder affordable housing development, increase public health and environmental risks, further complicate future impacts of climate change, and constrain overall growth and economic development across Washington.

Background

To discuss septage management, it is important to first provide the groundwork needed to understand the context of this study. This includes defining key terms, offering an overview of the study's goals, and outlining the septage cycle—where it begins and how it is handled. Additionally, looking at previous studies helps to highlight the challenges and advancements in the field. This all sets the stage for a deeper understanding of the issues and the importance of effective septage management in Washington.

In this Section:

- Setting the scene
- Definitions of important technical terms
- 2025 septage study overview
- Septage waste lifecycle
- Overview of previous relevant studies

City of Everett Wastewater Treatment Plant entrance, Photo by Joe Mabel

By 2040, Washington's population is projected to grow by over a million people.[1] This growth will increase the demand for housing and the wastewater infrastructure needed to support it. While the state works to accommodate growth through measures aimed at increasing the supply, diversity and affordability of housing, it is also important to build enough infrastructure to support the growth.

The types of wastewater treatment systems and methods depend on the location of the new housing and services that are available at the time of construction. Washington's planning framework directs counties and cities to design for growth in urban growth areas where adequate public facilities and services are available or can be efficiently provided. However, growth is also occurring in rural areas where public sewer and wastewater treatment facilities are not available.

As more homes are built in areas without sewer systems, more people rely on on-site sewage systems (OSS), also called septic systems. The state has invested in improving water quality and educating homeowners on how to take care of their septic systems. This study takes the next step

[1] Per the Office of Financial Management population projections at https://ofm.wa.gov/washington-data-research/population-demographics/population-forecasts-and-projections/growth-management-act-county-projections/growth-management-act-population-projections-counties-2020-2050

by presenting and analyzing important data and providing recommendations to help key stakeholders manage the challenges of pumping, hauling, and handling septage across the state.

In the past, wastewater treatment plants (WWTPs) were expected to handle all the septage generated in each county. However, this is no longer true in many areas, especially in counties surrounding Puget Sound, where nitrogen level limits are tightly regulated. Since septage has high levels of nutrients, adding it to a wastewater treatment plant can overload the system and make it harder for the plant to treat the waste. This additional burden can significantly increase treatment costs as more resources and energy are required to manage the excess nutrients and maintain the efficiency of the plant. Also, with the growing population and more wastewater being produced, many WWTPs are already at or near capacity and cannot take in any more septage without major upgrades to their facilities.

There are approximately 78 facilities that accept septage under Ecology's biosolids permitting program, but many of these facilities cannot accept more due to limited capacity. Without solutions for managing septage to handle future growth, areas that rely on on-site sewage systems (OSS) will face challenges associated with inadequate septage capacity. These challenges include increased stress on existing WWTFs, discontinuation of septage acceptance by burdened WWTFs, longer hauling distances, higher septic maintenance costs for homeowners, and more septic system failures due to delayed maintenance. These problems lead to greater environmental health risks and may slow development in rural areas.

This issue is compounded by climate change, including rising sea levels, increased flooding, and higher water temperatures. These changes will put more stress on wastewater systems and increase environmental risks. Solving the challenges of septage treatment and management will strengthen existing systems, create capacity for future growth, and help minimize disruptions to statewide growth plans while protecting the environment.

This report presents data that shows the need for statewide action to manage septage and support future growth. It starts with background information, including key definitions and an overview of this and previous studies. This is followed by sections addressing septage generation, septage handling, and septage receiving (treatment and management) across the state. This report concludes with a discussion of the challenges and opportunities in septage management, along with recommendations requiring legislative action and a summary of the findings.

Better understanding and action on this issue will lower the barriers to developing septage infrastructure that benefit communities across the state by supporting growth, protecting natural resources, and boosting economic development.

Definitions

Many terms within this report have unique definitions when used in the context of wastewater treatment. Below is a list of terms and definitions used throughout this report. Understanding the exact meaning of these terms will be helpful in evaluating the ideas discussed.

- **Biosolids –** A product of wastewater treatment where solid waste is separated from liquid waste and treated to produce a semisolid, nutrient-rich product.
- **Biological Recycling –** An emerging technology that uses microbes, such as bacteria or fungi, to break down plastic into its basic components for reuse. Also known as biorecycling.
- **Cesspool –** A pit or underground system for the temporary capture and storage of wastewater. These systems do not treat waste but instead hold it until it can be treated elsewhere.
- **Commercial Sewage –** Wastewater generated from businesses, such as restaurants or hotels, which have uniquely elevated levels of some contaminants, such as oil or grease.
- **DOH –** Washington State Department of Health
- **Domestic Sewage –** Wastewater generated from household activities, commonly associated with septage.
- **Drainfield –** A septic treatment system that takes the liquid portion of the waste flows and infiltrates it into the ground through a series of underground trenches for treatment. Drainfields are commonly paired with septic tanks. Also known as a Leaching Field or Dispersion Field.
- **Ecology –** Washington State Department of Ecology
- **FOG –** Fats, oils, and grease.
- **Illicit Discharge –** Any release or dumping of septage in an unsuitable or otherwise unpermitted manner. This includes the dumping of marine vehicle septage into bodies of water.
- **Incineration –** A form of septage management where it is burned and reduced to ash.
- **Industrial Sewage –** Wastewater generated from manufacturing or chemical processes, which can have a wide variety of contaminants.
- **Land Application** – A form of septage management where biosolids are sprayed, spread, or incorporated onto land to condition or fertilize soil. There are requirements on the treatment levels for biosolids.
- **Landfill –** A facility or form of waste disposal that disposes of waste through burial.
- **Large On-Site Sewage System (LOSS) –** A system that conveys, stores, treats, and provides underground soil treatment and disposal of domestic sewage. Per State regulations, design flows for a LOSS are between 3,500 to 100,000 gallons per day. These systems typically consist of one or more septic tanks
- **Municipal Sewer –** Sewer systems under the control of the municipality or public authority, including treatment plants or other systems.
- **OFM –** Washington State Office of Financial Management

- **On-site Sewage System (OSS) –** A system that conveys, stores, treats, and provides subsurface soil treatment and disposal of domestic sewage. These systems are commonly used for residences and small businesses, have flows of less than 3,500 gallons per day, and typically consist of one or more septic tanks.
- **PFAS –** Perfluoroalkyl and Polyfluoroalkyl Substances, or "forever chemicals," such as those found in cleaning and personal care products.
- **Septage –** Solid or liquid material that is pumped from septic tanks, cesspools, portable toilets, RV holding tanks, Type III Marine Sanitation Devices, or similar systems that receive domestic sewage.
- **Septage Management Facility (SMF) –** A facility that applies septage to the land or one that treats septage for application to the land.
- **Septic Tank –** A system that partially treats and holds wastewater by separating solid waste from liquid waste. Septic tanks commonly send the liquid waste out to be treated in a drainfield or to be treated elsewhere, while the solid waste requires regular pumping for treatment elsewhere.
- **Solids –** The solid components of wastewater and septage that are a result of separation from the liquid waste.
- **STEP System –** A system consisting of a septic tank and effluent pump for discharging the septic tank effluent into a sewer collection system which is then conveyed to a LOSS or other WWTP for treatment. The solid waste is periodically pumped from the tank for off-site treatment and management.
- **Treatment Works Treating Domestic Sewage (TWTDS) –** A publicly owned treatment works or any other sewage sludge or wastewater treatment devices or systems, regardless of ownership, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage or sewage sludge, including land dedicated for the disposal of sewage sludge. A Wastewater Treatment Plant (WWTP) and a Wastewater Treatment Facility (WWTF) are a type of TWTDS.
- **Type III Marine Sanitation Devices –** Any device that prevents overboard discharge of treated or untreated sewage or any waste derived from sewage. This is typically a holding tank but includes other technologies such as incineration.
- **Urban Growth Area –** An unincorporated area designated by a city for growth to accommodate urban expansion of the city in a manner that basic services can reasonably be extended.

2025 septage study background

In September 2024, SCJ Alliance Consulting Services, also referred to as the "project team" within this report, was contracted by WSALPHO to conduct a study on septage capacity in Washington. The project team worked closely with WSALPHO staff, Ecology, DOH, and the solid waste subcommittee of the WSALPHO Environmental Public Health Committee (WSALPHO Project Management Team).

WSALPHO hired the project team to research and study how septage is treated in Washington. The responsibilities and expectations included in the Request for Proposals (RFP) from WSALPHO are summarized below.

- Study how existing wastewater treatment facilities treat septage, focusing on climate, equity, and important geographic data like water sources, shoreline zones, wildlife habitat, and land use maps.
- Study other facilities that accept septage, such as those that offer biorecycling, or biosolids management facilities.
- Make maps to show where septage is treated, areas of new housing growth, areas that use OSS, and areas that are at risk from climate change.
- Consider infrastructure strategies and best practices used locally and nationally.
- Find opportunities, challenges, legal issues and costs for other solutions, including developing infrastructure.
- Hold interviews with people involved in septage treatment in Washington. The interviews will focus on problems with current treatment capacity and challenges related to facility access.

Teams worked together to gather information, create and send out surveys, meet with stakeholders, review drafts, and discuss the best approaches for recommendations and growth projections. A key part of the study was answering the following 11 questions posed by WSALPHO and its members in the project's scope of work:

1. How much septage is produced in each county?
2. What is the existing capacity for handling septage in each county?
3. What is the existing capacity for land applying ONLY septage in each county (not septage mixed with biosolids)?
4. How many treatment works treating domestic sewage (TWTDS) in each county are allowed to accept and treat septage?
5. How many TWTDS in each county accept and treat septage?
6. If a TWTDS accepts septage for treatment, how many gallons do they accept annually?

7. If a TWTDS can accept septage but doesn't do this as part of regular operations, why don't they accept septage?
8. What landfills in the state will accept septage for disposal?
9. If a landfill accepts septage for disposal, what requirements must be met before the material can be accepted for disposal (if applicable)?
10. What are the future capacity needs for septic tanks and similar systems due to development growth in the next 15 years, and what are the expected barriers to reaching those needs?
11. What are the costs to businesses and homeowners associated with having tanks pumped?

The answers to the questions that were discoverable are described in **Summary of findings** and are also reflected within the **Executive Summary**, **Opportunities and recommendations**, and **Conclusion** sections of this report.

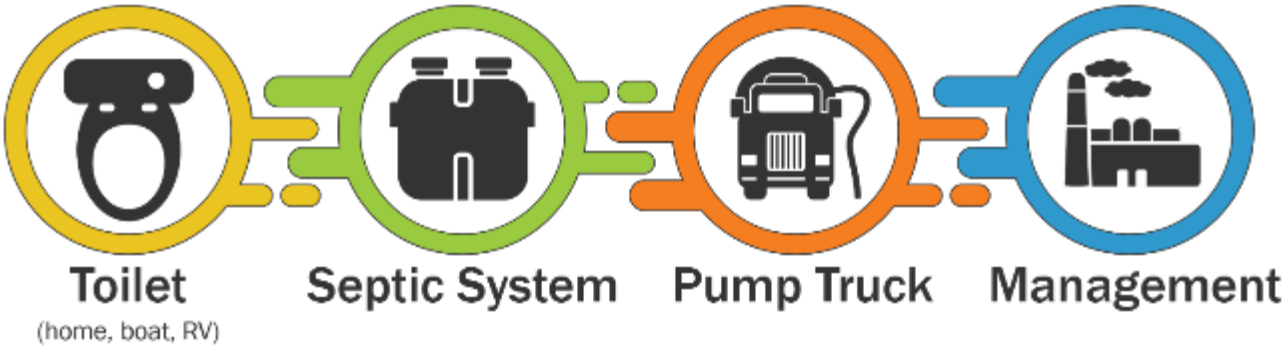


Figure 1. The basics of the septage lifecycle

Septage waste lifecycle

For many homes, when the toilet flushes or the sink drains, the solid and liquid waste travels through pipes to a central system owned and managed by the city in which they are located or a local government. However, there is no central system to use for homes in rural areas or in certain types of mobile homes, such as RVs and marine vessels. These homes rely on on-site sewage systems (OSS), cesspits, and pump stations to collect the waste, which is called septage.

As defined by Ecology, septage is "liquid or solid material removed from septic tanks, cesspools, portable toilets, Type III Marine Sanitation Devices, vault toilets, pit toilets, RV holding tanks, or similar systems that receive only domestic sewage." Septage may also include material from a mixture of sources including commercial or industrial with domestic septage, as long as it is approved for treatment under state regulations.

An OSS has two main parts: the septic tank and the drainfield. The septic tank collects the liquid and solid mixtures that flow down the drain from a house, where they settle and separate. The liquid waste then flows into the drainfield, which spreads the liquid waste into the soil. As it soaks through the soil, it is cleansed before returning to the local aquifer. The solid waste, called septage, stays in the septic tank. This solid waste may contain feces, fats, cooking oils, hair, lint, paper, chemicals, and residues from soaps and everyday products. Before the solids fill the tank to its limit, they must be removed. Licensed companies collect the septage by pumping it out of the tanks and then hauling it to treatment facilities, storage sites, or places where it can be applied to the land. These companies must be licensed under WAC 246-272A-0340 in conjunction with local health agencies.

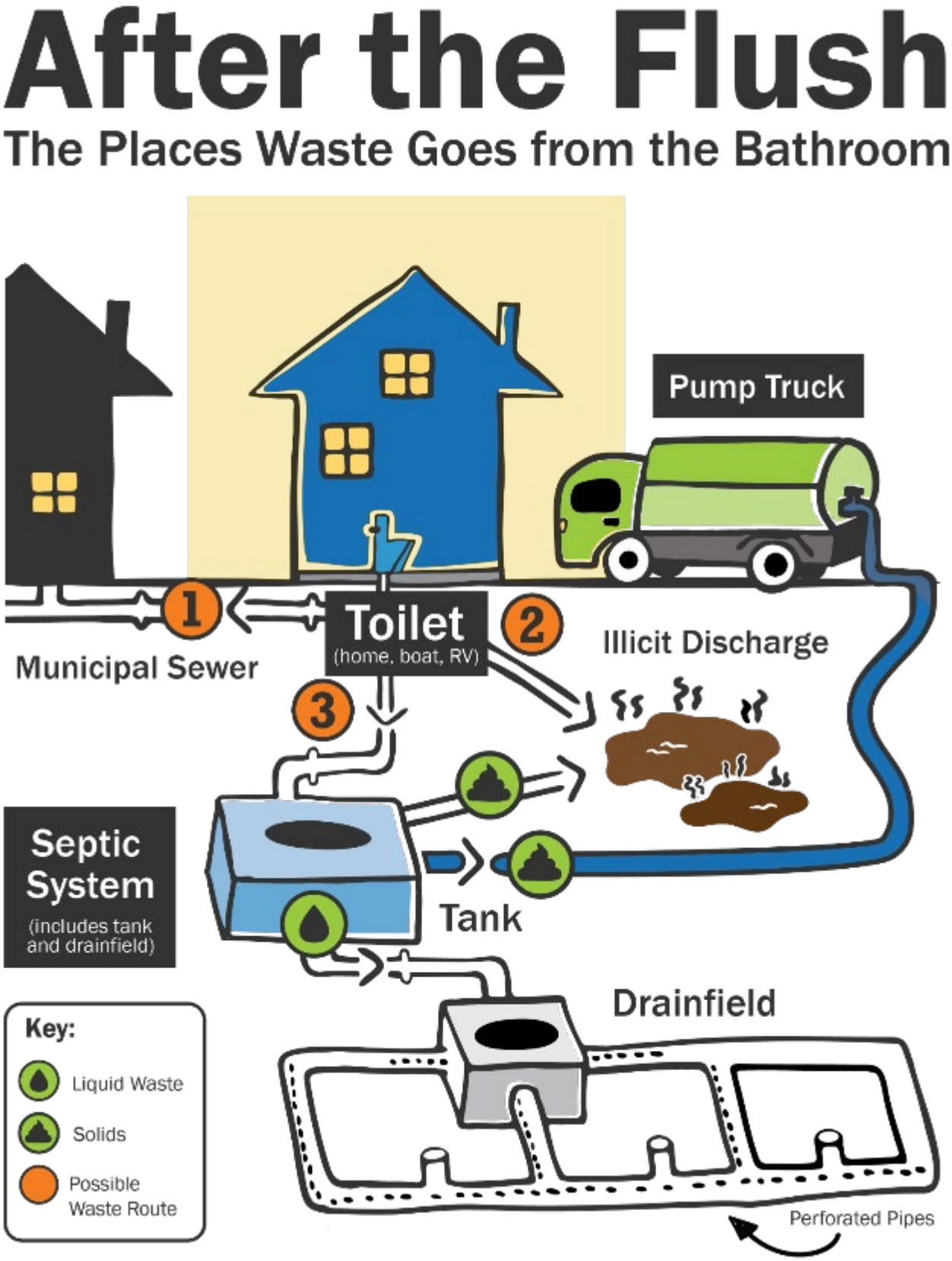


Figure 2. After the flush

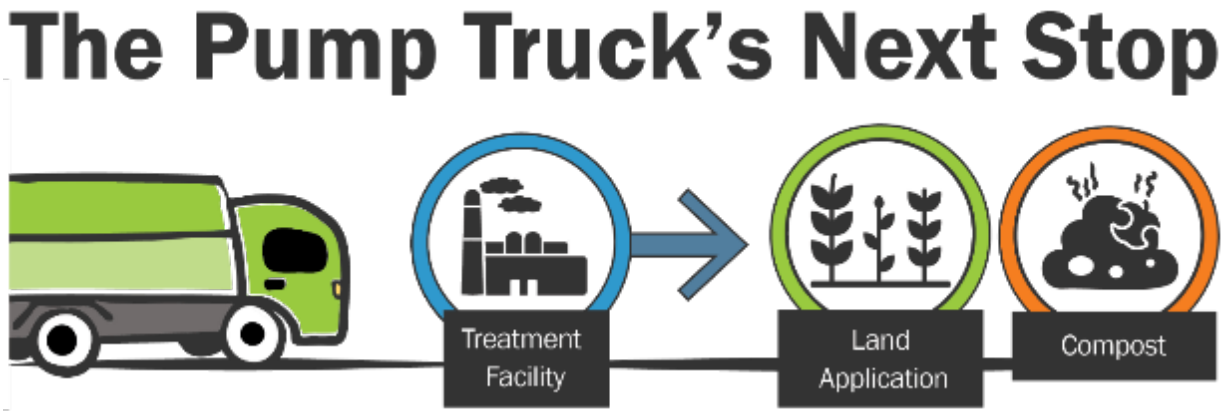


Figure 3. The pump truck's next stop

The commonly recognized options for the management of septage in Washington are:

- **Wastewater treatment plants and permitted septage receiving facilities:** These are used to break down and treat the septage. They can be privately owned or publicly owned and run by the local government.
- **Direct land application:** This involves spreading the treated solids on land after screening out non-organic materials like paper waste. Such materials are known to present challenges in meeting the regulatory requirements of land application.

Less commonly, septage is incinerated or taken to a landfill, methods which are being phased out due to costs and regulatory restrictions. Washington is working to reduce organic waste in landfills and is no longer permitting direct disposal. As these methods are used less, these management practices are not covered further in this report.

As with other types of waste management, there are cases of illicit dumping of septage, including from RVs that are sometimes used as homes without sewer connections. While it is known that there are many instances of illicit discharge, the exact amount is not measured. More septage is being produced without enough affordable ways to manage it. This makes it more likely that the amount of illicit discharge will grow significantly. Illicit discharges are unsanitary and can spread harmful bacteria, like E. coli. These intentional discharges can also pollute our waterways with nutrients, such as phosphorus and nitrogen, seriously harming salmon habitat and shellfish beds. Failing to regularly pump OSSs and allowing the system to fail can also lead to unintended septage releases.

As more people move outside city centers with wastewater treatment systems, the need for handling septage will continue to grow and problems in waste management will increase. One challenge in this study was **the overall lack of information quantifying the total amount of septage being produced statewide.** Obtaining better data will help develop better recommendations for managing septage in suitable and cost-effective ways.

Currently, septage volume information is available for three primary sources of septage:

1) Residential OSS
2) Large on-site sewage systems (LOSS), and
3) Other sources of sewage storage and tankage.

"Other sources" are tracked by the companies that pump, transport, and receive the septage. Most septage comes from households and must be taken to facilities that are equipped to receive, treat, and manage domestic waste. It is important to note that there is also a significant need to pump and manage fats, oils, and grease (FOG). These waste products are often mixed with regular septage in the pump trucks, but not all treatment and management facilities are prepared to handle FOG properly. Because of the lack of detailed information, this study could not separate FOG from other types of waste. For septage haulers subject to an Ecology biosolids permit, septage can only contain 25 percent FOG by volume.

Once septage arrives at the treatment facility, it goes through different levels of treatment, depending on the type of facility and how the waste will be managed. First, any non-organic materials, like personal hygiene products, wipes or toys, are removed because they should not be spread on land. The pH level of the septage is then raised before being applied to the land or mixed into the soil. Some public and private wastewater treatment facilities will accept septage and treat it using the same methods they use for regular wastewater. In some cases, septage can be treated at a permitted composting facility. On rare occasions, it is permitted to be taken to a landfill or incinerated (as previously mentioned). A small volume of septage is not treated each year. This unresolved septage is a good indicator that there is not enough capacity to handle all the septage produced in the state.

A pump truck deposits septage at a treatment facility, photo courtesy of Portalogic Septage Receiving Stations by EleMech Inc.

Overview of previous relevant studies

While there have been no statewide studies or reports focused on the production and management of septage to date, several notable studies and reports have been completed for cities and counties in different parts of the state. Below is a review and summary of useful information from those reports.

2003 Ecology Septage Strategic Plan

The Septage Strategic Plan summarizes the findings of the Septage Management Advisory Committee (SMAC) from September 2002 to May 2003. The committee worked on behalf of Ecology and had eight main objectives:

1) Increase industry knowledge of regulatory practices.
2) Increase compliance with regulatory requirements.
3) Provide appropriate monitoring and enforcement.
4) Resolve inconsistencies between State and Federal standards.
5) Clarify the circumstances in which permitting was required.
6) Increase public acceptance of septage management practices.
7) Provide sufficient options and capacity for septage management.
8) Provide stable, adequate funding sources for a state septage management program.

These objectives were created to evaluate the current situation for septage management, identify problems and barriers in existing regulations, and propose solutions. The SMAC met regularly to define the challenges of each objective and consider strategies and actions to address them. By the end of the report, each objective was assigned to a lead agency and ranked based on the estimated financial cost to achieve it, ranging from minimal to high. The report also provided a summary of key tasks for each objective. One significant recommendation from the 2003 Strategic Plan was to fund septage management programs by adding a half-cent fee per gallon of septage pumped. This would amount to about $5 for every 1,000-gallons pumped from a septic tank.

Since 2003, some tasks have been carried out, such as enhancing public education on septage best practices (Objective six of the study). However, many objectives have not been completed, like building new and expanded treatment facilities. This is likely due to insufficient funding, resources, and staffing.

Ecology's Marine Pump out Study (2012)

In 2012, Ecology published a detailed study by Herrera Environmental Consultants, Inc., on the Puget Sound Vessel Population and PumpOut Facilities. The study was done in several phases to provide education and data surrounding the EPA's No Discharge Zone in Puget Sound.

Herrera collected vessel registration data from the Department of Licensing (DOL) to the size and number of vessels likely to be in the Sound on any given day. This information helped Herrera determine how many vessels would need pump-out facilities. In 2011, nearly 145,000 vessels were registered in counties that border Puget Sound. About 30 percent of those vessels were large enough to have toilet facilities needing pump-out facilities or dump stations.

The study focused on the number of vessels and the location and availability of pump-out stations within the No Discharge Zone of Puget Sound. It also looked at how septage is managed for people living on their vessels. The report pointed out some data gaps and made recommendations, including the conservative estimate that every boat registered on Puget Sound operates in the same area. The study also mentioned that while smaller boats probably don't have toilets, some might. The study concluded that there are not enough pump-out stations in the right locations. The information came from a survey sent to registered boat owners and showed that cost was not a major issue for boaters when it comes to using pump-out stations.

Ecology (2018) Septage Management Summary

In 2018, Ecology started collecting and digitally recording information about biosolids management from its permit holders. This data included the amount of septage received and other details about its management.

In 2018, 161 million gallons of septage were reported as received for further treatment or management across 47 permitted facilities in Washington. Of that, 42 percent -almost 67 million gallons- were treated by 17 of the 336 permitted wastewater treatment facilities. The remaining septage was treated by 23 septage management facilities and seven mixers.

Mixing facilities accept both septage from OSS and biosolids from wastewater treatment plants. Septage management facilities are permitted to accept only septage. Some of these facilities will treat the septage with lime; others store it temporarily in lagoons before screening it for solid materials, such as trash. Afterward, the remaining solids are applied to the land.

While septage land application is allowed, processing it at a wastewater treatment plant is generally preferred due to better regulatory oversight and compliance. The report also noted that 58 percent of septage was received by privately-owned treatment and management facilities.

This data collection has continued since 2018, but no executive summaries or reports have been published. Ecology identified staffing shortages as the cause. However, Ecology was still able to provide the raw data collected between 2018 and 2023, which is included in this report.

Some gaps exist in the data. Not all permit holders submit their data appropriately or on time, despite reporting requirements and follow-up by Ecology. Permit enforcement actions are taken to obtain the data if warranted. Also, the data is only as accurate as the reports provided by the permit holders. This data only includes reports on the septage delivered to treatment and management facilities.

Jefferson County Informal Counties Questionnaire (2022)

In 2022, Jefferson County conducted an informal email survey of key contacts in the OSS program. They asked four questions:

1) What are your current septage handling practices?
2) What is your septage capacity?
3) What is your fat, oil and grease (FOG) handling practices?
4) What is your FOG capacity?

The questionnaire received 14 responses from counties in the Puget Sound region. It provided insight into the gaps in locations accepting septage and showed the distances that pumpers travel to these facilities. However, the survey did not return complete answers to each question or qualify septage that could not be accepted.

City of Vancouver Westside Septage Evaluation (2021)

In 2021, Brown and Caldwell (BC) conducted a study for the City of Vancouver to evaluate the septage capacity at the Westside Wastewater Treatment Plant. They reviewed the data collected by the city, characterized the septage entering the facility and measured the amount being processed. BC identified how the septage affected the process, determined the maximum amount of septage the facility could handle each day and month, and gave recommendations for the future.

The study found that the Westside Wastewater Treatment Plant accepts 32,400 gallons of septage per day, which makes up 7 percent of the plant's daily influent total suspended solids (TSS) load. While this is high for a facility of its size, the study noted that the TSS load has remained steady with no discernable increase in growth over the previous three years (2017-2020).

This study examines data from 2017 to 2020, but it does not account for the significant growth in housing and the RV industry that occurred after 2020. Instead, it focuses on one WWTP in a city on the border of Washington and Oregon, providing a snapshot of conditions. While the study provides useful information about the facility's capacity and septage handling, it does not account for where the septage is coming from or how the facility is handling current load rates.

I. Septage Generation

Most types of land use result in waste generation. In rural areas, there are often no sanitary sewer systems or wastewater treatment plants. This means that development in these areas relies on septic tanks and drainfield dispersion systems to collect and treat waste. This report focuses primarily on managing domestic sewage collected and stored in residential septic tanks.

This section estimates the amount of septage generated in each county in Washington. This report also includes findings and recommendations to assist WSALPHO and the Department of Ecology in updating tools, policies, and practices for monitoring and managing current and future septage generation and treatment capacities.

In this Section:

- Growth planning efforts in relation to septage generation
- Septage data collection efforts through surveys, phone calls, and interviews
- Assessment of current and projected septage volumes
- Summary of Findings from the data collected

Introduction

Responsible growth- projections for rural housing and supporting services

To responsibly plan for growth across the state, each county follows the Washington State Growth Management Act. Its processes address current and future development, and ensure that public facilities and services, including those for domestic septage, can support growth. This section outlines the goals of the Growth Management Act and explains how the findings in this report can guide planning efforts to grow domestic sewage management and housing.

Estimating current septage production volumes

The annual amount of septage produced in the state is estimated based on available reports, surveys, previous septage studies, and population and housing growth data. Information about septage was obtained from septic system permits, county planning and health data, and reporting requirements for septage handling, treatment, and management.

The four ways septage volumes have been identified are:

- **Estimates from construction permitting records:** When property owners build, they must get a permit to install a septic system. Unfortunately, older septic system permitting records are often not retained, and even when they are, reports are not always stored or organized in a way that makes the data easy to access. For this reason, septic permitting records often show only a part of the total number of existing septic systems. In addition, complete records only show the total number of septic systems, not the actual amount of septage produced. To estimate the total septage, an additional step of calculating the average volume per residence would be needed.
- **County planning departments and local public health officials:** As part of general planning efforts, many counties include a generalized discussion of septic systems within the county. Comprehensive Plans and Zoning Maps also show residential areas where septic systems are used, especially in places without sanitary sewer systems.
- **Septage pumping records:** Throughout the state, many counties require septage pumpers to document and report the dates, sources, delivery sites, and volume of septage handled.
- **Reporting from LOSSs, WWTPs and SMFs** regarding the annual septage volume accepted by those facilities.

The data collected from each source gives a part of the picture of the overall septage cycle and septage volume. To provide a more complete understanding, the data have been compiled and correlated to better understand the existing septage production volumes across the state and in each county.

Future septage production estimates

Based on the methodology described in the **Future conditions/analysis** section, it is anticipated that by 2040 approximately 224,000,000 gallons of septage will be produced each year. To keep pace with this development would require an annual average increase in septage capacity of approximately 1.7 million gallons per year. Barriers to meeting this capacity include limits on current wastewater treatment facilities, costs of building and permitting new facilities, and lack of funding sources. This information is based on the data provided and collected for this study and as described herein. It should be noted that improving Washington's data collection is a priority. It is recommended that improvements to those processes be implemented so that additional data can be fed into this model to aid development and improve estimates of future septage capacity.

Summary of findings

- County comprehensive plans do not provide information on the number of OSS in their jurisdiction but may provide general locations and related policies.
- The septage produced in each county varies from 584,948 gallons to 18,090,219 gallons, annually.
- The 2040 projection ranges from 189,076,150 gallons to 224,766,985 gallons using Ecology's reporting data up to 2023 and applying the annual population growth rate from OFM.
- All reliable data that is used to confirm septage generation volumes is extracted from reports made by receiving facilities. There is no centralized data collection for septage generation data. Reliable data that connects septage generation with both source location and treatment and management facilities is collected from the pumpers and haulers.

Related recommendations

- Amend the Growth Management Act
- Address state and local staffing challenges
- Assist data collection and management on state and local level
- Enhance interagency coordination and sharing of resources

Septage generation data

Septage information obtained from surveys

Early in the study, the project team learned from WSALPHO members that there was no centralized data collection system for OSS and septage capacity in the state. After discussions with WSALPHO Project Management Team, three main groups were identified as having important information to answer questions regarding septage volumes, handling, treatment, and management.

These groups are:

- **Washington State Association of Local Public Health Officials (WSALPHO) members:** WSALPHO is a membership comprised of 35 local health jurisdictions in Washington.
- **Large Onsite Sewage System (LOSS) operators:** Owners, design engineers, and certified maintenance staff who manage and maintain LOSS systems. Some operators oversee more than one LOSS. The DOH provided the list of contacts.
- **Wastewater Treatment Plant (WWTP) operators:** WWTP operators manage daily operations at permitted treatment facilities under Ecology's biosolids program. These facilities are primarily WWTPs but also include permitted pumpers. The facilities range in size across the State of Washington and include operations that both treat and manage septage as biosolids. The WWTP Operator survey is addressed in the **Septage Receiving Capacity** section of this report.

Surveys were chosen as the best method to gather information from these groups. Three surveys were conducted- one for each group- to collect data on septage capacity and management across the State. The data collected from the WSALPHO and LOSS surveys are summarized below. The survey results from WWTP Operators are found in **Section III**. Additional details are provided in the **Appendix** and are incorporated into the Findings and Recommendations of this report.

Washington State Association of Local Public Health Officials (WSALPHO) Survey

The survey of WSALPHO members aimed to gather information about the number of residential OSS across the state and learn what is known by county jurisdictions. The survey was sent as a Microsoft Word document to all 35 WSALPHO members. Participants were asked to email completed forms to Randy Sackett, the project manager, by Friday, December 20, 2024. A reminder survey was sent a week before the deadline to members to encourage completing the survey. A total of 22 surveys were received.

The following 13 questions were posed to the WSALPHO members:

1) How many individual residential On-Site Systems (OSS) are there in your jurisdiction?
2) How many OSS are there that serve businesses in your jurisdiction?
3) Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.
4) What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?
5) Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.
6) Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.
7) Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.
8) Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.
9) Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.
10) Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. Preferably, this would include:

11) A point layer showing the location of any sewage system on a parcel of land, or
12) A parcel layer that indicates which parcels have an existing on-site sewage system, or
13) A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.
14) Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.

The WSALPHO Member Survey received the most responses and provided the best overview of the available information from each county and health district. Survey results provided pump costs for a typical 1,000-gallon tank, locations of known septage receiving facilities, approximately how many OSS and LOSS systems are permitted in each region, and whether they used GIS (Geographic Information Systems) to track their information.

Three notable findings identified through the WSALPHO survey results are that:

- Much of the data collected and sent to health districts is not being entered into digital systems to be readily accessible for effective use.
- Haulers in some counties are using septage treatment and management facilities located outside of their respective counties, and some are using facilities located outside of Washington.
- Some health officials are relying upon treatment facilities that are currently listed as accepting septage, even though those facilities have actually discontinued septage receiving services.

These findings show that some WWTF records are not current and highlight that, in some septage service areas, the hauling distances are increasing for the legal handling of septage.

There are also gaps in how the data is categorized. For example, some counties and health districts do not separate residential OSS permits from non-residential OSS permits. Nearly every health district has unpermitted OSS systems or OSS systems that were installed before record-keeping started, and often no follow-up records have been created to track these unpermitted systems.

The detailed results are summarized in the **Existing** Conditions/Analysis of Current Septage Production and **Future Conditions/Analysis** sections of this report.

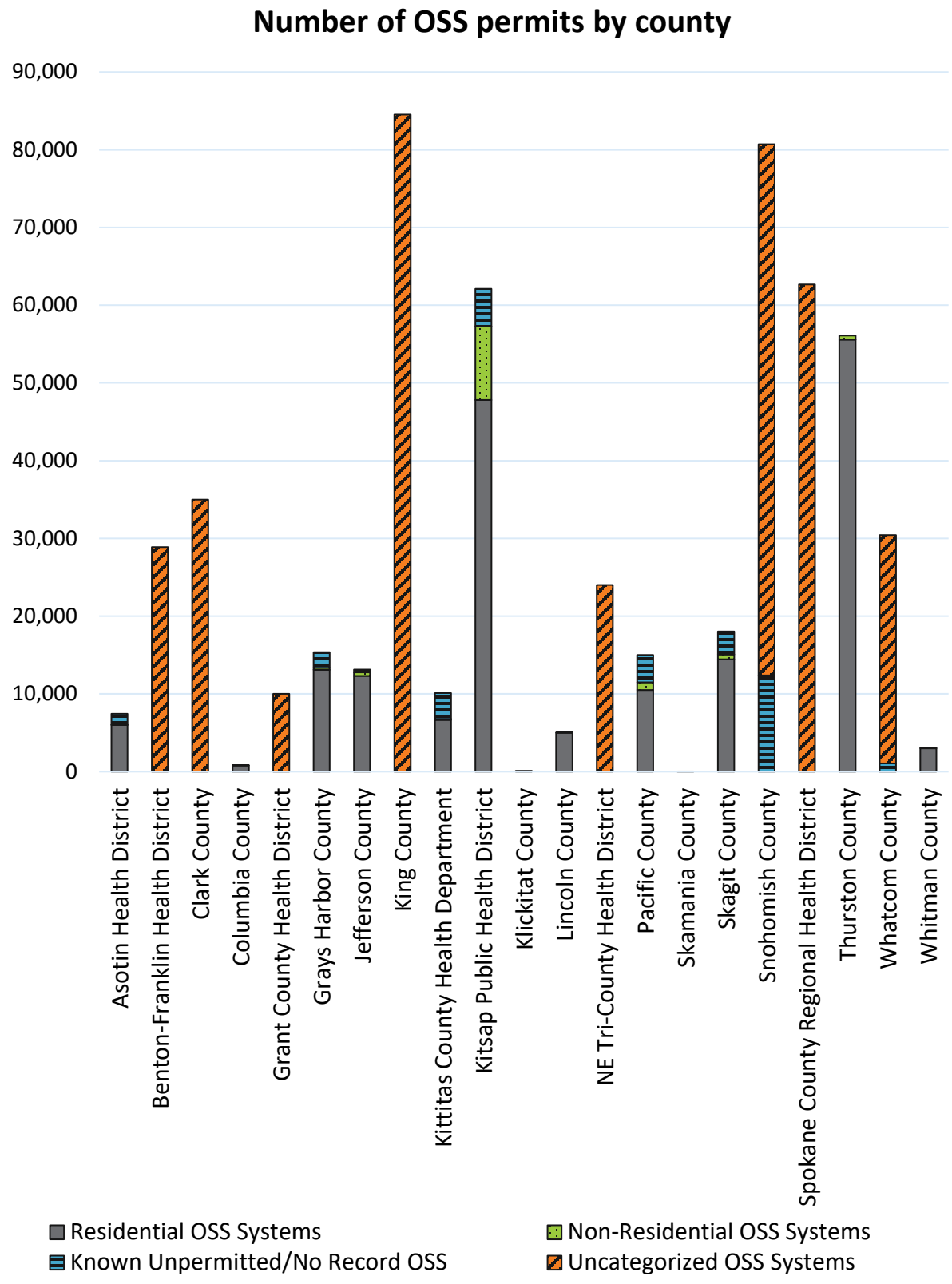


Figure 4. Number of OSS permits by county as reported by WSALPHO members

Large Onsite Sewage System (LOSS) Operator Survey

The survey of LOSS operators aimed to gather information about the number of larger sewage systems in the state and their capacity. The project team created the survey, which was then reviewed with staff from DOH to ensure the questions were clear and matched the intended purpose. Based on WSDOH feedback, the survey questions were revised and formatted into an online survey using the Alchemer platform to allow for easy access. DOH sent the LOSS operator survey to 88 individuals on their email list on January 10, 2025, and the survey closed on January 17, 2025. The survey included seven long response questions and received 21 responses.

Below are the questions asked of LOSS operators:

1) How many systems do you manage?
2) What is the design flow of your system(s)?
3) Are you operating at your design flow? If not, approximately what percentage of the design flow is your system operating at?
4) How often do you have the tanks in your system pumped? Please provide any reporting data such as volumes and load manifests from pumper trucks.
5) Which septage hauling providers do you utilize? Please provide a list of these and any available contact information.
6) Which septage disposal facilities do you or your hauling providers utilize? Please provide a list of these and any available contact information
7) How far are hauling providers traveling to dispose of septage?
8) Do you have any concerns regarding the disposal of septage generated by your facility?
9) Are you able to provide any additional data or information that would be helpful in assessing the capacity of your facility to manage septage, now and in the future? If so, please provide.

Table 1. LOSS survey data

	Amount	Unit
Avg Design Flow	14,862	gpd
Avg Operating %	55%	
Avg Pump Frequency	2.5	years
Avg Pump Hauling Travel (one way)	35.3	miles

The information from LOSS operators indicates that these LOSS are operating at only half of their designed capacity. This suggests that, on average, the systems have the potential to handle more septage. Rather than constructing new, smaller individual OSS, it would be beneficial for new properties to pursue connecting to nearby LOSS systems with available capacity where possible. The average pumping frequency, when combined with the operating capacity, reflects that operators are likely performing regular maintenance. A longer pumping interval generally indicates the system is functioning as intended, with five to ten years of being

the ideal range, while a shorter interval typically signals an undersized or failing system. However, given the low operating capacity, the frequent pumping may be more indicative of general maintenance needs. Overall, this data speaks to the efficiency and capacity of large on-site sewage systems (LOSS) based on the operators who responded.

The role of regulatory planning efforts

Growth Management Act

The Growth Management Act (GMA), RCW 36.70A[2], is the main framework for local, long-range planning in Washington. It helps create a community vision, goals, objectives, and policies that guide decisions made by local elected officials and government workers. The GMA directs the comprehensive planning process through its 15 main goals listed in RCW 36.70A.020[3], which include:

- **Urban growth:** Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.
- **Reduce sprawl:** Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.
- **Housing:** Plan for and accommodate housing affordable to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing stock.
- **Environment:** Protect the environment and enhance the State's high quality of life, including air and water quality, and the availability of water.
- **Public facilities and services:** Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.
- **Climate change and resiliency:** Ensure that comprehensive plans, development regulations, and regional policies, plans, and strategies adapt to and mitigate the effects of a changing climate.

In Washington, all counties and cities must update their plans every 10 years to account for 20 years of population growth. What goes into these plans can vary. The 28 “fully planning” counties must follow all GMA requirements and 11 “partially planning” counties that only need to focus on critical areas and natural resource land. “Fully planning” counties and their related cities must also decide where growth should go and how to accommodate growth while reducing sprawl.

During this study, Washington counties and cities were updating their comprehensive plans based on the latest data from OFM. King, Snohomish, Pierce, and Kitsap counties updated their comprehensive plans in 2024, while other counties will adopt their plans by the end of 2025, June 2026, or June 2027.

[2] https://bit.ly/RCWgrowthmanagement
[3] https://bit.ly/planninggoals

This study reviewed the most recently adopted county comprehensive plans to see how they address the septage capacity within their jurisdictions.

County comprehensive plans

As part of this study, the project team reviewed county comprehensive plans to understand how local governments are planning for sewage management and future capacity. They looked at these plans because they focus on long-term growth across the State. Comprehensive plans are meant to cover topics like housing growth, capital facilities management and funding, and transportation network maintenance.

The project team first examined current requirements for counties under GMA requirements RCW 36.70A[4] and found they are not clearly defined to meet current septage management needs and related impacts from future growth projections.

To see if and how septage is addressed in comprehensive plans, the project team reviewed the most recently adopted comprehensive plans from 38 counties in Washington. They asked the following questions for each comprehensive plan and recorded findings in a spreadsheet, which can be found in **Comprehensive Plan Review**:

- Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?
- Did its land use or housing element mention sewage?
- What did its capital facilities element cover?
- Were there any goals, policies, or actions relating to sewage systems, their capacities, or information gathering on this subject?
- Does the plan discuss the environmental risks of sewage systems?
- Does the plan include policies specifically aimed at improving the management of sewage systems/ reducing environmental risks?

The review found that all the plans mentioned sewage systems and septage management in some way, but the details varied widely between counties. In some counties, like Adams and Cowlitz, OSS were only briefly mentioned in background sections, with a few related policies in the land use element. In other counties, like King and Mason, there were more detailed assessments, citing concerns with failing systems, the risk of water contamination, and policies to address these issues. Most of the discussion about sewage systems was in the land use and rural elements, with fewer mentions in the capital facilities elements, which is the section that focuses on wastewater treatment plants or sewer systems.

Regarding the environmental risks of sewage systems, 14 counties included narratives on this topic, while 18 counties also included policies aimed at improving sewage system management in order to reduce environment risks.

[4] https://bit.ly/RCWgrowthmanagement

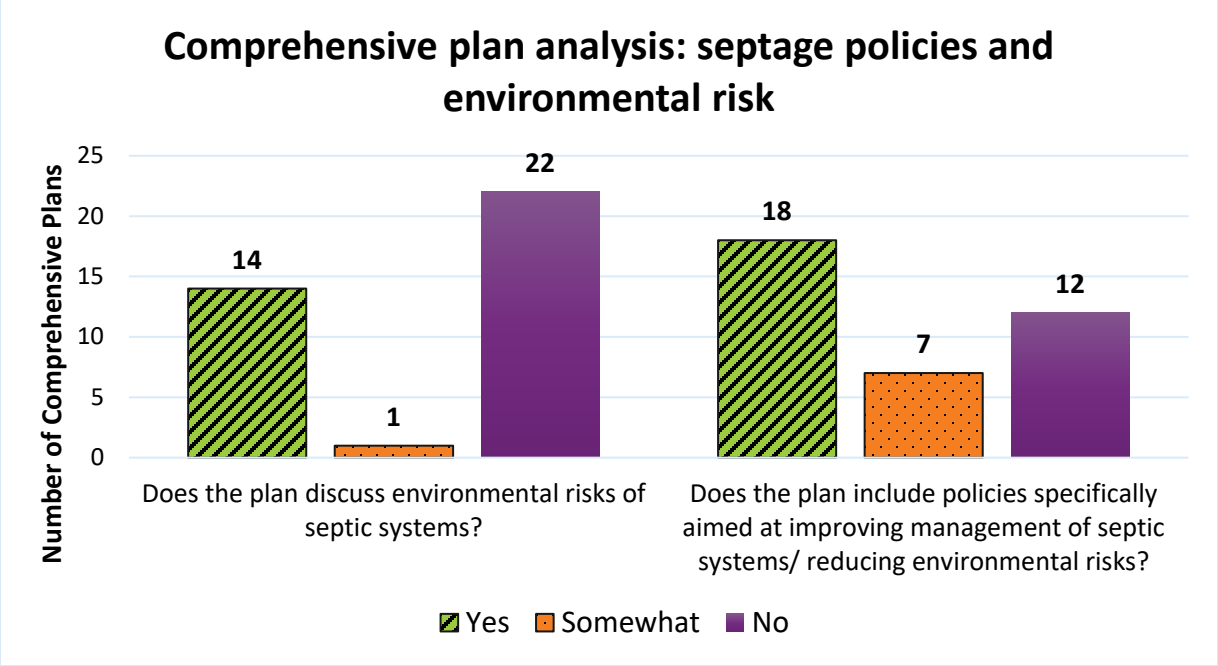


Figure 5. Comprehensive plan analysis: septage policies and environmental risk
Source: Comprehensive Plan Review

In most cases, comprehensive plans that included a narrative on the topic of septage also included policies on the issue. An overview of these policies includes:

- Emphasizing the importance of monitoring, repairing, and maintaining septic systems to prevent public health hazards and protect water quality. Specifics addressed working with local health districts and focusing on regular inspections and proper maintenance of systems.
- Providing greater public education through technical assistance for property owners and sharing information on the risks of failing septic systems.
- Stressing that new development needs to occur in areas where soil and site conditions are adequately assessed to ensure long-term water quality is protected and possible contamination is prevented.
- Encouraging innovative wastewater and stormwater designs by developers and landowners to promote better land use practices and protect water quality[5]
- Navigating different approaches for different densities in rural vs urban areas. For example, phasing out OSS for public sewer extensions when available in urban areas[6] and attempting to cluster development for shared community sewers in rural areas.[7]

[5] Policy 2EE-6: in Whatcom County's Comprehensive Plan, https://www.whatcomcounty.us/1171/Current-Comprehensive-Plan
[6] Policy 6.0.13 in Clark County's Capital Facilities and Utilities Element, https://clark.wa.gov/community-planning/current-adopted-plan
[7] Policy NS-2.2 in Grant County's Comprehensive Plan, https://www.grantcountywa.gov/238/Grant-County-2018-Comprehensive-Plans

Some of these policies, such as helping with technical assistance and greater maintenance, could lead to more septage pumping, if economic conditions are also favorable. In turn, this could lead to greater insight into how much septage needs to be managed at a treatment facility. Additionally, many of the policy themes discuss OSS as it relates to the protection of water quality. This draws upon the required land use element requirements in RCW 36.70A.070,[8] to provide for the protection of the quality and quantity of groundwater used for public water supplies. Additionally, with the newer comprehensive plans such as Kitsap County's final 2024 plan, policies and narrative discussed the intersections of climate change and OSS.

However, none of the Comprehensive Plans reviewed listed the number of sewage systems nor the location of the nearest septage treatment facility in their plans. Instead, they gave general descriptions of rural areas being served by sewage systems. It is important to note that the management of septage in each county consists of an understanding of not only how much septage is being produced in the county but also what the capacity is for treating septage at facilities within the county.

The review also showed big differences between "fully planning" and "partially planning" counties. As shown **Figure 6** below, about half of fully planning counties discussed the environmental risks of sewage systems, compared to just one of the partially planning counties. When it came to septage management policies, 75 percent of fully planning counties had specific policies aimed at improving septage management or reducing environmental risks, while only 36 percent of partially planning counties included such policies.

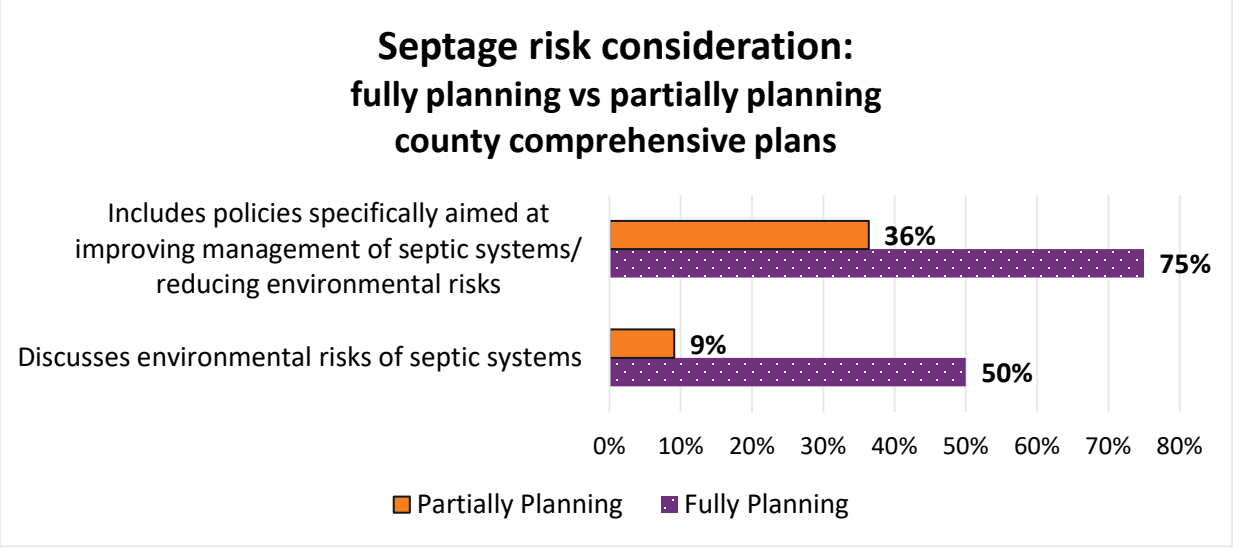


Figure 6. Septage risk consideration: fully planning vs partially planning county comprehensive plans, Source: Comprehensive Plan Review

[8] https://app.leg.wa.gov/RCW/default.aspx?cite=36.70A.070

This county analysis also examined the relation to the 2020 housing data from OFM, which shows the number of housing units in unincorporated areas across Washington. As shown in **Figure 7** below, on average, 46 percent of housing units in fully planning counties are in unincorporated areas, compared to 56 percent in partially planning counties.

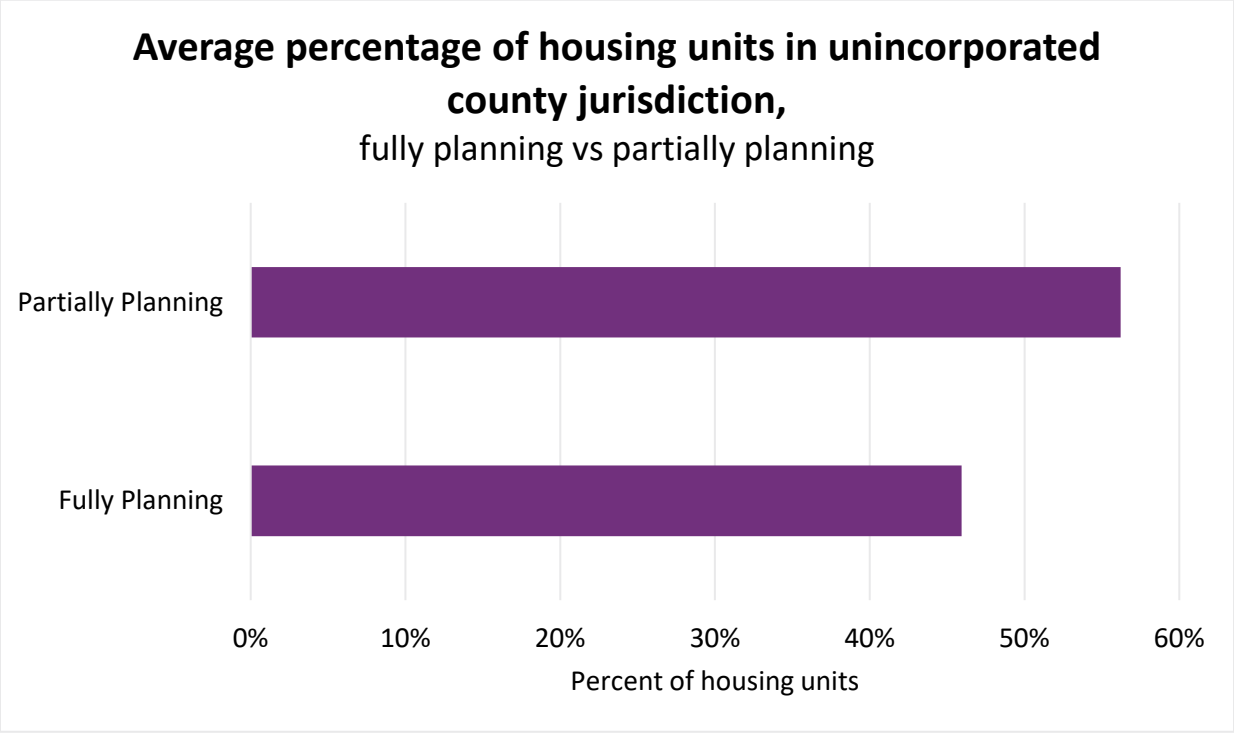


Figure 7. 2020 OFM estimate of total housing units in unincorporated county jurisdiction
Source: Washington State Office of Financial Management, 2020 Base Census Estimate of Total Housing Units, Comprehensive Plan Review

Note: The average and median values for the percentage of housing in unincorporated areas across Washington's counties are nearly identical, indicating a relatively symmetrical distribution of data.

This shows that a larger share of housing in "partially planning" counties is located in unincorporated areas, which often are more dependent upon sewage systems than incorporated areas. While these counties have fewer requirements under the Growth Management Act due to their smaller populations and slower growth, sewage system capacity and maintenance still affect their local health, safety, and development.

The findings from the county comprehensive plans show a need for further consistency and clarity in how waste management is handled in comprehensive planning. This could help determine whether there is enough septage capacity in a county or region to support growth projections. While comprehensive plans cover important factors like growth projections, land capacity, infrastructure needs, climate impacts, and housing for all income levels, they do not account for OSS or local septage capacity, especially in "partially planning" counties. When it

comes to land use decisions for growth, it is often assumed that municipal wastewater treatment plants will be adequate for treating septage from rural areas.

On-site sewage systems play a crucial role in managing wastewater, but when they fail, they can create serious public health and environmental risks, as noted in some comprehensive plans. While homeowners and business owners are responsible for maintaining their systems, there is no state program to encourage or require jurisdictions to review OSS conditions as part of their growth management planning. This gap means there is little accountability for the impact of OSS, leaving public health and environmental risks unaddressed in the context of overall growth management.

As Washington continues to grow, it will be crucial for all counties to account for the number of OSS and their local treatment capacity in their long-range plans, to make sure that growth is managed in a way that reduces sprawl and minimizes environmental risks.

The beginnings of a housing development in rural Chelan County.

An estimate of septage generation in Washington

Existing conditions/analysis of current septage production

This report focuses on domestic septage; therefore, the data collection centers around domestic sources including residential OSS, LOSS that serve multiple homes, and small businesses whose waste stream consists of domestic flows and portable toilets (RVs, boats, etc.).

Pumping frequency

Septage is created when solids build up in a septic tank or when waste collects in a holding tank that is not connected to a plumbing system, like in an RV or a boat. Currently, it is estimated that septic tanks are pumped every 5-10 years a range confirmed by the answers from the WSALPHO Members Survey.

Septage volume data from septage management facilities

Once septage is collected by licensed service providers, it is hauled to one of two types of facilities: a wastewater treatment plant or a septage management facility for land application. In general, this data and the volume of septage accepted is reported to Ecology by Septage Management Facilities. This data provides important information regarding the septage volumes that have been generated.

Facility operator data

Surveys were sent by email to operators, plant managers, and associated department heads across the state. Low response rates resulted in gaps in available data but operator survey responses clarified that certain septage receiving data is not being tracked by the WWTPs, such as types of septage sources. Pumping companies may record total volumes pumped, but it appears this information is not stored or compiled by those who collect it. There are also incomplete records of where the septage goes after being pumped and hauled. Implementing a system to enter and track data at the county level will reveal septage trends that can be of use to operators and industry professionals.

Estimate of septage volume

The project team utilized historic septage data, newly collected data from the WSALPHO survey, population and census data, and knowledge related to OSS and LOSS waste generation, to estimate the volumes of septage generated by each county. These estimates are shown in the Total Estimated Septage in Gallons Map (**Figure 8**). Where specific data was not available, two baseline assumptions were included in the septage volume calculations. It was assumed that every home in unincorporated areas uses either an OSS or a LOSS and that all homes in unincorporated areas have an average of 3 bedrooms and a 1,500-gallon septic tank. The projected range of septage volume generation (as shown in the Map Legend in **Figure 8**) assumes septic tanks are pumped every five years. For a detailed breakdown of the values for each county, see **Appendix B: Wastewater Projections from Growth Data.**

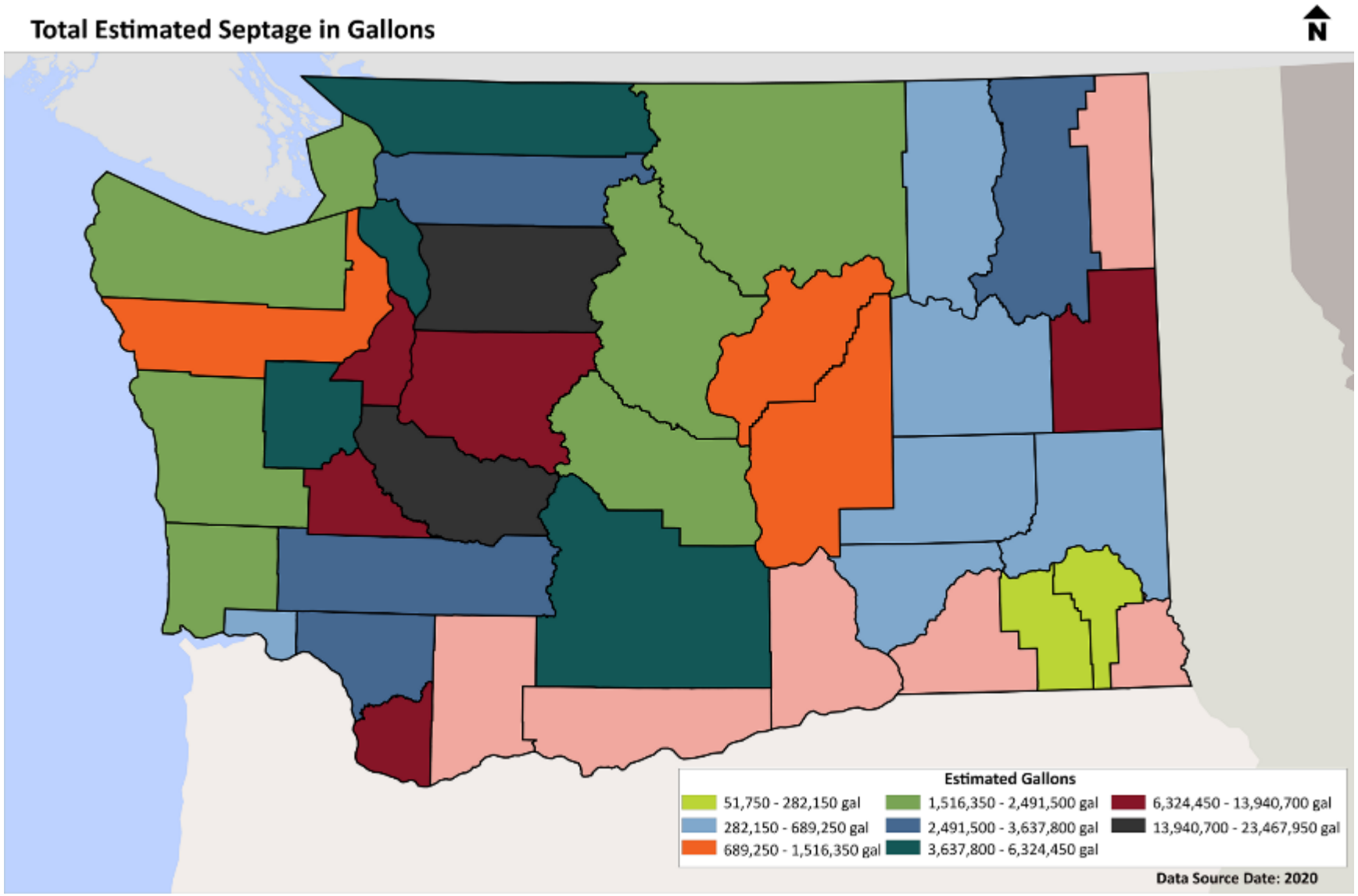


Figure 8. Total estimated septage in gallons, Source: SCJ Alliance

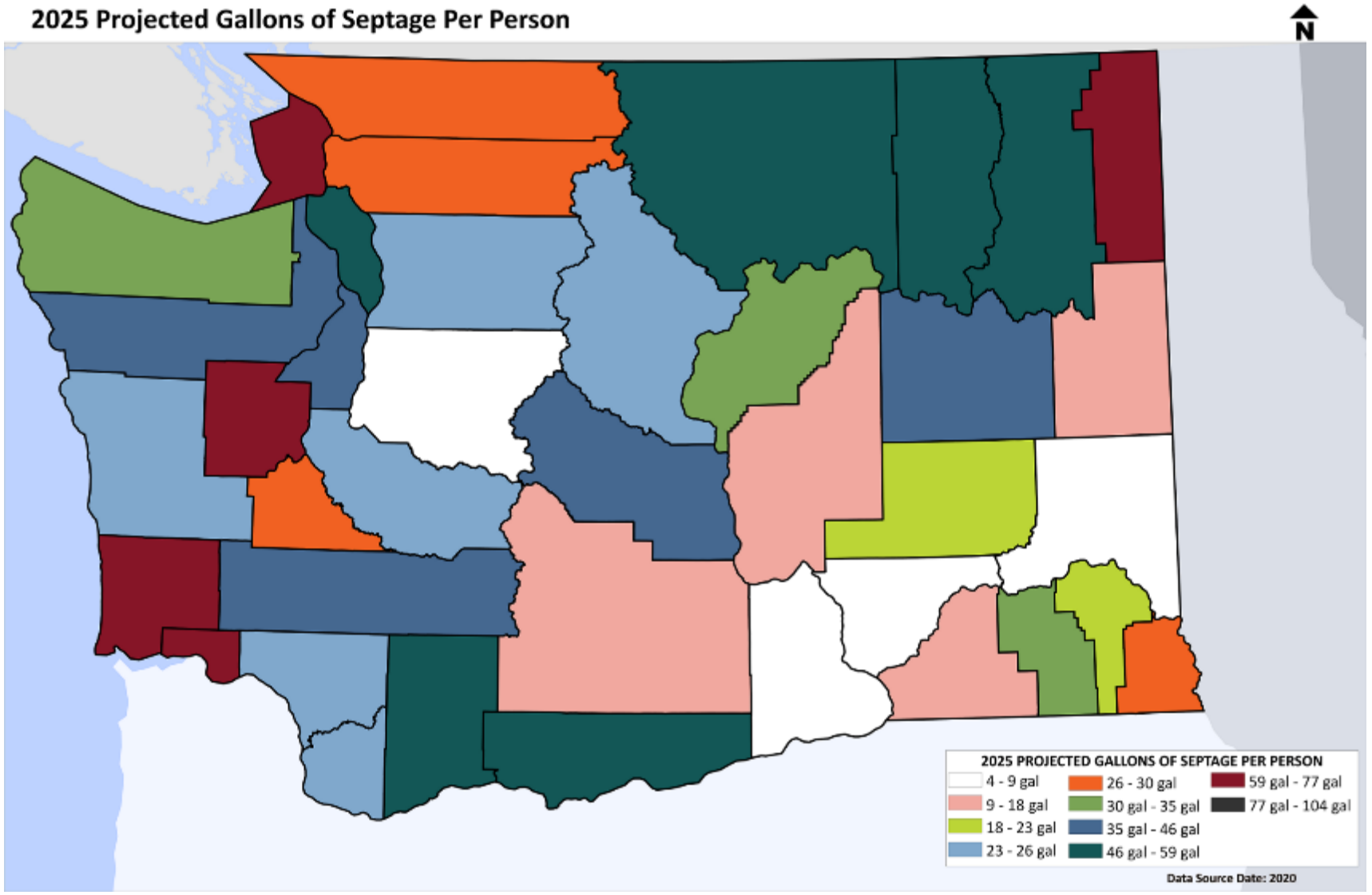


Figure 9. 2025 projected gallons of septage per person, Source: SCJ Alliance

The calculated septage volumes were checked against data collected by (discussed further in **Section III**) and previous studies. The septage volumes by county were used to estimate the volume of septage per capita, which indicates the extent to which each county has relied upon domestic septic systems to accommodate housing development. The available Ecology data for 2020 was used to verify calculation assumptions. The recorded septage volume data provided for this year falls within 10 percent of the calculated range for a seven-year pumping scenario (see septage projections using Ecology data below) and helps to bridge gaps in the data provided by the statewide biosolids reporting.

The limited information available continues to show the lack of sufficient septage records and management facilities in many parts of the State. It is important to note that LOSS systems, which usually serve larger communities and non-residential users, were included in the calculations by upsizing the typical tank size from 1,000 (common for homes) to 1,500 gallons across the population. According to the survey in this report, LOSS Systems pump their larger tanks more often than residential OSS users, thereby creating more septage. Increasing the tank size in calculations adjusts for the additional septage generated through LOSS practices.

Annual septage volumes for Washington

The annual septage volumes reported for the years 2018 through 2023 are provided below. At the time of writing this report, Ecology's biosolids reporting data was not available yet for 2024. For this reason, from March 11, 2025, through March 31, 2025, the project team surveyed all facilities on the biosolids permit register to request septage data for 2024. 2024 septage volumes were received from 30 facilities, which collectively indicate a slight increase (less than 0.1 percent) from the volume of septage received in 2023. To approximate the 2024 septage volumes from those facilities that did not provide septage volume for 2024, the same minor rate of increase was applied to their previously reported 2023 volumes.

Table 2. Annual septage volumes for Washington (in gallons)

Year	Septage Volume (Gallons)	Change from Previous Year
2018	160,550,305	-
2019	166,825,918	4% increase
2020	178,725,901	7% increase
2021	198,977,825	11% increase
2022	197,940,420	1% decrease
2023	199,051,075	1% increase
2024	199,216,595	0% change

Growth projections for septage generating development

Future conditions/analysis

Projections for septage production are necessary to plan for future capacity needs in each county. Based upon the current service capacity in many areas, local governments must be more intentional with planning efforts to maintain sufficient capacity and to effectively manage rural growth. A 15-year planning period was identified at the start of this assessment; however, as data becomes more available and more accurate, it may be possible to extend the planning period and reassess the assumptions made. Ideally, a 20-year planning period would be preferred, as such a projection would align with the growth accommodation timeframe of the Growth Management Act.

According to OFM data in 2024, the population of Washington is projected to grow from 7.7 million to 9.2 million by 2040 under a medium growth scenario. As a result, the state needs to plan for roughly 1.5 million more people by 2040. **Figure 10** below shows the range of population growth projections provided by OFM.

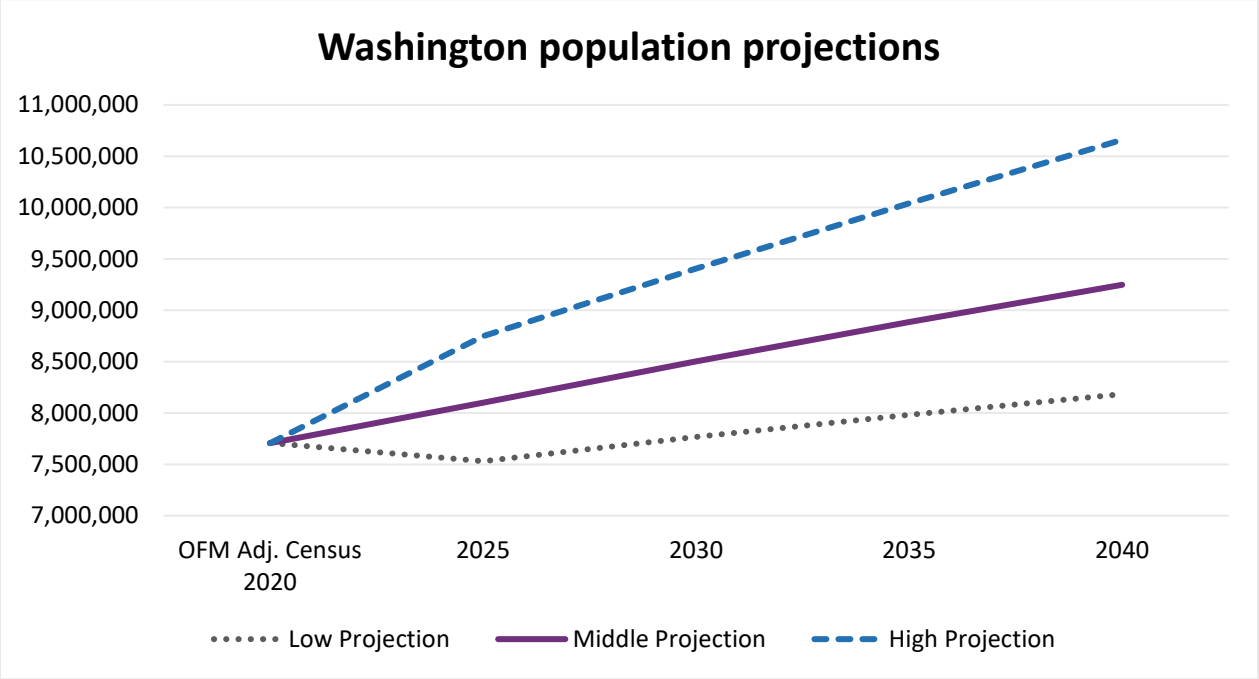


Figure 10. Washington future population
Source: Washington Office of Financial Management, 2024

Applying the middle projection scenario in **Figure 10** to each county's population growth projection shows some jurisdictions gaining significant populations while others are decreasing. The counties experiencing the largest growth are seen in **Figure 11** in the darkest color- a dark green, including Benton, Clark, King, Kitsap, Pierce, Snohomish, Spokane, Thurston, Whatcom, and Yakima counties.

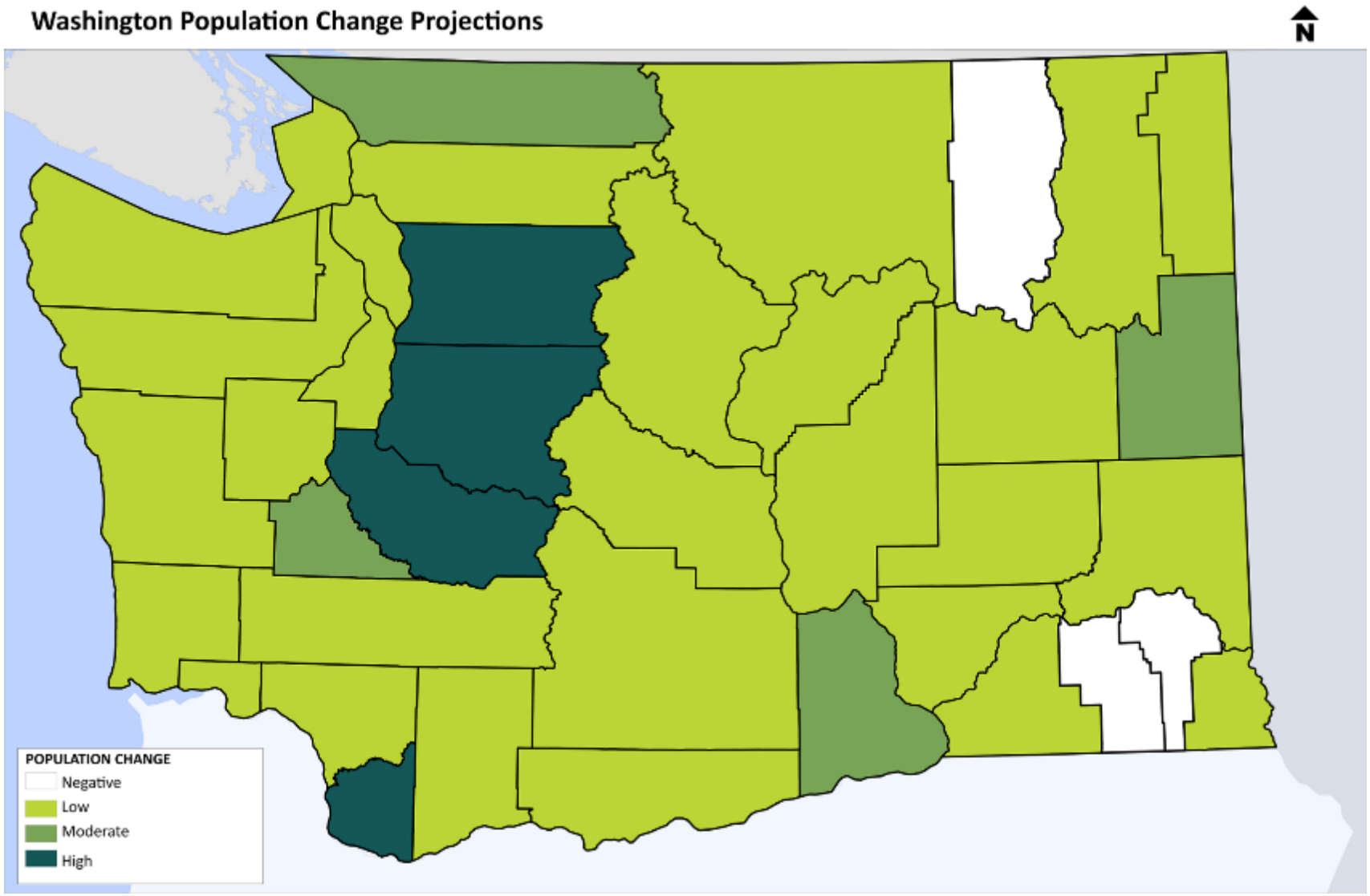


Figure 11. 2040 Growth projections by county
Source: Washington Office of Financial Management 2040 Growth Projections by County, 2024

Understanding the increase in septage generation

From 2018 to 2021, the biosolids reporting data shows a 22 percent increase in the septage volumes reported. A portion of this increase may be due to improved accuracy and increased participation by the facility operators reporting to the new system. One additional significant factor is associated with the effect of the COVID-19 pandemic on workforce location.

In March 2020, COVID-19-related health concerns and government mandates sent a significant portion of the workforce home to do business remotely. Those who began working remotely in homes served by septic systems contributed more waste to their septic tanks daily, and thus, in the months and years to follow, an increase in the septage volumes generated was documented. The annual septage volumes above show substantial increases in 2020, 2021, and 2022. From December 2019 to December 2021, the total reported septage volume increased by over 19 percent.

The U.S. Bureau of Labor Statistics data on telework[9] identifies the percentage of the employed workforce working remotely. The table below is augmented by the Census Bureau's ACS questions regarding transportation to work as noted in their article on commuting[10] and NCCI's Remote Work Before, During, and After the Pandemic.[11]

- 2018: 4.3 percent worked fully remote, with an additional 4.1 percent in hybrid mode, totaling 8.4 percent.
- 2019: Fewer than 6 percent worked primarily from home, another 18 percent worked occasionally from home.
- 2020: 35 percent worked remotely due to the pandemic.
- 2021: 38.1 percent worked remotely (peak pandemic year).
- 2022: 33.8 percent worked remotely (slight decline post-pandemic).
- 2023: 34.6 percent worked remotely
- 2024: 22.8 percent worked remotely at least partially (as of August 2024).

Septage projections using Ecology reporting data

Based upon the reported 2018 to 2023 annual septage volumes, it appears that the facilities are reporting regularly and with consistent information and that the notable jump in the septage generation from 2020 to 2021 has leveled off and normalized to the extent that it can be accounted for with the available study data. As such, it is understood that projections of future septage generation can reasonably be approximated by applying the OFM state growth rates to the 2023-2024 septage generation volumes.

The results of this are seen in **Figure 12** on the next page.

[9] https://www/bls.gov/cps/telework.htm and https://www.bls.gov/opub/ted/2024/35-percent-of-employed-people-did-some-or-all-of-their-work-at -home-on-days-they-worked-in-2023.htm
[10] https://www.census.govtopics/employment/commuting.html
[11] https://www.ncci.com/SecureDocuments/QEB/QEB_Q4_2020_Re,oteWork.html

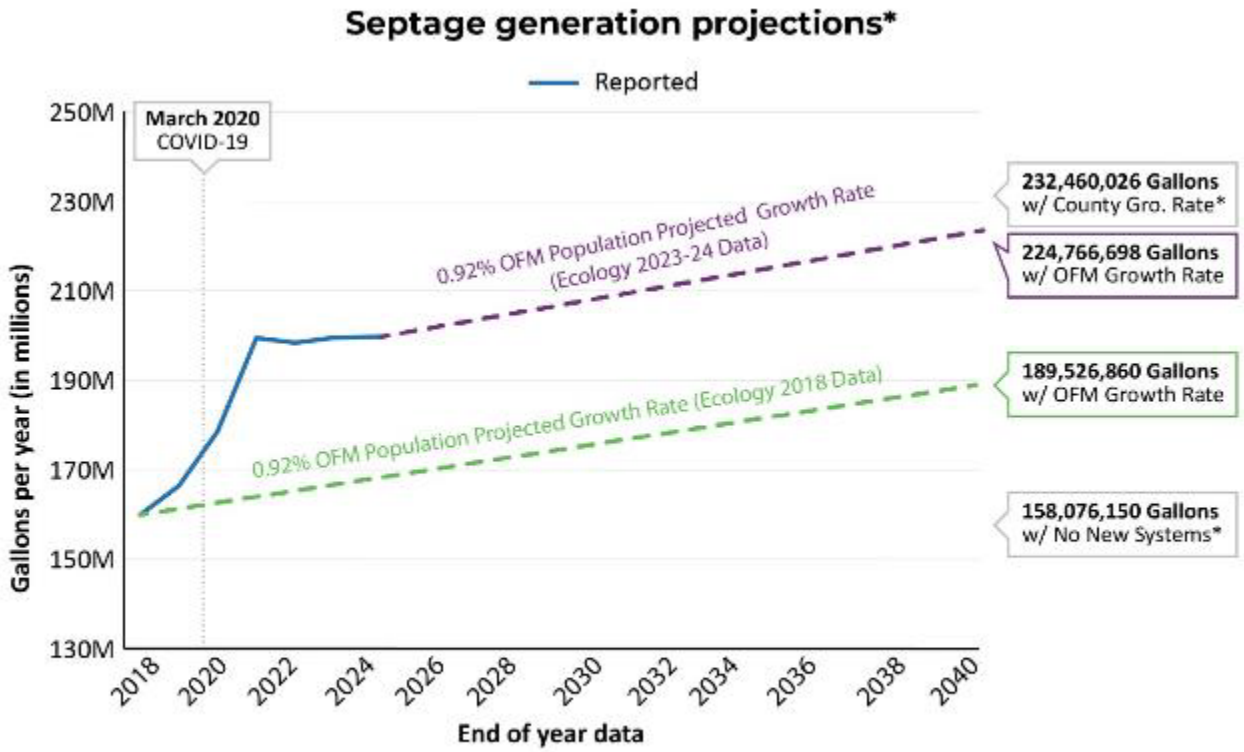


Figure 12. Septage generation projections
Sources: OFM Growth Data, Ecology

Septage projections calculated by unincorporated population data

The graph above also includes an independent septage generation estimate that is built upon the methodology developed in the Estimate of Septage Volume by County subsection above. This was done by converting the middle population growth rate projections into estimated total housing units for unincorporated areas (based on OFM data). This method estimates the total number of homes in unincorporated areas by county. It was assumed that 80 percent of each County's unincorporated population uses a typical residential septic system with a 1,500-gallon tank that is pumped every 7 years. The large tank size has been used to offset for the LOSS systems and other septic uses that are not otherwise included in this calculation. This septage volume calculation falls within the range of septage reported and brackets the 2040 septage projection derived from Ecology's biosolids reporting data with the OFM population growth rate applied.

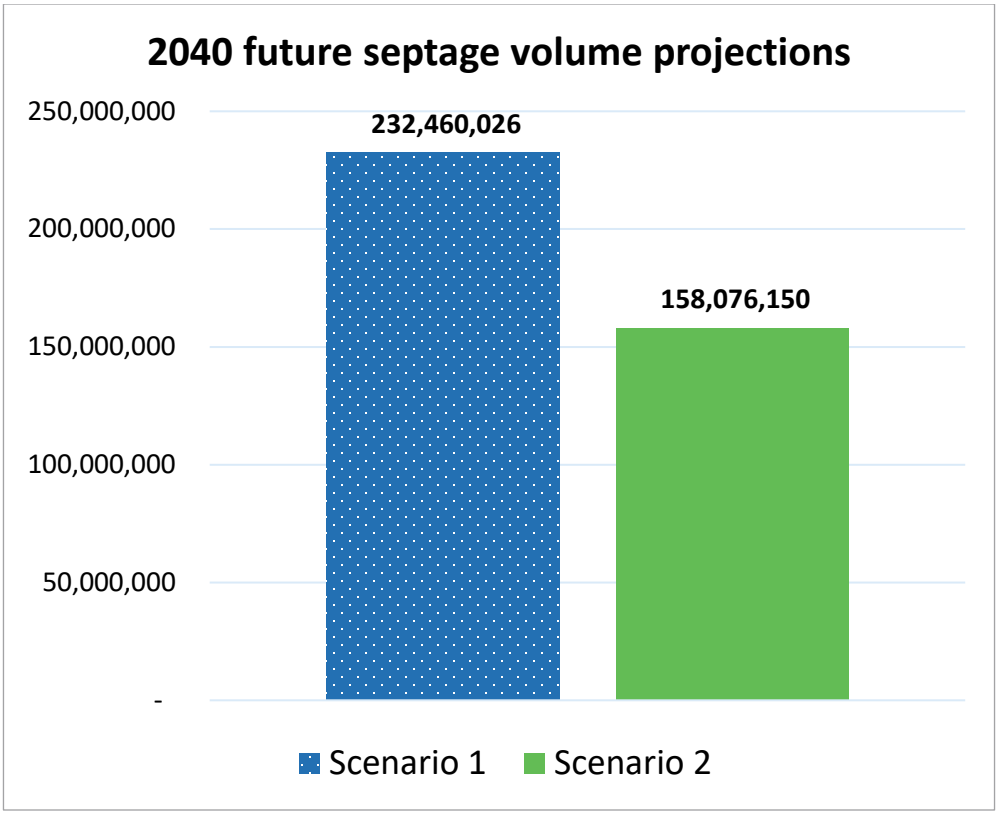


Figure 13. 2040 future septage volume projections, Source: SCJ Alliance

In projecting future septage generation, the specifics for how much growth will be unincorporated are left for local counties to plan. To allow for different 2040 growth scenarios by county, the project team provides two septage volume estimate scenarios. The final statewide future septage generation results are shown in **Figure 12** and **Figure 13** above: Yearly Septage Volumes Projected into 2040 and the Septage Generation Projection Estimate for a 7-Year Pumping Cycle (respectively).

Scenario One assumes that the current ratio of rural and urban housing units by county remains unchanged, with growth continuing in both urban and rural (unincorporated) areas at their existing rates. Using a 7-year pumping cycle, this septage generation volume is estimated at 232,460,026 gallons.

Scenario Two, on the other hand, assumes all population growth occurs in urban growth areas, meaning there is no unincorporated housing growth. While this scenario is unlikely, it provides a baseline for future septage production levels. No matter what level of growth occurs, this amount will absolutely need to be addressed. In this scenario, the septage generated from growth is directed through sewer services instead of septic systems. For this scenario to be plausible, a variety of conditions favoring urban growth, development, and connections to services would need to be in place. However, it is expected that future septage generation will exceed the levels projected in this scenario, as not all these conditions can realistically be met. Based upon a 7-year pumping cycle, this septage generation is estimated at 158,076,150 gallons, which is slightly less than reported in 2018.

Planning considerations with respect to septage generation

Supporting these scenario decisions, an additional review of county comprehensive plans shows that 8 out of 11 fully-planning counties plan to allocate a smaller proportion of growth to unincorporated areas. While these unincorporated areas will still experience growth, it will occur at a slower pace, resulting in a decrease in the overall unincorporated share of the population. As a result, the increase in septage generated by new households in areas not served by sewers should be more limited. While this review only accounted for 11 out of the 29 fully planning counties, some of the largest growing counties, King, Kitsap, Pierce, Snohomish, and Spokane counties, were accounted for as part of this effort.

While Scenario Two is the more likely future septage volume scenario, the two scenarios used together represent a range of possible annual septage volumes in Washington by 2040. Each scenario reflects assumptions with varying degrees of plausibility, but when considered together, they offer a more balanced middle ground for what may occur. The Growth Management Act, which directs development in urban areas while minimizing sprawl, plays a large role in shaping these projections alongside where counties choose to allocate for growth.

As discussed under Existing Conditions, with the limited data reported on septage volumes by county and the tendency for septage to be treated and managed in a different county than the septage was sourced, it is difficult to confirm the accuracy of the methodology on a county-by-county basis for future projections.

Overall, the analysis for future conditions shows that with the increase in population anticipated, septage volumes will also increase; however, the exact volume of septage will vary depending on where and how growth occurs. If growth largely occurs within urban growth areas, the greatest importance will be ensuring adequate sewer capacity, sewer line connections within urban growth areas, and maintaining current septage acceptance levels at treatment facilities. A more balanced approach is required if growth is more variable between rural and urban areas. This would mean a greater emphasis on ensuring adequate septage receiving capacity at treatment facilities alongside efforts to connect to sewers in urban growth areas anticipating greater housing densities.

Summary of findings

The research and analysis done for this septage capacity assessment aims to answer the main questions identified during the planning phase of this project. Below are the questions and answers that came from this work:

Q: How much septage is produced in each county?
A: From the available data, the septage produced in each county varies, ranging from 584,948 gallons to 18,090,219 gallons annually.

Q: What are the future capacity needs for septic tanks and similar systems due to development growth in the next 15 years and what are the anticipated barriers to meeting those needs?
A: The annual increase in septage capacity needed in the next 15 years to keep up development growth is estimated at 1,700,000 gallons for a 7-year pumping frequency.

The septage generation projections for 2040 are determined through the historic Ecology reporting data and also have been estimated through an estimation of the total number of septic systems in each county with a 7-year pumping frequency. The 2040 projection ranges from 189,076,150 to 224,766,985 gallons using Ecology's reporting data to 2023 and applying the annual population growth rate from OFM.

Related recommendations

- **Amend the Growth Management Act**
- **Address State and local staffing challenges**
- **Assist data collection and management on State and local level**
- **Enhance interagency coordination and sharing of resources**

II. State of the Septage Handling Industry

Once an on-site sewage system (OSS) is installed and in use, septage begins to accumulate within a tank throughout the duration of the system's use. When the tank can no longer hold additional septage, the property is sold, or the system fails, it requires pumping. At this point, the tank owner calls a licensed septage pumping company. This company will come to the location of the sewage tank, portable bathrooms, or other holding facility with their pumping trucks and remove the septage.

These trucks then take the septage collected and transport it to a management facility. The wastewater treatment facilities to which haulers transport the septage may be privately or publicly owned and operated. Further details regarding the types of facilities are discussed in Section III.

In this section:

- A discussion on the cost of pumping septage
- Summaries of what was heard from stakeholders including
  - Industry professionals
  - WOSSA industry professionals
  - Tribal partners
- Summary of findings and recommendations based on them

Summary of findings

- The average cost to pump a septic tank for businesses and homeowners statewide is $606.
- The meetings revealed a pressing desire for a collaborative approach to managing wastewater and septage, highlighting capacity constraints at treatment plants, logistical challenges, and costs, while proposing solutions like innovative technologies and decentralized treatment, with a focus on strategic, sustainable, and community-centered solutions, and a need for increased coordination among Tribes, local governments, and state agencies.

Related recommendations

- Fund a fiscal analysis of WWTP infrastructure solutions
- Assist data collection and management on state and local Level
- Coordinate with tribes on septage management
- Increase public-private partnerships
- Support further OSS public education

The cost of pumping septage

As part of this study, the project team was tasked with determining the average cost of pumping a 1,000-gallon septic tank in regions across the state. To identify the average cost, the project team surveyed local public health departments for the average cost in their region, the findings of which are seen in **Figure 14** on the following page.

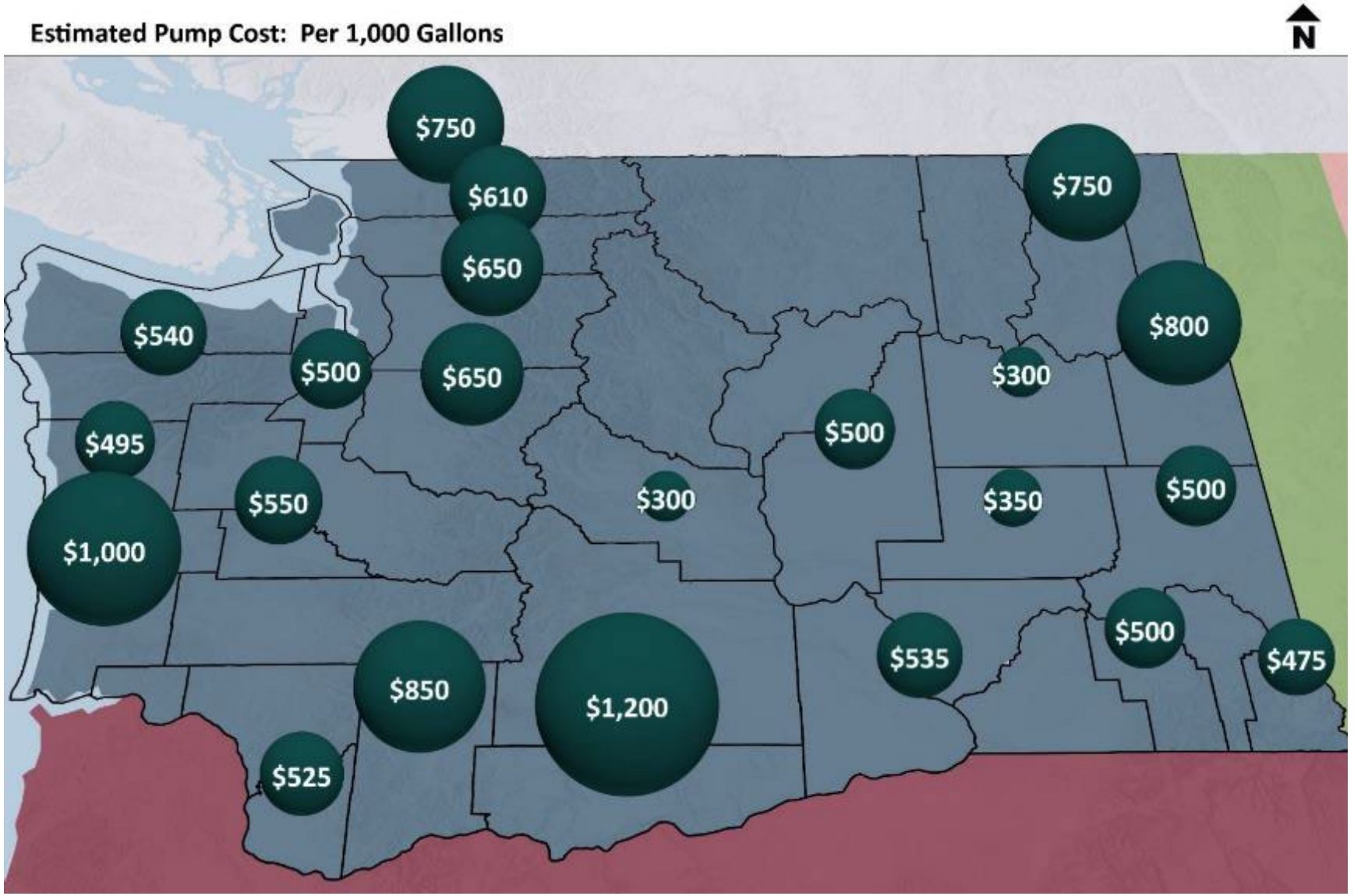


Figure 14. Estimated pump cost for a 1,000 gallon tank
Source: SCJ Alliance

While not all counties responded to the survey, the data received provides insight into conditions across the state. The average cost across the state to pump a 1,000-gallon septic tank is $606. This average cost is higher due to counties that are more remote from septage receiving facilities, such as Pacific and Klickitat counties, which report pump costs over $1,000.

Many factors can feed into the cost a licensed septage pumping company charges for pumping a septic tank; these include, but are not limited to, normal business operating costs, proximity of a septage receiving facility to the source location, market competition, and time of year. While neither San Juan nor Island Counties responded to the survey, their residents would likely face added costs to pump their septic tanks due to septage pumping companies needing to incorporate the cost of ferry travel into their operating costs to haul septage to receiving facilities. Further discussion on the locations of septage receiving facilities is found in **Section III**.

Stakeholder meetings

To further understand the on-the-ground experience with handling and managing septage, the project team held several stakeholder meetings with industry professionals and organizations in related fields. These meetings helped to expand the team's understanding of the available data, and the challenges related to septage management and capacity in Washington. Regular and one-time meetings were held with individuals from State agencies, local governments, academics, and industry professionals, who provided valuable information that surveys and data collection could not capture alone.

The project team held regular meetings with the WSALPHO Project Management Team, which included representatives from Ecology, DOH, WSALPHO, and local public health officials. The teams met 13 times, starting September 23, 2024. These project meetings allowed the group to collaborate, share insights into available data, recommend additional contacts, and review drafts of surveys, outlines, findings, and recommendations. The project team also held meetings as needed with Ecology and DOH to review progress, share findings, and ask questions in addition to the regular WSALPHO Project Management Team meetings.

Several one-time meetings were held with industry professionals, Washington On-Site Sewage Association (WOSSA) representatives, Coalition for Clean Water, and the Puget Sound Partnership. These meetings provided insight into real-world impacts and helped to finetune next steps, as discussed in the study's **Opportunities and recommendations** section. These stakeholders provided valuable feedback, increased understanding of data, refined the study, and improved the final recommendations.

Industry professional meeting findings

In 2025, the project team organized three meetings to gather more insight from industry professionals about on the ground conditions, current processes and potential issues, and recommendations. For two of these meetings, 28 individuals were invited based on input from the WSALPHO Project Management Team. The third industry professional stakeholder meeting included representatives from the Washington On-Site Sewage Association (WOSSA).

Industry professional meetings one and two

At the first two meetings, ten individuals attended and provided valuable insights into the issues that were not captured in survey results. These attendees represented local wastewater treatment plants, septage pumping and hauling companies, and wastewater engineers from both local governments and private consulting firms.

During the meetings, the following key issues were discussed:

- Limited treatment plant capacity and locations
- Lack of support for innovative solutions
- Desire for public-private partnerships

Limited treatment plant capacity and locations

Industry professionals shared that treatment facilities are facing capacity challenges across the board. Many WWTPs said they could not accept more septage beyond the local septage already received from partner municipalities' STEP systems. They expressed concerns about struggling to manage the additional wastewater from urban housing growth and that receiving septage from outside parties was not feasible. Their plants were designed to handle a specific capacity and are not equipped for the increased demand that comes with future growth. To meet the increased service demands, these plants need infrastructure upgrades or new facilities, but both solutions face funding challenges.

Private businesses involved in pumping and hauling septage heavily stressed how drastic the situation is. With limited facilities spread over long distances, they face longer hauling times, which affect their cost of business by increasing the amount of time, number of staff, and fuel costs required to pump and transport septage. They shared instances of increased driving distances over the years and how weather limitations, risks in accepting septage, and limits on the amount of septage accepted at treatment plants are all challenges. These issues raise business costs and can lead to higher pumping fees for customers, including homeowners, private businesses, school district buildings, and other critical buildings in rural communities.

For example, one individual from Pacific County described hauling septage over 200 miles roundtrip (5.5 hours) twice a week to Biorecycling Chehalis, the closest facility that accepts septage. This business owner used to haul across state lines to Astoria, Oregon, but with both Astoria and nearby Warrington experiencing their own growth pressures, the Astoria facility closed their doors to accepting outside septage. If Biorecycling Chehalis (which has capped this business at 4,000 gallons per trip) stops accepting septage completely, Pacific County will

experience increased difficulty in providing septic pumping services. Professionals from Jefferson County stressed similar issues with hauling septage Shelton.

> Stakeholder testimonials stressed an urgent need to address not only treatment plant capacity but the location of facilities accepting and treating septage.

Increasing support for innovative solutions

Industry professionals at both meetings wanted to find creative solutions to the septage capacity problem. They preferred flexible, innovative ideas that could be tailored to the local conditions. However, for solutions to be implemented, support from state agencies is needed to allow private businesses to test-run small, controlled pilot programs that may result in possible solutions. While attendees were highly interested in the emerging technologies they learned about from their professional circles and at conferences, they felt their ability to act would require modifying current regulatory restrictions.

One potential septage treatment solution discussed was new technology that could treat septage and biosolids on a smaller scale, thus spreading the treatment demand to the areas needed and easing the consolidated stress on large treatment systems. Further follow-up would be necessary to first determine the feasibility and practicality of this solution.

Desire for public-private partnerships

As part of the discussions on innovative solutions, industry professionals also wanted to tackle the need for increased septage capacity through public-private partnerships, especially when it comes to funding, new technology, and finding solutions that fit local needs. They agreed that there is not one solution that will work the same way for everyone across Washington, but they were eager to work together on creative, cost-effective, and long-term solutions that could benefit the state as a whole.

WOSSA industry professional meeting

After meeting with the industry professionals recommended by the WSALPHO Project Management Team, the project team met with representatives from Washington On-Site Sewage Association (WOSSA). This meeting centered on receiving feedback on the study to date, concerns, and recommendations. The group included civil engineers, pumpers, manufacturers, regulators, operations and maintenance (O&M) staff, consultants, and installers. Through these discussions with WOSSA, the following key areas were identified:

- FOG waste management
- Contaminants and treatment challenges
- Data collection
- Pumping and inspection education
- Infrastructure opportunities and challenges
- Transportation and hauling challenges

Fats, Oil, and Grease (FOG) waste management

WOSSA noted that it is important for the study to include a discussion on where FOG fit into the septage conversation. FOG waste adds a unique challenge to septage treatment. Professionals noted that there is a major shortage of facilities that can handle FOG, making it hard to manage, depending on whether a pumping business accepts FOG. There is a lack of tracking of what pumpers are receiving/hauling, which results in WWTPs and other facilities not wanting to receive this septage because it can't always be accepted due to the uncertainty of what it contains. This means the facility can't be certain it won't cause system upsets.

Ecology has no authority over septage pumpers that are not associated with SMF. Ecology can request that facilities receiving septage that are subject to the biosolids permit get accurate reporting from pumpers, but that is the extent of the biosolids program's authority. Unlike septage, FOG cannot be land-applied, which further reduces the number of facilities that can manage it. One example provided stated that FOG waste had to be hauled from Spokane to Lake Stevens, roughly 300 miles and five hours of driving. This instance highlights how few receiving facilities there are across the state. WOSSA stressed that treatment and management options for FOG must be prioritized when addressing septage waste.

Contaminants and treatment challenges

Similar to FOG, the group discussed the challenges of treating septage due to contaminants like "forever chemicals" (e.g., PFAS), trash, and flushable wipes. They agreed that education could be helpful in some areas as a method to reduce the presence of contaminants.

Data collection

When the project team shared early findings, WOSSA representatives shared concerns about the lack of available data. Participants anticipated that data should already be available through existing reporting methods such as inspections, permits, and pump reports. However, as they came to understand the difficulties in collecting and managing data from the various sources, the group recommended identifying ways to make data collection easier at all levels throughout the septage management process to lay the groundwork for future policy and decision-making.

Education to avoid over-pumping

While the project team previously heard concerns about systems not getting pumped often enough, WOSSA representatives identified the issue of over-pumping as an additional area of concern. They stressed the need for better education on system maintenance. Educating property owners about the importance of regular inspections and only pumping when truly necessary could help reduce unnecessary costs and inefficiencies. The practice of scheduling pumping based on routine (such as once per year) rather than actual need can lead to wasteful over-pumping. This in turn adds more strain to treatment facilities. Some participants stated that higher pumping costs could encourage homeowners to perform inspection and maintenance instead. WOSSA members favored encouraging inspections on systems, versus just focusing on reducing pumping costs, as this would support better long-term waste management.

The members also discussed the need for a better understanding of the costs of septic maintenance and sewer connections. A short and long-term cost analysis will aid in making the best policy recommendations.

Infrastructure opportunities and challenges

WOSSA members noted a growing trend of installing larger septic tanks and two-tank systems, which signifies an increase in the need for management and maintenance. As more large tanks are installed, managing the septage becomes more complex and requires more resources and coordination. The rise in accessory dwelling units (ADUs) and tiny homes in rural areas also adds pressure to existing systems, produces more septage, and increases the need for efficient management. Community systems are concurrently being introduced, which helps to reduce individual septage volumes with centralized treatment but brings new management and cost challenges.

Transportation and hauling challenges

Like the two industry professional meetings, WOSSA members shared concerns about long hauling distances. However, they also pointed out that it is not just about distance but also about the time spent hauling. This time includes waiting at facilities to unload and longer travel times due to traffic, especially in the Puget Sound area. Traffic patterns were said to significantly increase hauling times, adding additional costs.

Tribal partner meeting

Septage management is a challenge that spans shared lands and jurisdictional boundaries, particularly when it is not adequately addressed or planned for. Recognizing this, the project team held conversations with Tribal partners to understand how Tribal Nations are managing septage on their lands. Before reaching out to the Tribes directly, the project team consulted the WSALPHO Project Management Team for guidance on existing contacts related to this issue.

Ecology recommended reaching out to the Tribal Solid Waste Advisory Network (TSWAN) for coordination. Upon connecting with TSWAN, it was noted that while the network addresses solid waste, septage has not been an area they've worked on yet; however, they noted it as an area of interest for many of their Tribal Nation members. Although TSWAN's scope extends beyond Washington, the network expressed its commitment to facilitating dialogue between Tribal Nations and the project team, ensuring that Indigenous voices are heard and fostering a supportive space for sharing information and building relationships.

On March 20th, TSWAN hosted a meeting where the project team presented findings on septage management in Washington and discussed with Tribes how they are managing their septage. Representatives from three Tribal Nations, from both the eastern and western regions of the state, attended the meeting.

While there were no comments on the findings from the state's side of the septage issue, the discussion led to helpful teachings. One Tribal Nation shared that they manage their own septage pumping and hauling services, charging $275 per septic tank pumping, with the additional benefit of offering free services to Elders. Another Tribe shared that they are in the process of developing a business plan for their own septic services to reduce costs. However, it was noted that they do not and would not accept septage from outside their reservations due to concerns about contamination from unknown sources. It was also discussed that the cost of pumping is largely determined by the distance to the nearest facility and whether that facility has the capacity to accept septage. The closer the facility is to the septage generation point, the lower the cost of pumping.

Based on this meeting, the project team strongly recommends continued relationship building with all Tribal Nations across the state on septage management. Engaging with Tribal partners helps contribute to the shared management of land and water. Given that Indigenous Peoples have lived on these lands since the beginning of time, there are valuable teachings and collaborative opportunities that Washington agencies and local counties can learn from in planning and protecting environmental and public health. As part of this study's effort, the project team met with the Tribal Solid Waste Advisory Network (TSWAN) and representatives from three Tribal Nations. However, ongoing outreach and relationship building is essential to hear each Nation's unique perspectives and avoid generalizing Tribal experiences.

Summary of findings

Septage handling across Washington serves as the critical connection that transports septage generated by the state's growth, as discussed in **Section I,** to the receiving facilities, to be discussed in **Section III**. The information gathered by analyzing septage pumping costs, conducting stakeholder meetings, and meeting with Tribal partners provides valuable insight into the broader interactions between the state's growth and the septage system.

The research and analysis done to assess septage handling focused on answering the following question identified during the planning phase of this project:

> **Q: What are the costs for businesses and homeowners associated with having tanks pumped?**
> A: The average cost to pump a septic tank for businesses and homeowners statewide is $606.

However, the meetings conducted highlighted the urgent need for a comprehensive, collaborative approach to managing wastewater and septage. Through firsthand accounts, it became clear that treatment plants across the state are facing significant limitations in accepting additional septage due to capacity constraints. Participants shared stories of hauling septage over long distances, sometimes involving round trips of several hours, and how these logistical challenges drive up costs and strain resources. In particular, the example of hauling septage from Pacific County to Biorecycling Chehalis—more than 200 miles round trip—illustrated the extent of the problem. These stories underscored the growing pressure on both public and private sector players to find solutions to a mounting problem.

Additionally, insights from meeting with Tribal partners added critical perspectives, with individuals highlighting the approaches their Tribal Nations are taking. They showed a common theme that centered on community care and costs being driven by a septage-receiving facility's distance. While those present didn't share thoughts for further work with the state, the project team highly recommends increasing coordination among all Tribes in Washington, local governments, and state agencies to improve septage management and address shared challenges.

Not only did meetings share insight into the challenges, but they also provided potential solutions, ranging from pilot programs for innovative technologies to public-private partnerships aimed at tackling funding and technological barriers. There was a clear willingness among the participants to work together, leveraging their expertise to explore creative solutions tailored to local conditions rather than simply applying generic, one-size-fits-all approaches. Industry professionals expressed a desire to explore decentralized treatment technologies, which could ease the burden on overworked facilities and provide targeted solutions for rural and underserved areas.

In the stakeholder meetings, it was made clear that professionals didn't want to "just throw money at the issue," but rather focus on strategic, sustainable solutions that address the heart of the challenges. They emphasized the importance of working within existing regulatory frameworks, while also pushing for more flexibility to test emerging technologies and new approaches. There was consensus that, by addressing the root causes of capacity limitations,

improving the efficiency of hauling processes, and supporting innovation, the state could create a long-term, scalable system for managing septage in a way that balances environmental sustainability with the needs of local communities. The collective commitment to finding innovative, data-driven solutions is clear, but it will require sustained collaboration and a more supportive regulatory environment to bring these ideas to fruition.

Additionally, from the outset of the study, concerns about 'forever chemicals' (PFAS) were raised by stakeholders, including the WSALPHO Project Management Team, Puget Sound Partnership, and industry professionals, highlighting them as an emerging issue in septage management. While these concerns fall outside the scope of this study, they remain important to acknowledge. Local public health officials, WSALPHO, and Puget Sound Partnership all noted that SB 5033 was introduced to the Washington State Legislature to address PFAS sampling and testing, though septage was excluded from its provisions. Furthermore, draft EPA guidance on PFAS, dated January 17, 2025, was shared, which may inform future discussions on septage treatment in relation to these chemicals.[12]

The final recommendations from this study, presented in Section IV, **Opportunities and recommendations,** were largely shaped and refined through discussions with stakeholders.

Related recommendations

- **Fund a fiscal analysis of WWTP infrastructure solutions**
- **Assist data collection and management on state and local level**
- **Coordinate with tribes on septage management**
- **Increase public-private partnerships**
- **Support further OSS public education**

[12] https://www.epa.gov/biosolids/draft-sewage-sludge-risk-assessment-perfluorooctanoic-acid-pfoa-and-perfluorooctane

III. Septage Receiving Capacity

Following the pumping of septic tanks and other holding facilities, septage is delivered to facilities that treat and manage it by means that are regulated by the State of Washington Department of Ecology. These facilities often include municipal wastewater treatment plants and other processing plants that accept the septage either as an added component to other sewage influent, or specifically for septage management, to be treated and managed as a biosolids product.

In this Section:

- Facility breakdown
- A look at Septage Receiving Capacity Data through surveys
- Spatial analysis of facilities that receive septage
- Summary of findings
- Related recommendations

Summary of findings

- Some septage receiving facilities serving Washington report decreases in the amount of septage being accepted without plans for expansion
- Statewide septage generation is projected to exceed septage receiving capacity by 2024
- Some areas of Washington do not include options for septage receiving services within a reasonable distance to keep pumping and hauling costs down
- In the process of surveys and interviews, WOSSA and other private operators highlighted the importance of creating a positive business environment that will encourage additional private WWTP and SMF development

Related recommendations

- Address state and local staffing shortages
- Assist data collection and management on state and local level
- Increase public-private partnerships
- Conduct a fiscal analysis of infrastructure solution

Types of facilities

The septage handling services provided by pumpers and haulers represent the intermediate step in the septage management life cycle. These providers must deliver the septage to a facility that receives the septage for treatment or management. Ecology's biosolids permitting program collects information from these facilities, which include the following categories:

- Septage management facilities
- Biosolids utilizing facilities
- Incineration facilities
- Wastewater treatment plants
- Lagoon wastewater treatment plants
- Composting facilities

Septage receiving capacity data

To determine the state's septage receiving capacity, the project team reviewed and summarized reporting data from facilities permitted by Ecology's biosolids program. Reporting this data to Ecology is a condition attached to a facility's biosolids permit **Table 3**, below, shows the total septage volumes provided from this dataset. The information provided is not broken down by county or region and may be incomplete due to the current reporting system; however, it does show an increase in the total volume of septage accepted by permitted facilities in the years prior to 2022, with the start of a decrease beginning in 2022. Despite potential discrepancies from processing the data, this could suggest the start of an apparent downward trend in the state's capacity for receiving septage.

The septage receiving reporting data for 2024 was not yet processed at the time of this assessment. Direct contact was made with the individual facilities to help provide a better picture of the continued downward trend in statewide capacity.

Additionally, the information provided by Ecology here was also useful for comparing with the septage generation calculations as discussed earlier in **Section I**.

Table 3. Total septage accepted by year

Year	Total septage accepted (in gallons)
2018	160,550,305
2019	166,825,918
2020	178,725,901
2021	198,977,825
2022	197,940,420
2023	193,909,605

Wastewater treatment plant operator survey

To understand conditions relating to receiving septage, the project team sent out a survey to wastewater treatment operators. This survey aimed to learn which facilities accept septage, how much septage they accept, and if they have limits on how much they can take. The project team first created the survey, which was then reviewed with staff from Ecology staff to ensure the questions were clear and accurate. After receiving feedback, the survey questions were revised and set up in the online survey platform Alchemer for easy access to the survey link.

The project team sent the WWTP operator survey, which included eight long response questions with no required answers, to over 400 individuals on Ecology's list of WWTP operators on January 17, 2025. The survey closed on January 24, 2025, and received 35 responses. The responses were checked against information from the Ecology water quality program's regional operator outreach officials to ensure accuracy.

Below are the questions asked of WWTP operators:

1) Do you accept septage?
2) If yes, how much septage (in gallons) do you accept and treat on average, each month and how are those volumes being metered? Approximately what percentage of your treated flows are septage? Please provide any reporting data such as volumes and load manifests from pumper trucks.
3) If no, why not?
4) Is your treatment facility accepting its maximum septage handling capacity?
5) If not, how much capacity do you have to take on additional septage?
6) What is the limiting factor in your ability to accept septage?
7) Does accepting septage place additional strain on your daily operation or ability to meet your discharge permit requirements? If so, please specify the challenge.
8) What would allow you to accept additional septage?
9) In the event that you cannot accept septage on any given day, do you have a contingency or back up plan for pumpers to dispose at another facility? If so what is it?
10) Has your facility made any growth projections for septage handling needs? If so, please provide any such information.
11) Are you able to provide any additional data or information that would be helpful in assessing the capacity of your facility to manage septage, now and in the future? If so, please provide.

WWTP survey results

The responses from the surveys sent to WWTP operators showed a common trend: most WWTPs are not designed to handle septage, and the operators have very little interest in accepting it. A few operators mentioned that permitting requirements were preventing their facilities from accepting sludge, which could include the sludge that constitutes a component of septage. Out of the 35 responses, only four operators said they accept septage, and they only take small volumes, ranging from 958 to 2,228 gpd (gallons per day).

It was clear that redesigning their treatment facilities to accept septage would require significant costs. However, some of the larger facilities known to accept septage did not respond to the survey. According to the 2018 Ecology dataset of biosolids permit holders, there were about 47 facilities accepting septage that year. At the time of the survey, there were about 43 facilities known to possibly still be accepting septage but did not respond to this survey. **Table 4** below summarizes the data collected from the WWTP Survey.

Table 4. WSALPHO WWTP survey data

	Number / percent
Number of responses	35
Number of responses accepting septage	4
Percent limited by design, staff, costs	66%
Percent uninterested / no demand for septage	26%
Percent that feel septage is / would be a strain on operations	71%

WWTP operator outreach

Due to the limited information received from the WWTP Operator Survey, an additional data collection effort was made by contacting representatives of the facilities directly. Contact lists for all the state's permitted wastewater treatment plants were provided by Ecology's Water Quality Program. Over the course of approximately one month, members of the project team placed individual phone calls to those listed as a point of contact for each facility. The questions asked during these phone calls were intended to receive the following information from facilities that were found to accept septage:

- Type of facility
- Volume of septage accepted in 2024
- Expansion plans

If a facility contact did not respond to the initial phone call, the project team left a request for call back. Additional follow-up calls were then made for the facilities that did not respond to messages left previously. The outcome of these calls largely directed personnel to another point of contact listed for the same facility. However, 78 facilities did report accepting septage in 2024, but the number of facilities that provided a 2024 volume was only 29.

The following table summarizes the information obtained from the phone calls:

Table 5. WWTP operator outreach survey data

	Number / percent
Average gallons of septage accepted in 2024	5,096,130
Minimum plant capacity (gal)	12,000
Maximum plant capacity (gal)	23,500,000
Percent facilities not expanding	69%
Total gallons of septage accounted for	147,787,777

Observations from these direct phone calls revealed a level of uncertainty in the definition of septage and the reporting of its acceptance. Additionally, there were no results from this effort that indicated any additional or expanded plans for receiving septage.

Figure 15. Phone call outreach by the numbers

Current and future capacity estimates

The WWTP Operator Survey and WWTP Operator Outreach efforts provided valuable information and connected the project team with additional professionals in the industry. The WWTP Operator Survey provided insight that operators have little interest and face barriers in accepting septage while the WWTP Operator Outreach provided clarification on the number of facilities receiving septage. However, these efforts also revealed information gaps that prevent a clear understanding of the current capacity for receiving septage across Washington state.

In estimating septage receiving capacity, it can reasonably be assumed that the total volume is more than the 147,787,777 total gallons represented from the direct calls to facilities. This is because not all the septage-receiving facilities were able to provide a 2024 septage volume. However, without being able to identify the current volume received from all such facilities, an estimate of this quantity is available from the most recent Department of Ecology reporting data shown in **Table 3** of this section. While the 2023 reporting data indicates that approximately 194,000,000 gallons of septage volume was received, along with the lack of additional capacity planned by facilities, this leads to the conclusion that the estimated annual septage capacity trend will, at best, remain stable. As an example of a reduction in capacity in 2024, By using a reasonable average of the apparent 2021 – 2023 peak period annual volumes of approximately 197,000,000 gallons as a comparison with the septage generation calculated annual volumes, it can be concluded that by 2040 the likely generation volumes will meet or exceed the receiving capacity in three of the four projections.

From the Ecology reporting data, it is also possible to identify a downward trend in the volume of septage that is being accepted by individual facilities over time. Some of the facilities accepting septage either stopped doing so or reported a reduction in the volume of septage being accepted. The implications of such a reduction in statewide capacity exacerbate the local challenges in areas of the state that have fewer options for reasonable hauling distances and are therefore experiencing higher costs of pumping to individuals and businesses.

Geographic analysis of septage receiving facilities

In addition to the estimated capacity for septage receiving volume, the available data indicates a spatial aspect of septage receiving capacity. The locations of facilities receiving septage are shown in **Figure 16** on the following page. The general locations of these facilities are spread out in the eastern portion of the state; meanwhile, in Western Washington, the facilities largely surround the Puget Sound region and the I-5 corridor.

WSALPHO members confirmed that many areas in the State do not have a nearby receiving facility, so septage haulers must travel long distances for treatment and management. The location of these septage receiving facilities impacts the cost of pumping an individual septic tank. The distance septage receiving facilities are from the source of the septage generation directly affects the hauling costs and, therefore, the cost and schedule of regular pumping for individual septic tanks. These issues were discussed further in **Section II**, indicating challenges in areas like Pacific County.

To understand where service gaps may impact areas served by septic tanks, a 25-mile hauling distance range was added to the facility locations. This represents a reasonable hauling distance from all the septage receiving facilities, as seen in **Figure 17** by the density of facilities within the 25-mile range. It is important to note that counties near Oregon and Idaho may rely on facilities in those states.

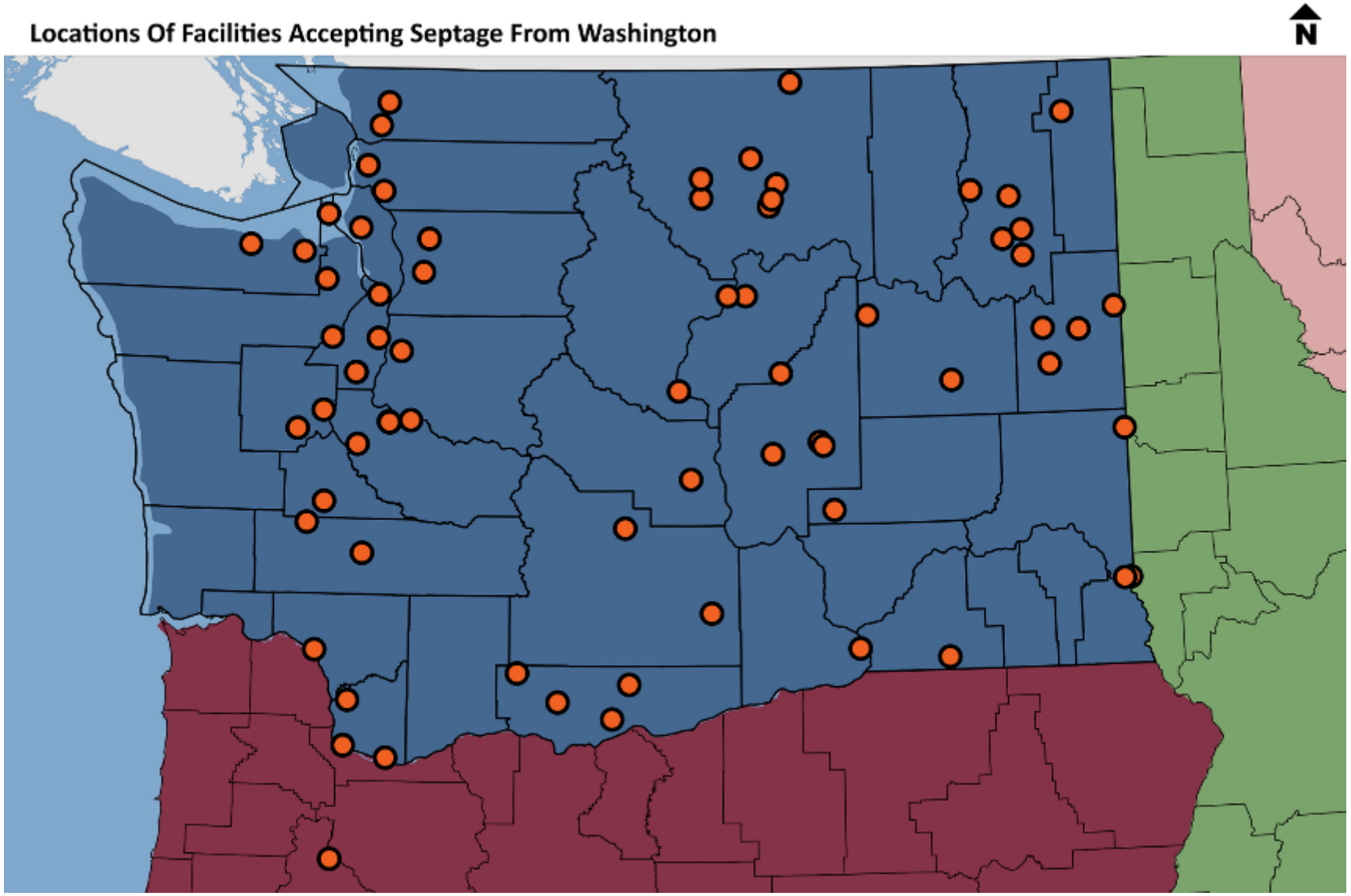


Figure 16. Facilities accepting septage across Washington
Source: SCJ Alliance

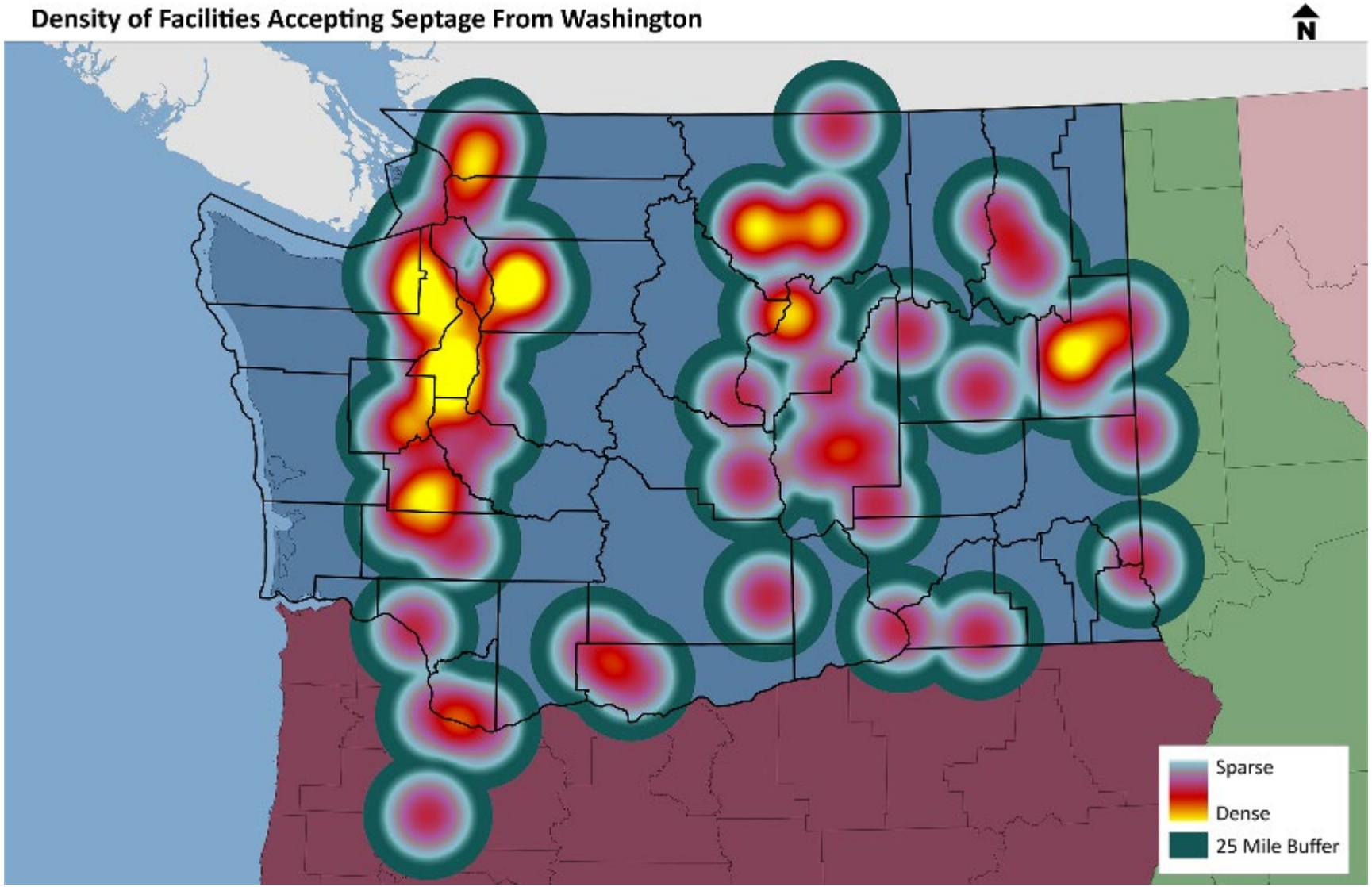


Figure 17. Density of septage accepting facilities across Washington
Source: SCJ Alliance

In **Figure 17**, septage receiving facility gaps are seen in two main areas of the state. The first major gap separates the eastern and western regions of the state due to the terrain of the Cascade mountain range. There are still cities in the Cascades, such as Leavenworth, North Bend, and Cle Elum; however, septage receiving facilities are easily found to the east or west of these communities.

The second major septage-receiving facility gap is located on the Olympic Peninsula. This is a challenging region to locate a facility due to multiple factors. With the Olympic Mountains and Olympic National Park dominating a large portion of this region, facilities face geographical constraints. Additionally, this region is susceptible to flooding, sea level rise, heavy precipitation, and is at risk of earthquakes. These factors, combined with a rural population, make for a challenging area to provide a variety of services, especially wastewater treatment. Unlike the Cascade Range communities where there is access to septage receiving facilities to the east or west, the closest facilities to the Olympic Peninsula are to its east, around the Puget Sound and I-5 corridor region.

In reviewing the locations of these facilities against the population growth from 2025 to 2040, as seen in **Figure 18** on the following page, there is a lack of facilities accepting septage in counties along the Olympic Peninsula despite their growth projections. Limited access to septage receiving facilities along the Olympic Peninsula needs to be addressed as part of the state's planning efforts addressing septage.

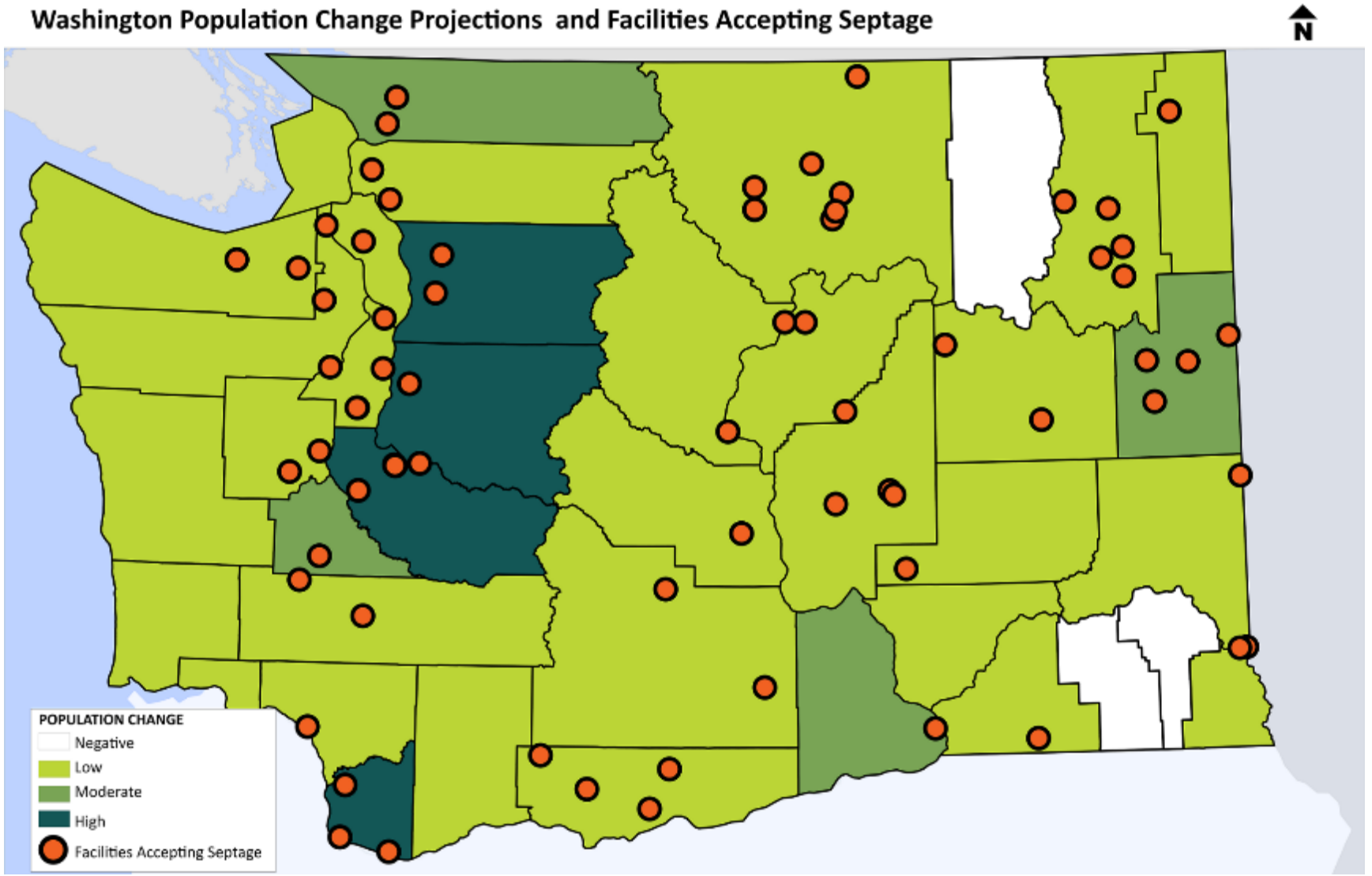


Figure 18. Population change and facilities accepting septage, Source: SCJ Alliance

Note: The legend categories are based on the numerical change in total population from 2020 to 2040. The categories are defined as follows: Negative (a population decrease), Low (0 to 42,804 individuals), Moderate (42,805 to 91,665 individuals), and High (above 91,665 individuals)

Having a small number of septage receiving facilities serving an area can make septage haulers, and thus communities, vulnerable to service disruptions. Routine maintenance or equipment failures can greatly affect the septage haulers' ability to rely on their usual facilities. There have been cases where a facility scheduled maintenance and directed pumpers to use another facility, but the alternate facility refused the septage due to capacity limits. Fortunately, in this reported case, another facility was able to receive the septage. This highlights how fragile the system can be and also notes the importance of having several treatment and management options within a reasonable hauling distance. A similar risk exists when a septage-receiving facility is nearing its overall capacity or its capacity to accept septage.

To increase adequate septage treatment and management capacity to accommodate the projected growth, some potential solutions include:

- Expanding wastewater treatment facilities that already accept septage.
- Upgrading existing wastewater treatment facilities that don't currently accept septage so they can treat and manage it.
- Building new facilities designed to accept septage.

Alongside these solutions, there are some barriers to addressing statewide septage capacity. These include:

- The limitations of existing wastewater treatment facilities, especially when it comes to handling biological loads and stricter discharge requirements for nutrients and other substances like Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS), which are discussed in the **Stakeholder meetings** section.
- Finding suitable locations to build new facilities that reduce hauling distances as well as costs for homeowners, businesses, and system owners.
- Regulatory permitting requirements, including environmental reviews.
- The financial challenges of building new facilities without funding assistance.
- Finding funding sources for septage treatment infrastructure solutions.

Summary of findings

The septage receiving research and analysis done for this septage capacity assessment aimed to answer several of the main questions identified during the planning phase of this project. Below are the questions and answers that came from this work:

1. **Q: What is the existing capacity for accepting septage in each County?**
   A: Based upon the available data, the septage receiving capacity ranges from 584,948 gallons to 18,090,219 annually.

2. **Q: What is the existing capacity for land applying ONLY septage in each county (not septage mixed with biosolids)?**
   A: The total amount of septage land-applied in the State is at least 4,666 dry tons (55,947,242 gallons) of septage. There is no known data for the capacity of each individual county.

3. **Q: How many treatment works treating domestic sewage (TWTDS) in each county are permitted to accept and treat septage?**
   A: The number of treatment works treating domestic sewage (TWTDS) permitted to accept and treat septage in each county ranges from 1 to 14 facilities. There are an estimated 78 such facilities statewide.

4. **Q: How many TWTDS in each county accept and treat septage?**
   A: The exact number of TWDS that accept and treat septage in each county is unknown, but it is estimated that 78 facilities treat septage statewide.

5. **Q: If a TWTDS accepts septage for treatment, how many gallons do they accept annually?**
   A: Treatment work treating domestic sewage (TWTDS) that accept septage for treatment take in between 182,500 to 813,220 gallons annually.

6. **Q: If a TWTDS is able to accept septage but doesn't do this as part of regular operations, why don't they accept septage?**
   A: The TWTDS that could accept septage but do not do this had various reasons for it. These reasons include high TSS loading rates, decreased plant capacity, and high volumes of non-organic solids in the waste stream, such as trash, wipes and personal hygiene products. These make it harder for the WWTPs to meet regulatory requirements for treatment levels.

7. **Q: What landfills in the state will accept septage for disposal?**
   A: Landfills in the state should not be considered for septage disposal, unless they meet certain exemption requirements under RCW 70A.205.20513.[13]

8. **Q: If a landfill accepts septage for disposal, what requirements must be met before the material can be accepted for disposal (if applicable)?**
   A: Landfills should not accept septage for disposal except under rare circumstances, as per RCW 70A.205.20514.[14]

Related recommendations

- **Address state and local staffing shortages**
- **Assist data collection and management on state and local level**
- **Increase public-private partnerships**
- **Conduct a fiscal analysis of infrastructure solutions**

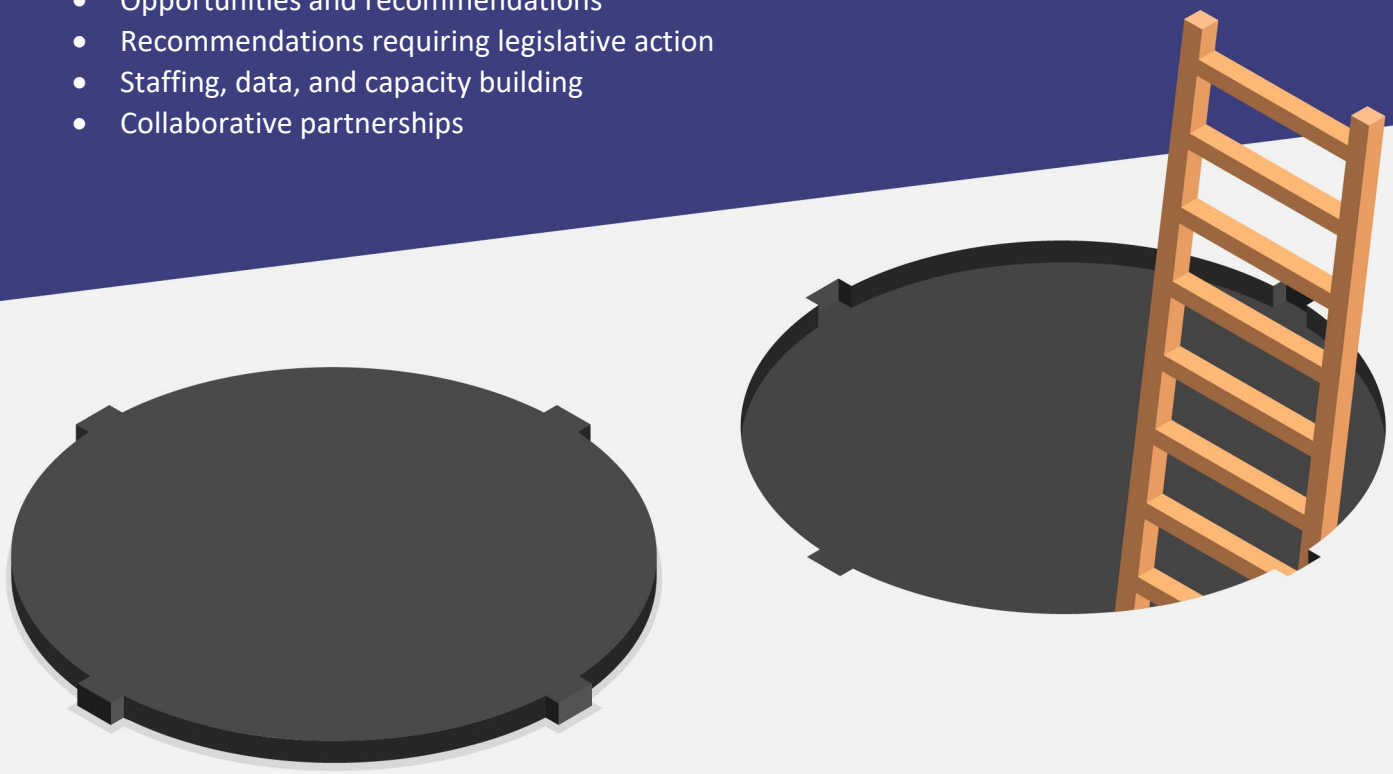
[13] https://tinyurl.com/disposalprohibition
[14] https://tinyurl.com/disposalprohibition

IV. Septage Management Challenges and Opportunities

Washington has several distinct challenges surrounding septage management. These challenges present opportunities to improve services for residents while protecting natural resources and native habitats. The significant challenges and recommendations for action found through the course of this Septage Capacity Assessment are outlined in this section.

In this Section:

- Challenges of this study
- Opportunities and recommendations
- Recommendations requiring legislative action
- Staffing, data, and capacity building
- Collaborative partnerships



Summary of challenges

The Septage Capacity Assessment identified several areas of significant challenges to solving septage management problems throughout Washington. These challenges represent important financial, physical, regulatory, demographic and geographic considerations, and are summarized as follows:

Economic conditions – While navigating recommendations with stakeholders, several market-driven challenges emerged in relation to septage management and treatment. These included the financial cost of inspections, maintenance, and pumping on property owners; the operating costs faced by septage handling companies; and the costs associated with the treatment of septage at facilities receiving septage. All these factors need to be considered in the broader economic landscape of the septage management industry.

Limited capacity - The number of facilities that currently have the capacity and are willing to accept septage is declining each year at a rate faster than new facilities are being brought online. Many of the facilities that accept septage have limited capacity and are unable to keep pace with the growing volume of waste generated across the state, leading to increasing strain on the existing infrastructure.

Treatment requirements – As the solid and liquid wastes that are flushed enter a septic tank and sit, the solids separate to the bottom of the tank, and liquid waste flows out of the tank into the leaching field. This process leaves behind highly concentrated solids that result in undesirable waste with higher levels of total suspended solids (TSS), higher concentrations of nitrogen, phosphorus, and PFOAs, and higher volumes of non-organic solids such as disposable mops, wipes, toilet paper, and other personal hygiene products. These factors make it harder and more costly for the WWTPs to process the solids and meet regulatory requirements for their permitted treatment levels.

Septage Management Facilities are subject to permitting requirements administered by Ecology's biosolids program under the EPA's Standards for the Use and Disposal of Sewage Sludge (40 CFR 503).

Population growth – The initiative to provide more housing across Washington has encouraged the growth of populations outside of cities and established areas. These urban areas often do not have municipal sewer infrastructure and rely on OSS to provide waste management. OSS provides a safe and speedy solution for new homes when compared to extending service to a municipal collection system. It is common for developers to install on-site sewage systems for a housing development and not consider where the septage will be taken for management in 5 to 10 years when septic tanks are full. This growth and increase in septage production have pushed existing plants to their capacity, forcing them to limit daily intake.

Regional differences – Septage treatment and management challenges vary significantly by region. Many parts of the state, especially the Olympic Peninsula, lack treatment facilities within a 25-mile radius. This forces pumpers to haul septage longer distances, driving up costs.

On the east side of the Cascades, the proximity to the Puget Sound region drives more stringent discharge requirements. Limiting nitrogen and phosphorous discharges protects valuable and

sensitive ecological habitats such as those of salmon and shellfish. Throughout Eastern Washington there is more available agricultural land available for management facilities to screen and land apply septage, creating more opportunity to manage septage across a larger area. Land application is typically less costly than treatment at conventional facilities and allows for smaller entities to join the septage treatment handling market.

Opportunities and recommendations

Washington could lead the nation in addressing septage capacity challenges and growth management. During initial discussions, the WSALPHO Project Management Team noted that this study is laying the groundwork for other states facing similar issues. The path Washington chooses will determine how effectively the state plans for its future.

To support this effort, this study's recommendations focus on key areas that need more support and action to address the growing challenges of septage capacity and management across Washington. These recommendations were created with input from a wide range of partners, including the WSALPHO Project Management Team, Ecology, the Puget Sound Partnership (PSP), the Washington On-site Septage Sewage Association (WOSSA), the Coalition for Clean Water (CCW), and industry professionals from both the public and private sectors.

The recommendations are summarized as follows:

Recommendations requiring legislative action

- Conduct a Fiscal Analysis of WWTP Infrastructure Solutions - High Priority, Medium Cost
- Amend the Growth Management Act – Medium Priority, Medium Cost

Staffing, data, & capacity building opportunities

- Address State and Local Staffing Challenges - High Priority, High Cost
- Assist Data Collection and Management on State and Local Level - High Priority, Low Cost
- Enhance Interagency Coordination and Sharing of Resources – High Priority, Low Cost
- Support Local Efforts to Reduce Septic System Inspection & Maintenance Costs – Medium Priority, Low Cost

Collaborative partnership opportunities

- Coordinate with Tribal Nations on Septage Management – High Priority, Low Cost
- Increase Public-Private Partnerships – High Priority, Low Cost
- Support further OSS Public Education – Medium Priority, Low Cost

Recommendations requiring legislative action

Conduct a fiscal analysis of infrastructure solutions

Action type: Policy and funding

High Priority, Medium Cost

Fund a fiscal analysis of potential infrastructure solutions for wastewater treatment facility capacity challenges across the state. The fiscal analysis should review the following potential solutions:

- Building new septage treatment facilities (large or medium scale) in areas with capacity issues or long hauling distances for septage treatment.
- Upgrading Infrastructure at existing treatment facilities that currently accept septage to address capacity challenges.
- Testing pilot programs for new, innovative technologies for septage treatment in rural areas on a distributed micro-scale.

Stakeholders consulted: WSALPHO, Industry professionals, and Puget Sound Partnership.

Overview

As Washington's population grows, the need for more waste management capacity also increases. Whether connected to sewer systems or using septic tanks, there is a need for more capacity to keep up with growth. Stakeholders have called for better planning, with more involvement from private entities, to address both current and future needs. There was caution expressed to not overstep as a public body into areas where private entities can take charge but instead foster a healthy relationship between the sectors to address this effort together. Such future action should involve space for Tribal Nations to ensure a coordinated approach to waste management on shared lands.

A detailed fiscal analysis of possible solutions across the state will help identify key areas that need solutions based on regional needs, such as:

- **New treatment facilities:** Some areas may need new treatment facilities to handle septage, especially in underserved regions. This would help ensure there is enough capacity to support future population growth while protecting the environment.
- **Upgrades to existing infrastructure:** Some treatment facilities are struggling to meet regional waste needs. They face rising costs for upgrades and repairs and have started limiting the types of waste they accept, such as septage, to manage their capacity. Understanding what upgrades are needed and how much they cost can help provide mid-term solutions.
- **Pilot programs for innovative solutions:** State support could also be directed toward pilot programs to test innovative, cost-effective wastewater treatment technologies. These programs could become models for rural areas where other infrastructure options are not as feasible and where there is a lack of capacity in the area. Such solutions could provide long-term cost savings while improving treatment results. Pilot programs should also consist of funding mechanisms to test the effectiveness of innovative solutions.

Alongside these potential solutions, further insight into ratepayer systems will be essential to ensure the long-term sustainability of infrastructure operation and maintenance. Facilities that handle only septage can face greater market volatility compared to wastewater treatment plants. Unlike the latter, which can set rates based on operational costs spread across a consistent number of ratepayers, septage-only facilities do not have a guaranteed number of rate payers. As such, solutions to address septage treatment must prioritize the long-term sustainability of facility operations and maintenance.

A thorough fiscal analysis of these solutions will not only identify the best strategies but also ensure state funding is used wisely to meet both immediate and long-term wastewater infrastructure needs across Washington.

Amend the Growth Management Act

Action type: Policy and planning

Medium Priority, Medium Cost

Amend the Growth Management Act for all counties to account for local on-site sewage systems (OSS) and treatment facilities serving their jurisdiction.

- Ask counties to include the following information in their comprehensive plans whether they are fully or partially planning counties:
- The number of OSS and LOSS in their boundaries, based on available data, even if some data may be limited.
- The locations of wastewater treatment plants within or near their boundaries that are verified as accepting septage.
- Include direction for Counties to strengthen relationships with neighboring Tribal Nations on this issue.
- Encourage cities and counties to provide information on how they plan to reduce the environmental risks from OSS, considering the impacts of climate change.

Stakeholders consulted: WSALPHO, Ecology, and DOH

Overview

The Growth Management Act (GMA) seeks to encourage urban growth, reduce sprawl, protect the environment, and ensure there are public facilities and services to support development. Following this goal, proper septage management and treatment should be part of growth planning. The study found that Washington relies heavily on municipal wastewater treatment facilities for treating septage from outside urban growth areas. This reliance represents a considerable risk in counties that have limited septage treatment options when such a facility suddenly becomes no longer available for receiving septage.

Interpreting the GMA in relation to septage suggests that the state should reduce the number of OSS by limiting or clustering growth outside of urban areas that are typically served by these systems. However, there may be areas of growth that are not served by municipal sewer and

others where sewer service would be impractical or not possible, like RV parks, campgrounds, or marinas that may still rely on OSS. Another challenge is tracking OSS for isolated rural homes built before septic permits were required. The county comprehensive plan review showed that a few counties were already considering land use policies to address pathways for reducing or clustering sewage systems. However, further steps are needed, especially to address the data gaps statewide.

Based on the goals and requirements of the Growth Management Act, this study recommends that the state direct all counties, especially "partially planning" counties, to include an accounting of their OSS and local septage capacity in their comprehensive plan updates. Counties should report the number of OSS within their area to the best of their ability based on data from permits, inspections, and pump records. Counties should also report the location of the nearest wastewater treatment plant that actively accepts septage and has future capacity to do so.

Gathering this data from counties would be highly beneficial to both the local county and the state. Each comprehensive plan would provide valuable local insight into the number of systems in a county. This could also help identify potential problems like failing systems and cost barriers to maintenance and track septage treatment issues. This information could lead to programs to reduce the number of OSS without increasing sprawl and to developing programs aimed at encouraging maintenance and reducing costs. The required climate element of Engrossed Second Substitute House Bill 1181 may already be encouraging counties to address OSS in their comprehensive plans as it relates to climate change impacts on local infrastructure.

This recommendation calls for more data reporting and may place additional strain on the comprehensive planning process, especially for rural counties. To make this easier, the requirements should be simple and based on data counties already have. Future funding could help support counties, especially rural ones that may have more OSS to track and fewer resources to meet higher reporting demands.

An examination of existing county comprehensive plans shows that the plans already include septic information, but the level of detail varies. Some counties also include policies about septic permitting in relation to projected growth. Some counties have detailed data, while others only include basic information. This inconsistency makes it hard to get a clear picture of OSS conditions across the state. Standardized reporting could help counties and the state plan better for growth and manage septic system issues.

The benefits of standardized reporting are significant. By understanding where OSS are located and their capacity, the state can use resources more effectively, prioritize programs, and manage growth sustainably. This approach will also help mitigate environmental risks from failing systems and unauthorized discharges.

Additionally, the study heard unique challenges between local jurisdictions and some Tribal Nations regarding septage management across governments. Conflict over issues like water contamination from non-Tribal OSS needs to be addressed. This report recommends further efforts to foster collaboration in comprehensive planning. With the passage of Substitute House

Bill 1717 in 2022, which amended the GMA to allow Federally Recognized Tribes to opt into county or regional planning processes, the state should continue encouraging counties to build stronger relationships with Tribal Nations. By doing so, there is added encouragement in the comprehensive planning process for counties to work towards reconciliation, building stronger relationships with Tribal Nations, over issues impacting shared lands and waters.

Staffing, data, and capacity building opportunities

Address state and local staffing shortages

Action type: Planning and policy

High Priority, High Cost

Explore solutions with self-funding mechanisms to address staffing capacity challenges for collecting and reporting septage data collection at the state and local level.

- Funding mechanism ideas for programs and staffing discussed with stakeholders include:
    - Charging a fee per gallon of septage received at the final treatment site to support a state program responsible for collecting and managing OSS data; and/or
    - Charging a fee during the OSS maintenance process to support local data management efforts in coordination with local health departments.

Stakeholders consulted: WSALPHO, Puget Sound Partnership and Coalition for Clean Water.

Overview

In discussions with stakeholders throughout the study, several instances were identified where limited staffing and/or funding slowed progress at both the local and state agency levels for managing septage. Local health departments reported challenges with staffing for managing and using records effectively, including collecting, organizing, and digitizing data. State agencies also mentioned staffing shortages for properly analyzing data.

Two examples of staffing limitations shared during the study relate to the 2003 Ecology Septage Strategic Plan and the 2018 Ecology Septage Management Summary (see **2025 Septage Study Background**). The 2003 plan outlined steps for managing septage, including strategies and actions with funding and resource needs. This plan still offers useful information but needs updating and implementation prioritization. This recommendation also suggests reviewing the current staffing capacity and agency needs of Ecology. If funding becomes available, directing the right staff to update and implement the septage strategic plan would improve the septage handling and management across the state. Local county government agencies and departments also need more resources to collect and manage data as recommended.

Stakeholders shared ideas for funding such staffing and resource needs. To help with agency staffing, the 2003 Ecology Septage Strategic Plan was cited by representatives from the Coalition for Clean Water for its suggested funding solution. The suggestion was to charge a fee per gallon of septage pumped, which could be collected at the final treatment site. For local

funding, representatives from Puget Sound Partnership discussed past attempts, such as HB 1715 and HB 2527 in the 2015 legislative session, to charge fees on OSS to help support local data collecting and management plan efforts. An important note is that some local health jurisdictions already assess a fee for operations and maintenance of OSS; however, some do not. Any action to direct a fee during this process needs to be done in coordination with local health jurisdictions to avoid fee overlapping.

Data collection and management

Action type: Planning and funding

High Priority, Low Cost

Fund ongoing statewide septage data collection and create avenues for digitizing records for efficient data management and analysis.

- Set up a statewide framework for septage data collection.
- Digitize local health jurisdiction data.
- Create an electronic centralized database.
- Use GIS and other tools to understand environmental and climate risks.

Stakeholders consulted: WSALPHO, DOH, Ecology, WOSSA, Coalition for Clean Water and Puget Sound Partnership

Overview

During this study, it became clear that better data collection is a top priority. The type of data provided by each county varied greatly, as shown in the responses to the WSALPHO member surveys discussed in the **Summary of findings** section. While using surveys was helpful for gathering initial data, not all counties gave the necessary information. Due to the short timeframe for data collection, the assumptions made in this report will need to be updated as new data becomes available.

Filling in the gaps on septage generation volumes, especially from companies that pump tanks, is essential. This data will help in understanding how much septage crosses county or state lines for treatment and provide a more comprehensive understanding of regional waste management. Unless the data reported readily connects septage source location with septage treatment and management locations, it will be difficult to implement effective septage capacity planning that results in effective infrastructure development.

Additional field research, like surveys to estimate the number of older OSS still in use but installed before counties began record-keeping, would also improve the data. Creating the centralized database would also enable correlating the data against floodplain records and analyzing climate change risks that will help identify OSS systems located in sensitive areas – which would be at risk for flooding or other environmental issues.

To address these gaps, it is essential to fund ongoing statewide septage data collection efforts and find ways to digitize records for better data management and analysis. Developing a framework for statewide septage data collection is crucial. The system could standardize reporting with consistent data, which would help future analysis. The digitization of local health jurisdiction data should also take place to ensure consistency in reporting. A centralized database should be created to store records for each OSS permitted, including design details and sizing. Counties that submit accurate data could be incentivized, potentially through grant funding, for consistent data reporting over time.

With state support, counties could also set up a standardized filing for collecting and managing data from submitted pump reports, since many counties collect this data but fail to record or keep the information. The project team learned through this study that some counties already collect data on how much septage pumpers move monthly, However, such collection does not always mean that the submitted data is recorded properly. By integrating these efforts, the state can improve the accuracy and usefulness of septage data, helping to better understand the management needs and risks in each county.

Interagency coordination and sharing of resources

Action type: Planning

High Priority, Low Cost

Enhance interagency coordination for efficient data utilization and planning.

Stakeholders consulted: WSALPHO, DOH and Ecology

Overview

To tackle the septage capacity issues in Washington, a coordinated approach led by the Department of Ecology with the counties and other state agencies currently involved with regulating all forms of septage management will create a foundation for successfully managing septage infrastructure. This study relied on data from various state agencies and local county governments, highlighting the need for streamlined coordination in future planning efforts. To save both time and resources in future septage studies, particularly for data collection, projections, and analysis, it may be beneficial for state agencies to consider strengthening coordination across agencies. When considered alongside the previous recommendation to address agency staffing challenges, this suggestion would promote the efficient use of limited resources by fostering cross-sector collaboration on multidisciplinary issues, such as septage.

The reason for this recommendation largely draws from the understanding of where data used for this study is managed, regulated, or overseen on the state level, for example:

- **Growth projections:** Data utilized for future scenario planning was sourced from OFM.

- **County growth allocation information:** Where growth is being planned is provided through the county comprehensive plans submitted to the Department of Commerce.
- **Biosolids permitting data:** Treatment facilities report their biosolids data to Ecology.
- **On-Site Sewage System (OSS) data:** Counties in the Puget Sound Basin generally have more complete information on OSS within their jurisdictions through data required to be shared with the DOH.

Ultimately, all the data analyzed in this study falls under the scope of state agencies in some capacity. By enhancing interagency collaboration and coordination, the state can more efficiently gather and analyze information across sectors, leading to a more comprehensive understanding of cross-agency issues like septage management. This approach would foster a more cohesive and informed decision-making process while limiting costs, benefiting both state and local efforts in addressing these critical challenges.

Support local efforts to reduce septic system inspection & maintenance costs

Action type: Planning and funding

Medium Priority, Low Cost

Support local financial assistance programs for onsite sewage system (OSS) inspection and maintenance, especially as they relate to cost-burden status or environmentally sensitive areas.

- Review local programs across the state to find best practices that can help lower the chances of septic systems failing due to the cost of inspection, maintenance, or pumping.
- Offer certification courses, like those previously offered in Thurston County, so homeowners can learn how to inspect their own septic tanks and submit inspection reports to the county. This would reduce the staffing needs at the County and City levels and would reduce the cost to homeowners.
- Prioritize funding and agency support in areas with environmentally sensitive habitats, underserved communities, or where actions focus on environmental justice.

Stakeholders consulted: WSALPHO, Ecology, WOSSA and DOH

Overview

In discussions about the costs of pumping, stakeholders noted that many counties in Puget Sound offer incentives or rebate programs to assist with the inspection, maintenance, and pumping of systems. These programs help reduce costs and protect the environment. To help areas with high maintenance costs that do not have such programs, the state could support existing programs and share best practices with other regions. Examples of helpful programs include ‘Septic Savy’ in Snohomish and ‘Operation & Maintenance of Your Septic System’ at Tacoma-Pierce County Health Department. Additionally, DOH recently gave grants to local health departments to help homeowners with septic system maintenance costs. These efforts work alongside public education to ensure that septic systems are properly maintained by

reducing cost barriers. While these programs mostly exist in Puget Sound counties, expanding them to other areas of the state would be helpful. Experience has shown that having the State provide grants and incentives through local health jurisdictions for low-income families has been a very effective way to help reduce the costs of system pumping and repairs.

Collaborative partnership opportunities

Tribal coordination

Action type: Planning

High Priority, Low Cost

Continue building relationships and coordinating planning efforts with each Tribal Nation in Washington on septage waste management, respecting each Tribe's inherent sovereignty and self-determination.

- For any future programs or opportunities, the state should provide opt-in opportunities with funding for Tribal Nations to share in any wastewater planning, recognizing unique opportunities, challenges, and relationships each Nation may experience.

Stakeholders consulted: WSALPHO, Ecology, DOH

Overview

To uphold the Centennial Accord, it is recommended that outreach be expanded. Priority should be placed on coordination and collaboration with Tribal Nations on a government-to-government level to respect Tribal sovereignty and self-determination. Consideration should be given to working with established Tribal networks on such matters, such as the Tribal Solid Waste Advisory Network (TSWAN), while understanding that membership in such spaces can vary by Tribal Nation.

Some septage data from Tribal Nations might already be included in this study, as some private haulers bring septage from Tribal lands to non-Tribal treatment facilities. However, some Tribal Nations have their own wastewater treatment facilities. It is important for the state to respect the data sovereignty of each Tribe and only use the data they wish to share. If the state moves forward with statewide septage data collection, Tribal Nations should be given the option, with funding, to participate. Such a measure would need to respect Tribal ownership, control, access, and possession of Tribal data. This will help improve collaborative planning while respecting each Tribal Nation's sovereignty and self-determination.

This study also heard about unique challenges faced by some Tribal Nations, such as working with local jurisdictions, water contamination from non-Tribal septic, land development, and soil types on reservation lands. These challenges require greater support to solve together on shared lands. With the passage of Substitute House Bill 1717 in 2022, the state added an option for Federally Recognized Tribes to voluntarily choose to participate in the county or regional planning process. Along with the other recommendation to expand the Growth Management Act requirements for

county comprehensive plans to provide septic information, this could encourage more discussions between local Tribes and counties about septage issues during planning.

Public-private partnerships

Action type: Planning

High Priority, Low Cost

Explore opportunities for public-private partnerships to improve septage waste management.

Stakeholders consulted: WSALPHO, Ecology, DOH, Industry Professionals and WOSSA

Overview

To tackle the growing challenges in septage waste management, it was recommended by industry professionals to explore the use of public-private partnerships. These partnerships can combine the strengths of both the public and private sectors by using public resources and oversight with private sector innovation, efficiency, and investment. Industry professionals have shown strong interest in working together to address septage challenges. An example of a public-private partnership in Indiana demonstrated how a private sector contractor was working with a local municipality to manage septage treatment.

Public-private partnerships are seen as beneficial path for several reasons:

- **Shared investment and risk management:** Public-private partnerships help distribute the financial burden of building and upgrading infrastructure. Private companies can provide capital for advanced treatment technologies or system expansions, while public entities make sure services meet local regulations and remain accessible to all.
- **Innovation in treatment and management technologies:** Private sector partners can bring innovative technologies that improve waste treatment, cut operational costs, and reduce environmental impact. Combining governmental oversight and incentives for opportunities with private-sector expertise, communities can stay ahead of evolving environmental conditions and create sustainable waste management solutions.
- **Improved service delivery and expansion:** These partnerships can bring private sector efficiency to septage collection, treatment, and management, helping to expand services to underserved or growing communities. They can also encourage regional collaboration, reducing redundant infrastructure and increasing cost-effectiveness.
- **Regulatory and environmental compliance:** A public-private partnership ensures that waste management services follow regulations, with the public sector providing oversight. At the same time, the private sector can share insights about challenges and how to meet environmental goals while reducing the risk of improper waste management.
- **Capacity building and knowledge sharing:** Working with private partners also allows for knowledge exchange. This can help build local expertise in waste management practices, operational strategies, and new technologies. Training and development opportunities

can also be part of the partnership agreement, helping public sector staff develop the skills needed to manage waste management systems effectively.

On-site Sewage System (OSS) public education

Action type: Planning

Medium Priority, Low Cost

Improve public education of OSS maintenance requirements and accessibility through partnerships, regional coordination, and training program opportunities.

Stakeholders consulted: WSALPHO, Ecology, DOH, Industry Professionals, WOSSA, Puget Sound Partnership and Coalition for Clean Water

Overview

Many people with OSS do not pump their systems because they are unaware it is necessary. They may not notice the early signs of a failing system, be hesitant to pay for pumping, or simply forget to schedule it. This can lead to issues like backups, bad smells, and damage to the drain field if the system is neglected for too long. Additionally, some people over-pump their system instead of scheduling regular maintenance. As shared in the stakeholder meeting summary, over-pumping can also be ineffective and put stress on treatment facilities.

It is recommended that local health agencies continue to improve community education to increase awareness about the need for regular inspections and maintenance. This will help people understand why timely septic system maintenance is important.

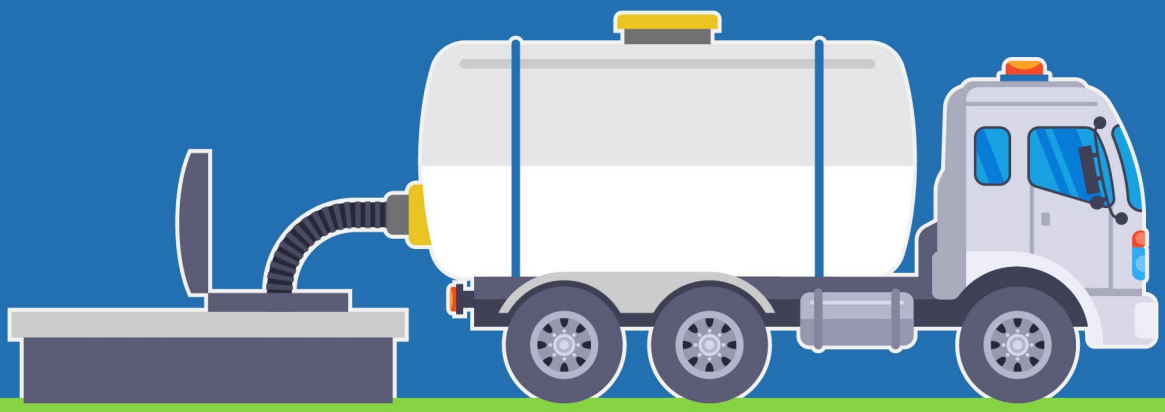
Some industry professionals believe that the high cost of pumping stops people from keeping up with a proper schedule. This study suggests offering financial assistance to people who cannot afford to pump their tanks, as well as programs to help with inspections and partnerships with local experts to help educate property owners on proper maintenance.

Besides financial concerns, raising awareness about the importance of regular maintenance and possible consequences of neglecting pumping is key. This can be done through marketing and outreach by local agencies, state departments, pumpers and haulers, and other industry professionals.

The outreach should focus on teaching people about their systems, including how often to pump, the importance of routine inspections, proper waste handling, how to protect drain fields, and how to spot signs of system failure. The goal is to stress preventative maintenance to avoid costly repairs and environmental harm.

Conclusion

The Septage Capacity Assessment shows that Washington needs to address future septage management challenges as the population grows. While the current capacity in some regions can accommodate septage now, the assessment forecasts a receiving capacity deficit within the next 15 years. The assessment, based on limited data, points out the need for more information to confirm assumptions about septage production, septage treatment and management, and growth. For example, the amount of septage produced could change depending on whether industry standards and regulations are uniformly followed across all counties.



The state's diverse geography adds complexity to septage management, with environmentally sensitive areas like the Puget Sound basin facing greater public health and environmental risks, while areas in Eastern Washington offering more space for infrastructure development. Other factors like climate change, soil types, groundwater, and wildlife habitats also need to be considered when planning solutions.

To effectively address the growing challenges of septage management, Washington must prioritize a comprehensive approach that integrates strategic planning with targeted actions. A critical first step is to conduct a fiscal analysis of wastewater treatment facilities' infrastructure, paired with necessary amendments to the Growth Management Act (GMA), to ensure that septage is a part of the state's planning efforts for growth. These foundational changes will provide the guidance needed to support long-term planning and ensure that septage-receiving facilities are prepared to handle increased volumes of production.

Equally important is addressing current staffing shortages at both the state and local levels, which will have a direct impact on the ability to manage and respond to septage needs effectively. Improved data collection and efficient coordination on interdisciplinary issues are vital to gain a clearer understanding of the state's capacity to identify areas for improvement. By building stronger partnerships, particularly with Tribal Nations and public-private entities, Washington can create a more collaborative and efficient system that expands septage receiving capacity and reduces fragmentation in septage management efforts.

Additionally, reducing the costs of septic system inspections and maintenance at the local level will make it easier for communities to maintain their systems and prevent future failures, ensuring long-term sustainability. Public education is an essential component in this process. Increasing awareness about proper septic system care will empower individuals to take proactive steps in maintaining their systems, ultimately reducing the risk of costly repairs and environmental damage.

By embracing these strategies, Washington can build a robust and resilient septage management framework that supports population growth while protecting public health and the environment.

Annotated Bibliography

1. Adams County. (2015). “Adams County Comprehensive Plan.” https://cms5.revize.com/revize/adamscounty/document_center/Building/2015%20Adopted%20Comp%20Plan.pdf

   The Adams County Comprehensive Plan includes a section that acknowledges the reliance of rural populations on septic systems, with a focus on issues such as odor from industrial wastewater. It outlines policies related to wastewater and septic systems, particularly in the context of residential and mixed-use development. For example, “Residential Development Policy 2” requires adequate provisions for wastewater, water, and stormwater facilities and emphasizes the use of best management practices to protect shoreline water quality. The plan also incorporates policies related to septic systems, such as “Residential Lands Policy 11,” which mandates that new developments meet minimum lot sizes to accommodate on-site wastewater disposal needs. Additionally, “Mixed Use Lands Policy 1” limits development to areas that have or will have adequate water and sewer/septic facilities. However, the plan does not discuss the environmental risks of septic systems, nor does it propose policies to improve septic system management or reduce associated environmental impacts. It also lacks specific mention of septic systems in its capital facilities element. Notably, there is some uncertainty regarding whether this is the current comprehensive plan, as Adams County is overdue for an updated plan, though this is the most recent version available.

2. Behnke, Quinn (2021, May 21). Vancouver Westside Septage Evaluation.

   The Vancouver Westside Septage Evaluation is an engineer's report and evaluation of the existing wastewater treatment facility in Vancouver, WA. The report provides an analysis of the current capacity and facility’s ability to accept and treat septage while maintaining their existing discharge requirements. The analysis then explores the projected growth and future demands for septage receiving in the plant based on the City’s growth numbers as well as the cost requirement to upgrade the facility’s infrastructure to manage additional septage.

3. Chelan County. (2017). “Chelan County Comprehensive Plan.” Retrieved January 24, 2025, from https://www.co.chelan.wa.us/files/community-development/documents/comps_plan/2017%20Comp%20Plan/Attachment%20A%20-%202017-27%20Comprehensive%20Plan.pdf

   The Chelan County Comprehensive Plan addresses septic systems in various sections, noting concerns over the suitability of most soil types in the county for septic tank absorption fields. The plan acknowledges that residential development is particularly challenging due to factors such as rural road conditions, distance from communities, and water availability, all of which complicate the installation and maintenance of septic systems. The Land Use element includes a policy to monitor and repair septic systems, while the Housing element discusses the types of septic systems used throughout the county. The Capital Facilities element emphasizes that on-site septic systems will remain the primary method for wastewater treatment in rural areas due to low population densities and the high costs of providing centralized treatment plants. The plan also includes Policy LU 3.5, which supports the Health Department’s efforts to monitor septic systems and mandates the repair of failing systems in recognition of their potential to

introduce contaminants such as fecal coliform and bacteria into water systems. The plan further discusses the environmental risks posed by septic systems and includes policies aimed at improving management and reducing these risks.

4. Clallam County. (2024, December 10). “Ch. 31.02 County-Wide Comprehensive Plan | Clallam County Code.” Clallam County Code. Retrieved January 24, 2025, from https://clallam.county.codes/CCC/31.02

   The Clallam County Comprehensive Plan, as outlined in Chapter 31.02 of the County Code, addresses several aspects of public utilities, including wastewater and on-site sewage disposal systems. Specifically, the plan notes that public sanitary sewer systems are prohibited in rural areas unless on-site sewage disposal systems pose a threat to public health. It emphasizes the appropriateness of on-site sewage systems in rural and resource areas. The plan includes policies on sewage, such as Policy No. 7, which restricts sanitary sewer systems in rural areas, and Policy No. 8, which affirms on-site systems as suitable for rural and resource zones. However, the plan does not discuss the environmental risks of septic systems nor does it include any policies focused on improving septic system management or mitigating environmental impacts. Mentions of wastewater and septic systems are largely limited to public health considerations and do not extend to broader environmental concerns.

5. Clark County. (2016). Clark County Comprehensive Growth Management Plan: 2015-2035. Retrieved January 24, 2025, from https://clark.wa.gov/sites/default/files/media/document/2024-05/2015-2035-comprehensive-plan-ord-2023-08-02.pdf

   Clark County's Comprehensive Plan addresses wastewater management, emphasizing septic systems as the primary sewage disposal method in rural areas and individual wells for water supply. The plan calls for the gradual phase-out of septic systems in urban areas as public sewer services become available. It also discusses the need for inspections and mandatory monitoring of new septic systems, particularly in wellhead protection areas, and promotes public education on the risks of groundwater contamination from septic systems. Several goals and policies are aimed at improving septic system management, including strategies for converting systems to public sewer, promoting sewer connections in urban areas, and ensuring proper maintenance and inspections. The plan also encourages the use of approved alternative sewage treatment technologies in rural areas.

6. Columbia County. (2023, March). “Columbia County Comprehensive Plan Info | Columbia County, WA - Official website.” Retrieved January 24, 2025, from https://www.columbiaco.com/466/Columbia-County-Comprehensive-Plan-Info

   Columbia County's Comprehensive Plan focuses on wastewater management in rural and resource lands, prioritizing on-site systems like septic tanks for sewage treatment and disposal. The plan emphasizes water quality protection in lakes, wells, and aquifers, allowing for new septic technologies as long as they meet or exceed the effectiveness of traditional systems and are approved by health agencies. It discourages high-density residential or commercial development in rural areas without access to central sewer services, setting infrastructure standards that reflect low-density development. The plan outlines policies ensuring on-site systems are designed and operated permanently, adhering to DOH's regulations while also incorporating provisions to protect water resources and the rural character of these areas.

7. Cowlitz County. (2017, July 19). “Comprehensive Plan.” https://www.co.cowlitz.wa.us/1309/Comprehensive-Plan

   Cowlitz County's Comprehensive Plan addresses on-site sewage systems, defining them as systems that treat and disperse sewage through a series of components like collection, treatment, and soil dispersal. It mentions septic systems in the Land Use element, specifically in the Smallholding and Remote classifications, where new development is required to have individual wells and on-site sewage systems. The plan sets guidelines for minimum lot sizes to ensure adequate space for these systems. However, the plan does not include discussion of environmental risks associated with septic systems, nor does it have policies aimed at improving septic system management or reducing environmental impacts.

8. Douglas County. (2021). “Douglas County Comprehensive Plan.” Retrieved January 24, 2025, from https://www.douglascountywa.net/DocumentCenter/View/2154/Countywide-Comprehensive-Plan-Approved-2021

   Douglas County's Comprehensive Plan highlights the promotion of community sewage systems, particularly for developments that may reduce groundwater contamination risks, such as clustering. It encourages land use intensity limitations aligned with state and federal standards, suggesting that public sewage and water systems could be required in areas with high contamination potential. Although the plan does not explicitly mention septic systems or environmental risks associated with them, it emphasizes the need for careful consideration when siting public facilities, considering utility needs, and avoiding contamination of groundwater. The plan suggests a preference for community systems to mitigate environmental impacts over individual septic systems.

9. Ferry County. (2012). “Ferry County Comprehensive Plan.” https://cms5.revize.com/revize/ferry/Document%20Center/Department/Planning%20&%20Building/Planning%20application/Plans,%20Policies%20and%20Programs/ComprehensivePlanUpdatedWithMaps2016.pdf

   The Ferry County Comprehensive Plan references septic systems multiple times, with particular attention paid to their environmental impacts and risks. The Environmental Impact Statement (EIS) for the plan discusses the potential negative effects of septic systems, particularly in floodplain areas. The Land Use and Housing elements highlight the prevalence of septic systems in floodplain developments and the risk of contamination due to septic tank failure during floods. The plan includes a policy that mandates the location of new and replacement on-site sewage disposal systems to minimize impairment or contamination during flooding. In the Capital Facilities element, the plan notes that septic systems are the primary means of sewage disposal in the county, with concerns about surface and groundwater quality if the systems are poorly designed, installed in inadequate soils, or used at too high a density. It also mentions the possibility of a community sewer system for Curlew due to its increasing population density. The plan includes Policy L4, which calls for the establishment of septic system guidelines for dense developments. While the plan discusses environmental risks associated with septic systems, the policies aimed at improving septic system management are somewhat limited.

10. Franklin County. (2021). “Franklin County Ordinance 07-2021: Adoption of the 2018-2038 Franklin County Comprehensive Plan.” https://www.franklincountywa.gov/DocumentCenter/View/286/2018-2038-Franklin-County-Comprehensive-Plan-PDF

    Franklin County's Comprehensive Plan primarily relies on septic systems for waste disposal, especially in rural areas with low-density residential development. The plan mentions that residential developments must meet septic system standards before final approval. The Benton-Franklin Health District is responsible for overseeing septic system permits, and the county supports the development of septic tank and drain field standards to protect surface and groundwater quality. While the plan does not explicitly discuss environmental risks of septic systems, it includes policies to manage septic systems effectively and minimize environmental impacts, such as monitoring utility siting to mitigate adverse environmental consequences.

11. Garfield County & City of Pomeroy. (2019). “Comprehensive Plan: Garfield County and the City of Pomeroy.” https://www.garfieldcountywa.gov/media/5241

    The Garfield County and City of Pomeroy Comprehensive Plan acknowledges the use of septic systems in both the urban growth areas (UGA) and rural parts of the county. While the Capital Facilities element includes a wastewater treatment facility, it does not provide specific details about septic systems. The plan includes a policy under “Objective D (Rural Infrastructure Standards)” that emphasizes the use of on-site wastewater treatment systems in Resource Lands and Rural Areas. It stresses that these systems should be designed and located to protect water quality in lakes, wells, and aquifers and allow for the use of new on-site technologies as long as they are approved by state and local health agencies. However, the plan does not address the environmental risks of septic systems or include specific policies aimed at improving septic system management or mitigating environmental impacts.

12. Grays Harbor County. (n.d.). “Comprehensive Plan.” Retrieved January 24, 2025, from https://www.graysharbor.us/departments/public_services/planning_division/planning_information/comprehensive_plan.php

    Grays Harbor County's Comprehensive Plan, which is partially planning, does not address septic systems, wastewater, or septage in significant detail. While the capital facilities element mentions a wastewater treatment facility, there is no mention of septic systems, septage, on-site sewage disposal, or biosolids. Additionally, there are no specific policies or goals related to septic systems, their capacities, or management of environmental risks from such systems. Overall, the plan does not focus on wastewater management or septic systems in its discussions.

13. Island County. (2016). “Island County 2036.” https://www.islandcountywa.gov/DocumentCenter/View/270/Full-Comprehensive-Plan-PDF?bidId=

    The Island County Comprehensive Plan highlights concerns about aging septic systems, particularly in Clinton, where system failures have caused significant problems. The plan notes septic effluent as a source of chloride in the environment. Several land use policies address the suitability of areas for on-site septic systems, considering factors such as water availability and geological stability. The Capital Facilities element calls for close monitoring of septic systems in intensively developed areas and suggests alternative treatment solutions where septic failures

are concentrated. However, while the plan acknowledges environmental risks, it does not include specific policies aimed at improving septic system management.

14. “Jefferson County Comprehensive Plan.” (2018). Retrieved January 24, 2025, from https://www.co.jefferson.wa.us/DocumentCenter/View/18001/Jefferson-CP-2018_12

    Jefferson County's Comprehensive Plan (2018) highlights the reliance on septic systems for wastewater treatment in its Urban Growth Areas (UGAs), addressing challenges such as lot consolidation to meet modern septic and water standards. It encourages the development of community septic systems in Rural Centers to safeguard public health and the environment, with policies supporting flexible lot sizes and urban development plans that accommodate septic systems. The plan also promotes best management practices for septic systems, recognizing water quality concerns in areas with failing septic systems and exploring alternative treatment options. Environmental risks of septic systems are not explicitly discussed and the county is working on a 2025 update.

15. King County. (2022). “2016 King County Comprehensive Plan.” https://cdn.kingcounty.gov/-/media/king-county/depts/council/comprehensive-plan/2024/01-2023-0440_s1_attachmenta_11142024_clean.pdf?rev=f7bff6fb56fa44e0bd42a481c625e65b&hash=0955531F8ECAB1CA0775AF966BA7D0FB

    The King County Comprehensive Plan addresses septic systems, specifically in the context of rural areas, noting their environmental risks, especially from failing systems. It includes policies to manage these risks, such as monitoring failing systems and collaborating with local agencies to address septic issues in environmentally sensitive areas. The plan also emphasizes low residential densities in rural areas that can be supported by septic systems and rural infrastructure. Additionally, King County is encouraged to analyze funding options to mitigate system failures and prevent future issues.

16. Kitsap County. (2024). “Kitsap County Comprehensive Plan.” Retrieved January 31, 2025, from https://www.kitsap.gov/dcd/PEP%20Documents/20241205_Comp%20Plan_with%20Board%20Deliberation%20Edits.pdfhttps://www.kitsap.gov/dcd/PEP%20Documents/20241205_Comp%20Plan_with%20Board%20Deliberation%20Edits.pdf

    Kitsap County's 2024 Comprehensive Plan addresses septage management as a critical component of environmental sustainability and public health. In identifying many rural areas relying on septic systems, the plan outlines policies for the proper treatment, disposal, and maintenance of septage to prevent contamination of groundwater and local water resources. It emphasizes sewage system maintenance, alongside public education efforts to ensure responsible use. The plan also considers the future expansion of sewer infrastructure to reduce reliance on septic systems in urban growth areas. These policies aim to balance development with the protection of the county's water quality, ensuring both sustainable growth and environmental health.

17. Kittitas County. (2021). “Comprehensive Plan.” Retrieved January 24, 2025, from https://www.co.kittitas.wa.us/uploads/documents/cds/comp-plan/2021/2021%20Comprehensive%20Plan.pdf

    Kittitas County's 2021 Comprehensive Plan emphasizes the importance of public sewer systems for new developments, with a focus on ensuring that individual developments meet sewage

disposal standards. The plan acknowledges the challenges of nonconforming lots and stresses the need for coordinated efforts to avoid overburdening existing infrastructure. It outlines policies for managing on-site septic systems, including design and location standards to protect water quality, and the establishment of maintenance programs in high-risk areas. The plan also addresses environmental risks associated with septic systems, emphasizing monitoring, repairs, and the provision of public sewers in areas with system failures.

18. Klickitat County. (2013). "Comprehensive Plan." Retrieved January 24, 2025, from https://www.klickitatcounty.org/DocumentCenter/View/13818/Klickitat-County-Comp-Plan-091316

    Klickitat County's 2013 Comprehensive Plan highlights the importance of considering soil characteristics, such as texture, depth to bedrock, and permeability, in land use planning, especially when it comes to septic systems, foundations, and road construction. It stresses that ignoring these factors could lead to environmental issues like water contamination and slope instability. The plan mentions septic systems under the Land Use element, focusing on how soil limitations and geological factors, like slope stability, can impact land use. However, there are no specific policies aimed at managing septic systems or reducing environmental risks.

19. Lewis County. (2021, February 8). "Adopted plans." Retrieved January 24, 2025, from https://lewiscountywa.gov/departments/community-development/adopted-plans/

    Lewis County's 2021 Comprehensive Plan addresses wastewater and septic systems in its Land Use and Utilities and Capital Facilities elements. It emphasizes the use of septic systems in rural areas with suitable soil conditions while promoting the development of centralized wastewater treatment in urban growth areas (UGAs). The plan encourages innovative treatment methods to reduce costs, protects water quality, limits sewer line extensions, and ensures that utility projects respect environmental limits while accommodating development in designated areas. The Land Use element mentions septic systems, but the Housing element does not.

20. Lincoln County Land Services, Lincoln County Planning Commission, Hall, M., Sandberg, A., Slack, J., Nelson, K., Thompson, C., Coffman, R., Hutsell, S., & Stedman, M. (2019). "Lincoln County Comprehensive Plan Update." Retrieved January 24, 2025, from https://www.co.lincoln.wa.us/land-services/wp-content/uploads/sites/22/2022/01/compplanFINAL_FULL-1.pdf

    Lincoln County's 2019 Comprehensive Plan highlights the reliance of rural residents on domestic exempt wells and on-site septic systems for water and wastewater management. While cities and towns have municipal systems, rural areas depend on individual systems. The plan emphasizes that new developments should be designed at appropriate densities to protect aquifer recharge areas and mitigate septic effluent, ensuring clean drinking water and public health. Although it does not discuss the environmental risks of septic systems in detail, the plan includes policies to improve septic management and reduce environmental impacts, particularly concerning water quality and public health. The county does not have a housing element or capital facilities element but includes a public services, facilities, and utilities element.

21. Mason County. (2015). "Mason County Comprehensive Plan." https://masoncountywa.gov/community-services/planning/2036-comp-plan-update/index.php

    Mason County's Comprehensive Plan includes a focus on wastewater management, septic systems, and related environmental risks, particularly in rural areas. It emphasizes regular

monitoring of septic systems to ensure proper function and the potential for wastewater recycling. The plan includes policies in the Utilities and Capital Facilities sections but does not have significant policies within Land Use or Housing. Specific goals include the installation of septic systems or alternative treatment systems in rural areas and the conversion of failing systems in Urban Growth Areas (UGAs) to sewer when available. The Health & Human Services section outlines policies for designing, constructing, and maintaining septic systems to reduce health risks and protect surface and groundwater. The plan also mentions alternative sewage solutions when public health is at risk. Additional resources, such as Mason County's Solid Waste Management Plan, support the goals outlined. The comprehensive plan is being updated with a draft expected by June 2025.

22. Okanogan County. (2020). Okanogan County Draft Comprehensive Plan. In "Okanogan County Draft Comprehensive Plan." Retrieved January 24, 2025, from https://cms9files.revize.com/okanoganwa/Comprehensive%20Plan%20-%20Nov%204.pdf

    Okanogan County's 2021 Draft Comprehensive Plan addresses wastewater and septic systems, particularly in rural areas where development must consider water supply, septic capacity, and public services. The plan emphasizes the need for lot sizes that prevent contamination between septic systems and wells and supports development in areas with adequate infrastructure. It encourages collaboration with Okanogan County Public Health to create policies for septic systems near critical aquifer recharge areas. Although it does not directly discuss environmental risks, the plan includes policies aimed at improving septic system management and reducing risks to water quality. The capital facilities element does not address septic or sewage systems.

23. Pacific County. (2021). "Comprehensive Plan." Retrieved January 24, 2025, from https://www.co.pacific.wa.us/ordres/2020-2040-CompPlan-FINAL.pdf

    Pacific County's 2021 Comprehensive Plan addresses wastewater and septic systems, particularly in rural areas where septic systems are commonly used in low-density development. The plan promotes cluster developments to facilitate shared sewage disposal systems rather than individual septic systems, particularly in areas with limited sewer capacity. It mentions that new septic systems near Willapa Bay meet higher effluent treatment standards for environmental protection. The plan includes policies encouraging land use intensity limitations based on sewer availability and supports alternative sewage treatment methods in rural areas. However, it does not specifically address environmental risks from septic systems but includes some policies to improve septic system management. The capital facilities element notes that property owners are responsible for maintaining their septic systems.

24. Pierce County. (n.d.). "Pierce County Comprehensive Plan." Retrieved January 24, 2025, from https://www.piercecountywa.gov/DocumentCenter/View/140621/20240926_CompPlanCompiled_FINAL_DRAFT

    Pierce County's 2024 Comprehensive Plan addresses septic systems in its Environment and Climate Change element, emphasizing routine maintenance and offering low-income communities loans for repairing, upgrading, or replacing failing systems. The plan discourages individual septic systems in the Land Use element and recognizes septic systems as interim solutions in the Capital Facilities element while exploring decentralized systems. Key policies include supporting routine septic maintenance, connecting low-income communities with affordable financing for septic system improvements, and considering sewer system extensions

or decentralized solutions in areas with environmental risks. Although environmental risks are not explicitly discussed, the plan aims to mitigate these risks through improved septic management and system upgrades.

25. San Juan County Community Development. (2022, November 30). “Comprehensive Plan.” Retrieved January 24, 2025, from https://www.sanjuancountywa.gov/510/Comprehensive-Plan

    San Juan County's 2022 Comprehensive Plan emphasizes the regulation and maintenance of on-site sewage systems through its Health and Community Services (H&CS), which enforces the San Juan County Code Chapter 8.16 to protect public health and minimize untreated sewage discharges that could impact surface and groundwater. The plan highlights the importance of water and septic system availability in limiting residential density in rural development areas, with a policy focused on working with independent sewer districts to phase out private septic systems in areas served by community sewage treatment facilities. While the plan does not specifically address environmental risks, it includes policies to improve septic system management and protect water quality.

26. Skagit County. (2016). “Comprehensive Plan: 2016-2036.” Retrieved January 24, 2025, from https://www.skagitcounty.net/PlanningAndPermit/Documents/CompPlan2016/comp-plan-2016-adopted-text-only.pdf

    Skagit County's 2015 Comprehensive Plan addresses the issue of failing septic systems, particularly in areas like Similk Beach, which was designated as a Limited Area of More Intense Rural Development (LAMIRD) to tackle septic system failures. The plan includes policies on improving septic treatment and working with communities experiencing issues. It recognizes septic failures as a significant utility problem and outlines the health department's role in providing technical assistance and solutions. However, neither the Land Use nor Housing elements mention septic systems. The plan also includes a policy to determine and address failing septic systems, especially where groundwater or surface water is at risk. While the plan does not discuss environmental risks in detail, it includes strategies to manage and improve septic system conditions.

27. “Skamania County 2007 Comprehensive Plan.” (2018). Retrieved January 24, 2025, from https://www.skamaniacounty.org/home/showpublisheddocument/1385/637122005286830000

    Skamania County's 2007 Comprehensive Plan addresses septic system regulations administered by the Skamania County Health Department, focusing on the protection of critical resources. The plan briefly mentions septic systems in the Land Use element, emphasizing the need for proper installation, monitoring, and maintenance of on-site systems in accordance with local and state health requirements. It includes policies ensuring that building and septic permits conform to the plan, and a minimum lot size requirement for areas with individual wells and septic systems. However, the plan does not discuss environmental risks associated with septic systems in detail, though it aims to ensure compliance with health department standards.

28. Snohomish County. (2018, November 29). “Comprehensive Plan | Snohomish County, WA - Official website.” Retrieved January 24, 2025, from https://snohomishcountywa.gov/2139/Comprehensive-Plan

    Snohomish County's 2018 Comprehensive Plan focuses primarily on the separation of water and waste disposal infrastructure, with a specific mention in the capital facilities element that water

transmission and distribution piping should be at least 10 feet horizontally separated from on-site waste disposal systems, drainfields, or wastewater mains. The plan does not include specific goals, policies, or actions related to septic systems, their management, or environmental risks. Additionally, the county's comprehensive plan does not contain land use or housing elements, only covering capital facilities, transportation, and parks and recreation.

29. Thurston County. (2019, November 12). “Thurston County Comprehensive Plan.” https://www.thurstoncountywa.gov/departments/community-planning-and-economic-development/community-planning/comprehensive-plan/current-comprehensive-plan

    The Thurston County Comprehensive Plan includes extensive discussions on the environmental risks of septic systems, particularly their role in contributing to surface and groundwater contamination, including in shellfish harvest areas. It calls out urban growth areas like Lacey, Olympia, and Tumwater, where they estimated 16,744 septic systems and a release of over 3.5 million gallons of liquid sewage daily to local treatment plants. The plan highlights funding from Ecology to convert septic systems to sewer and includes a septic-related policy in the utilities section. The land use element mentions septic systems as part of locational guidelines for certain zoning areas. The capital facilities element proposes a biosolids management program. Policies focus on preventing polluted runoff from septic tank effluent and encourage low water use appliances to reduce contamination risks. In rural areas, individual septic systems are the primary method for sewage disposal, with sewer systems permitted only in cases of identified health hazards or water quality issues.

30. U.S. Census Bureau, U.S. Department of Commerce. (2023). Selected Housing Characteristics. “American Community Survey, ACS 1-Year Estimates Data Profiles, Table DP04.” Retrieved January 24, 2025, from https://data.census.gov/table/ACSDP1Y2023.DP04?q=DP04 washington state.

    The U.S. Census Bureau’s (2023) "Selected Housing Characteristics" from the American Community Survey (ACS) provides detailed housing data from the 2023 1-Year Estimates. Table DP04 includes information on various housing characteristics such as occupancy, types of housing units, and housing costs, specifically for Washington. This dataset was used for its reporting of the Washington average household size. This number was then used to convert the population projections from Washington State Office of Financial Management future population projections (medium scenario) into a number of household projections to navigate the future capacity scenarios.

31. United States Environmental Protection Agency. (2025a, January 14). “Frequent questions and answers: Draft sewage Sludge risk assessment for PFOA and PFOS | US EPA.” US EPA. https://www.epa.gov/biosolids/frequent-questions-and-answers-draft-sewage-sludge-risk-assessment-pfoa-and-pfos

    The United States Environmental Protection Agency's frequently asked questions section on the draft sewage sludge risk assessment for PFOA and PFOS provides clear, accessible explanations regarding the draft risk assessment for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) in sewage sludge. This resource addresses common inquiries about the potential risks of these substances in biosolids, their environmental impact, and the EPA’s assessment methods. It was a useful place to start in understanding the current findings and work being done on the federal level for this issue.

32. United States Environmental Protection Agency. (2025b, January 17). “Draft sewage sludge risk assessment for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic Acid (PFOS) | US EPA.” US EPA. Retrieved January 27, 2025, from https://www.epa.gov/biosolids/draft-sewage-sludge-risk-assessment-perfluorooctanoic-acid-pfoa-and-perfluorooctane

    The United States Environmental Protection Agency's (2025) "Draft Sewage Sludge Risk Assessment for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS)" provides an in-depth evaluation of the risks associated with the presence of PFOA and PFOS in sewage sludge. The draft report assesses the potential environmental and human health impacts of these chemicals, which are known to persist in the environment and accumulate in organisms. This draft assessment is particularly relevant as this study discusses recommendations for future areas of study and its findings contribute to the development of safer practices for managing sewage sludge and regulating harmful chemicals in wastewater treatment processes.

33. Wahkiakum County. (1984). “Wahkiakum County Comprehensive Plan.” Retrieved January 24, 2025, from https://www.co.wahkiakum.wa.us/DocumentCenter/View/2935/Comp-Plan-1984

    Wahkiakum County's 1984 Comprehensive Plan addresses the reliance on septic systems and private wells throughout the county, with a focus on maintaining proper septic system functionality in rural areas. The plan acknowledges that natural hazards, such as soil subsidence, liquefaction, and fault displacement, have contributed to septic system failures. It includes policies to discourage overdevelopment in rural areas dependent on private wells and septic systems to protect public health and preserve rural character. Additionally, commercial and industrial proposals are reviewed for their impact on the capacity of wells and septic systems. The plan does not specifically discuss the environmental risks of septic systems but includes policies aimed at ensuring proper system management. The county does not offer public sewer services, and septic systems are a key consideration in land use planning.

34. Walla Walla County. (2019). “Walla Walla County Comprehensive Plan.” Retrieved January 24, 2025, from https://www.co.walla-walla.wa.us/document_center/commdev/planning/comp%20plan/FINAL%20Walla%20Walla%20County%20Comp%20Plan%20(080519)%20(complete).pdf

    Walla Walla County's 2019 Comprehensive Plan addresses the challenges posed by septic systems in areas with limited soil to support proper on-site sewage disposal. The plan highlights concerns about the gravel aquifer, which is vulnerable to contamination from pollutants like leaking septic systems due to its porous nature. Several areas in the county, including Lowden, Dixie, Prescott, Rural Residential Mill Creek, and parts of Burbank, rely exclusively on septic systems, but the area's soil conditions may not support long-term use, leading to contamination risks. Policies in the plan emphasize the importance of soil conditions that can handle the impacts of septic systems without harming ground and surface waters. While the plan mentions environmental risks associated with septic systems, it does not specifically discuss wastewater management or septic system improvements.

35. Washington State Office of Financial Management. (2022). “Growth Management Act population projections for counties: 2020 to 2050.” Retrieved January 24, 2025, from https://ofm.wa.gov/washington-data-research/population-demographics/population-forecasts-and-projections/growth-management-act-county-projections/growth-management-act-population-projections-counties-2020-2050

    The Washington State Office of Financial Management's (2022) report provides detailed population projections for counties in Washington from 2020 to 2050. It outlines expected demographic trends that are crucial for local governments to plan for infrastructure, housing, and other community needs under the Growth Management Act. The data presented helped us understand anticipated shifts in populations across counties and align our forecasting of the future conditions analysis accordingly.

36. Washington State Office of Financial Management. (2024). “2024 Population Trends.” Retrieved January 24, 2025, from https://www.ofm.wa.gov/sites/default/files/public/dataresearch/pop/april1/ofm_april1_poptrends.pdf.

    The Washington State Office of Financial Management's (2024) "2024 Population Trends" report presents detailed population data for Washington, including information on housing units by structure type for cities, towns, and counties as of April 1, 2020. Specifically, Table 7 provides housing unit breakdowns for unincorporated county jurisdictions. This was crucial for the analysis of septic systems in areas lacking direct data. By highlighting the distribution of housing units, this dataset facilitated a more accurate estimation of septic system prevalence in various counties, aiding in current conditions analysis and decision-making for infrastructure planning.

37. Whatcom County. (2016, August 9). “Current Comprehensive Plan.” Retrieved January 24, 2025, from https://www.whatcomcounty.us/1171/Current-Comprehensive-Plan

    Whatcom County's 2016 Comprehensive Plan addresses the widespread use of septic systems for sewage treatment in unincorporated areas, as the county does not own or operate sewage treatment facilities. The plan mentions environmental risks associated with poorly maintained septic systems, such as elevated nitrate levels in soil and contamination from coliform bacteria in surface water. The land use element highlights the importance of proper installation, monitoring, and maintenance of septic systems, while the plan encourages innovative subdivision designs and stormwater management to protect water quality. Policies aim to provide technical assistance to property owners and promote better land use practices to mitigate environmental risks.

38. White Bluffs Consulting. (2024). “Benton County Comprehensive Plan.” https://bentoncountywa.municipalone.com/files/documents/2017CompPlan-dMay20241290122280801 24PM.pdf

    The Benton County Comprehensive Plan highlights the widespread reliance on on-site septic tanks and drain fields among rural residents for wastewater management. The Utilities element notes that while properly maintained septic systems can be suitable for rural development, poorly maintained systems contribute significantly to water pollution, including high nitrate levels in soil and coliform bacteria in surface water. Although the plan does not specifically address septic systems in the Land Use or Housing elements, it includes a policy under “WR Goal 2 Policy 4,” which supports the Benton-Franklin Health District in developing and implementing

septic tank and drain field standards aimed at protecting water quality and human health. Additionally, the plan acknowledges the environmental risks of septic systems and includes policies focused on improving management and reducing environmental impacts. However, the plan does not delve into septic systems in its Capital Facilities element.

39. White Bluffs Consulting, Anchor QEA, LLC, & Oneza & Associates. (2018, June). “Grant County 2018 Comprehensive Plan | Grant County, WA.” https://www.grantcountywa.gov/238/Grant-County-2018-Comprehensive-Plan

    The Grant County Comprehensive Plan discusses septic systems in several sections, emphasizing their environmental impacts and management. The Utilities element acknowledges that while properly maintained septic systems are suitable for rural development, poorly maintained systems can pollute water. The Natural Settings and Water Resources Element highlights the risks of improperly sited or maintained septic systems on groundwater quality, with the Grant County Health District overseeing regulations. Key policies, such as RU-3.1, RU-7.4, and NS-9.4, support septic systems in rural areas, with a focus on minimizing environmental risks. The plan also encourages cluster developments with shared sewage systems to reduce individual septic installations

40. White Bluffs Consulting, Anchor QEA, LLC, & AHBL. (2022a). “Stevens County Comprehensive Plan: Volume I.” Retrieved January 24, 2025, from https://www.stevenscountywa.gov/files/documents/StevensCountyComprehensivePlan-Volume11342111527120722AM.pdf

    Stevens County's 2022 Comprehensive Plan mentions septic systems in its rural development standards, setting minimum lot size requirements for their installation to ensure proper function. It supports the installation of on-site sewage systems to protect surface and groundwater quality, but the plan doesn't specifically address the environmental risks of septic systems or include detailed policies for improving their management. While the Land Use and Housing elements do not discuss septic systems, the Natural Resources Element (NR-20) supports their installation as a means to safeguard public health and the environment.

41. White Bluffs Consulting, Anchor QEA, LLC, & AHBL. (2022b). “Stevens County Comprehensive Plan: Volume II.” Retrieved January 24, 2025, from https://www.stevenscountywa.gov/files/documents/StevensCountyComprehensivePlan-VolumeIIwithoutallappendices1342111629120722AM.pdf

    Stevens County's 2022 Comprehensive Plan mentions septic systems in its rural development standards, setting minimum lot size requirements for their installation to ensure proper function. It supports the installation of on-site sewage systems to protect surface and groundwater quality, but the plan doesn't specifically address the environmental risks of septic systems or include detailed policies for improving their management. While the Land Use and Housing elements do not discuss septic systems, the Natural Resources Element (NR-20) supports their installation as a means to safeguard public health and the environment.

42. White Bluffs Consulting, Anchor QEA, LLC, & Oneza & Associates. (2023). “Pend Oreille County Comprehensive Plan.” Retrieved January 24, 2025, from https://www.pendoreille.gov/media/4791

    Pend Oreille County's 2023 Comprehensive Plan mentions that the primary method of sewage treatment in rural areas is through on-site septic systems managed by private developers. These systems are regulated by the Northeast Tri-County Health and DOH. The plan highlights residential land use patterns that range from dispersed, large-acreage parcels to more densely settled rural subdivisions with community water and/or sewer. However, the plan does not provide specific policies for improving the management of septic systems or address the environmental risks of septic systems.

43. Whitman County. (2022). “Whitman County Comprehensive Plan.” Retrieved January 24, 2025, from https://www.whitmancounty.org/DocumentCenter/View/4964/Whitman-County-Comprehensive-Plan---Adopted-July-5-2022-PDF

    Whitman County's 2022 Comprehensive Plan acknowledges the widespread use of septic systems in unincorporated areas and mentions that septic systems are reviewed and approved by the county's Environmental Health Department. The plan briefly highlights septic capacity as a factor to consider when allowing zoning changes for industrial and commercial developments. However, it does not discuss the environmental risks associated with septic systems nor include specific policies aimed at improving their management or reducing environmental risks. The focus is mainly on ensuring that proposed developments have adequate water supply and sewage disposal systems

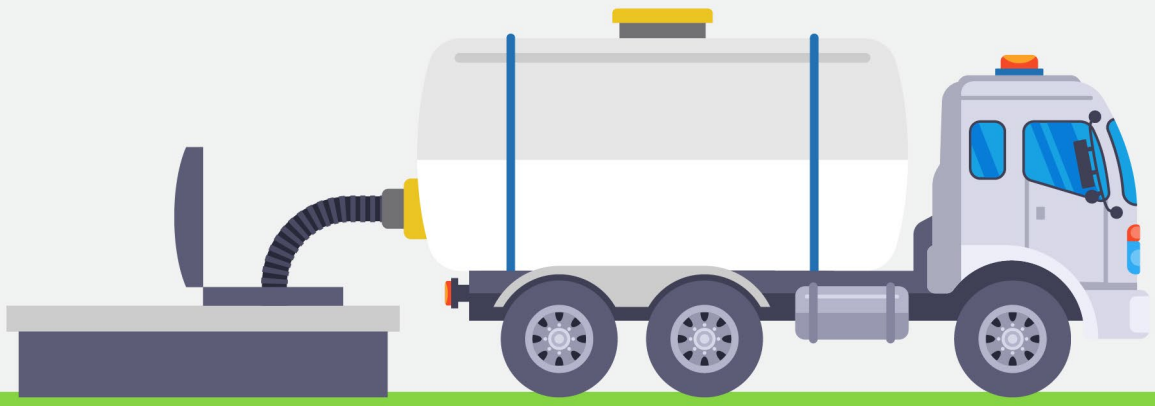
44. Yakima County. (2017, August 29). “Horizon 2040 Comprehensive Plan | Yakima County, WA.” Retrieved January 24, 2025, from https://www.yakimacounty.us/846/Horizon-2040-Comprehensive-Plan

    Yakima County's 2017 Horizon 2040 Comprehensive Plan addresses septic systems in both its Land Use and Housing elements, highlighting challenges like poor ground conditions in isolated areas and stressed community systems. The plan includes policies to ensure proper lot sizes for individual wells and septic systems, particularly in rural and remote areas, and emphasizes self-sufficiency in these developments. It also allows interim septic systems in Urban Growth Areas if specific conditions are met, such as ground water protection and the ability for future sewer hookups. While it doesn't specifically address environmental risks, the plan includes strategies to manage and reduce pressure on septic systems by regulating lot sizes and encouraging suitable densities for safe operation.

45. Vialle, Marvin (2003, May). Septage Management Strategic Plan. “Washington State Department of Ecology Publication No. 03-07-018”

    The Septage Management Strategic Plan described the process and findings of a Septage Management Advisory Committee (SMAC) which was comprised of a broad group of industry professionals. The Committee evaluated the current management of septage in Washington and identified problems within existing rules and barriers within the septage management industry as well as suggested solutions.

Appendix



Appendix A: Comprehensive Plan Review

Appendix Table A-1. Adams County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Adams County
GMA Status	Partially Planning
Link to Comp Plan	**https://cms5.revize.com/revize/adamscounty/document_center/Building/2015%20Adopted%20Comp%20Plan.pdf**
Comp Plan Date	3/10/2015
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Background information section notes that rural populations rely on septic systems; notes odor issues with industrial wastewater; policies related to wastewater and septic. Residential Development Policy 2: "Require residential development to make adequate provision for **wastewater**, water, and stormwater facilities and apply best management practices to protect shoreline water quality and meet the needs of the development."
Did its land use or housing element mention septic?	Yes, in two policies (see below).
What did its capital facilities element cover?	No specific mention.
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Residential Lands Policy 11: "Require new development on existing townsite plats that contain nonconforming lot sizes to meet the minimum lot size of the applicable zone or the minimum land area required to handle **on-site wastewater disposal** needs, whichever is greater." Mixed Use Lands Policy 1: "Limit the development or creation of such areas to locations that have or will have adequate public water and sewer/**septic** facilities

Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No
Summary	Septic systems mentioned and acknowledged as an important consideration for siting development.
Additional Notes	Unclear if this is the current comp plan. It is the most recent I could find and Commerce's status list does note that Adams is overdue.

Appendix Table A-2. Asotin County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Asotin County
GMA Status	Partially Planning
Link to Comp Plan	Unavailable
Comp Plan Date	2/17/2015

Appendix Table A-3. Benton County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Benton County
GMA Status	Fully Planning
Link to Comp Plan	**https://bentoncountywa.municipalone.com//files/documents/2017CompPlan-dMay20241290122280801 24PM.pdf**
Comp Plan Date	5/14/2024
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Utilities element states: "Most rural residents rely on on-site septic tanks and drain fields for their wastewater system needs. While adequately designed and installed on-site septic systems can be appropriate for rural level development, maintenance of such systems varies from excellent to none at all. Poorly maintained septic systems are a source of ground and surface water pollution and have been identified both at the state and local level as significant contributors to high nitrate levels in soil and coliform bacteria in surface water."
Did its land use or housing element mention septic?	No
What did its capital facilities element cover?	No
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	WR Goal 2 Policy 4: Support the Benton-Franklin Health District to develop and implement septic tank and drain field standards that protect surface and ground water quality and human health.

Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes
Summary	Limited discussion of septics, but acknowledgment of environmental risks and inclusion of a policy to improve standards.

Appendix Table A-4. Chelan County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Chelan County
GMA Status	Fully Planning
Link to Comp Plan	https://www.co.chelan.wa.us/files/community-development/documents/comps_plan/2017%20Comp%20Plan/Attachment%20A%20-%202017-27%20Comprehensive%20Plan.pdf
Comp Plan Date	12/1/2017
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Discussion of concern that most soil types in the county are not suitable for septic tank absorption fields. Housing element states: "All residential development within the County is challenging to develop due to rural or primitive roads, distance to communities, water availability, and land for septic."

Did its land use or housing element mention septic?	Yes, land use element includes a policy to monitor and repair septic systems. Housing element includes discussion of septic system types in the county (page 18, PDF page 96).
What did its capital facilities element cover?	Yes, includes an entire section on sanitary sewer systems which states that "On-site septic systems are the anticipated method for treatment of wastewater in the rural portions of Chelan County due to lower population densities and the prohibitive associated costs of providing treatment plant capabilities."
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy LU 3.5: Support ongoing health department efforts to adequately monitor on-site septic systems, and require the repair of failing on-site septic systems. Rationale: Failing on-site systems have the potential to introduce fecal coliform and bacteria into water systems.
Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes

Appendix Table A-5. Clallam County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Clallam County
GMA Status	Fully Planning
Link to Comp Plan	**https://clallam.county.codes/CCC/31.02**

Comp Plan Date	12/10/2024
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Mentioned in the Public utilities, facilities and services chapter (CCC 31.02.285)
Did its land use or housing element mention septic?	No
What did its capital facilities element cover?	That public sanitary sewer systems are prohibited unless on-site sewage would pose a threat or risk to public health, and that on-site sewage disposal systems are considered appropriate waste disposal method in rural and resource areas.
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Public utilities, facilities and services Policy No. 7 | Public sanitary sewer systems shall be prohibited in rural areas except when on-site sewage disposal systems pose a threat or risk to public health, as determined by the Clallam County Board of Health. Policy No. 8 | On-site sewage disposal systems will be considered an appropriate waste disposal method in rural and resource areas.
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No
Summary	Mentions of on-site sewage disposal are limited to allowing when connection to sewer is a risk to public health.

Appendix Table A-6. Clark County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Clark County
GMA Status	Fully Planning
Link to Comp Plan	**https://clark.wa.gov/community-planning/current-adopted-plan**
Comp Plan Date	6/12/2016
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Community Framework | Wastewater management issues mentioned as a general message. Rural and Natural Resource Element | Rural lands generally shall be served by septic tanks and individual wells (when public water is not available). Wastewater treatment shall be provided by individual on-site treatment systems or approved alternative sewage treatment technologies. Environmental Element Goal: Require sewer service within urban growth areas and discourage septic use. Policies: Septic systems in urban areas are to be phased out; In rural areas, wastewater treatment shall be provided by individual on-site treatment systems or approved alternative sewage treatment technologies. Capital Facilities & Utilities Element | Require regular inspections of existing on-site sewage disposal systems in wellhead protection areas.; Provide public education about the potential for groundwater contamination from on-site sewage disposal systems.
Did its land use or housing element mention septic?	Yes, in land use. Not mentioned in Housing Element
What did its capital facilities element cover?	Overall, septic systems are primarily used in rural areas, with gradual transition to public sewer services in urban areas as development progresses.

Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Rural and Natural Resource Element 3.17 Rural lands generally shall be served by septic tanks and individual wells (when public water is not available). Wastewater treatment shall be provided by individual on-site treatment systems or approved alternative sewage treatment technologies. Environmental Element Goal: Require sewer service within urban growth areas and discourage septic use. 4.5.2 Septic systems in urban areas are to be phased out 4.5.3 In rural areas, wastewater treatment shall be provided by individual on-site treatment systems or approved alternative sewage treatment technologies. Capital Facilities & Utilities Element 6.0.13 The county, municipalities, special districts and Public Health will work cooperatively to develop fair and consistent policies and incentives to: eliminate private water and sewer/septic systems in the urban areas; and to encourage connection to public water and sewer systems. 6.3.2 Develop strategies for the conversion of on-site septic disposal systems to public sewer use in the urban area. 6.3.3 New and existing development in the rural area outside of rural centers shall use individual on-site septic disposal systems, unless public sewer is available. New or existing development within designated rural centers may use community septic systems. 6.3.4 Installation of new individual or community septic systems shall be subject to the approval of Clark County Public Health. Installation approvals for new septic systems shall include agreements for mandatory future monitoring unless waived by Public Health. 6.3.5 Require regular inspections of existing on-site sewage disposal systems in wellhead protection areas. 6.3.6 Work with the Public Health to support efforts to establish mandatory subsurface sewage disposal septic inspection/maintenance programs for existing septic systems, particularly areas needing environmental health guarantees. 6.3.10 Provide public education about the potential for groundwater contamination from on-site sewage disposal systems. Land Use Element 1.2.8 Encourage retrofitting areas with sewer and prohibit new development on septic tanks in the urban growth area.
Does the plan discuss environmental risks of septic systems?	Yes

Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes
Summary	Septic Systems: In rural areas, septic systems are the primary method of sewage disposal. Since 1974, the Clark County Department of Health has regulated their installation. There are over 50,000 septic systems in the county, with about half in urban service areas. Newer septic systems are subject to mandatory maintenance requirements, but these are limited. As urban areas expand and public sewer becomes available, septic systems will be phased out in favor of public sewage systems. Wastewater Management: Clark County's wastewater management is handled by various entities, including cities like Vancouver, Washougal, Camas, and Battle Ground, as well as the Clark Regional Wastewater District. The Discovery Clean Water Alliance manages regional wastewater treatment. The system is designed to meet current and future demands, with planned expansions to address new development needs. The Alliance's capital plan includes improvements for wastewater treatment plants and transmission systems. Policy and Planning: The Growth Management Act (GMA) emphasizes the importance of ensuring that sewage services (along with other utilities) are available when development occurs, through a concept called concurrency. For areas outside urban growth areas, septic systems will remain in use, with limited expansion of public sewer services encouraged. Additionally, the regionalization of wastewater services has been studied to improve economic and environmental outcomes, with recommendations for collaboration among various agencies to provide unified sewage treatment and conveyance services.

Appendix Table A-7. Columbia County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Columbia County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.columbiaco.com/466/Columbia-County-Comprehensive-Plan-Info**
Comp Plan Date	3/1/2023
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	The wastewater management strategy in rural and resource lands prioritizes on-site systems, such as septic tanks, to treat and dispose of wastewater while ensuring water quality protection in lakes, wells, and aquifers. Development in these areas is expected to comply with state and local health regulations, with new technologies allowed if they meet or exceed the effectiveness of traditional septic systems. Rural areas are generally discouraged from large-scale residential or commercial development without central sewer services, and new rural development should adhere to specific infrastructure standards, with a focus on preserving the area's rural character.
Did its land use or housing element mention septic?	Mentioned in Land Use element, not mentioned in Housing element
What did its capital facilities element cover?	Wastewater Disposal Facilities

Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Septic G3: Use on-site systems to treat and dispose of wastewater from uses on resource lands and in rural areas. On-site wastewater treatment systems should be designed and located to protect water quality in lakes, wells, and aquifers. New on-site system technologies may be used, when at least as effective as septic tanks and when approved by state and local health agencies. On-site wastewater treatment systems in rural areas and resource lands should be designed, built, and operated as permanent methods of sewage disposal. Development in the rural areas shall be consistent with DOH's new on-site septic system rules. I5: Discourage residential or commercial uses at intensities greater than one unit per acre without provision of central sewer service through an amendment to the zoning ordinance [consistent with DOH regulations for on-site septic systems]. Wastewater E1: Establish rural infrastructure standards that are consistent with appropriate rural development patterns and densities. In general, such standards will preclude the development of public wastewater collection and public stormwater collection systems in rural areas, reflecting lower densities and land coverages in these areas. Public water supply systems may be developed in the rural areas to meet the requirements of rural residents. Rural development shall provide adequate water for domestic use. Water sources and transmission lines may be developed in rural areas to meet the needs of UGAs. When feasible, rural developments will be encouraged to use existing community systems with adequate availability for domestic water and wastewater disposal. G3: Explore rural areas for their potential to meet the demand for non-traditional "specialty crops." The more intensive operations, which these crops require, can thrive on smaller acreages. The raising of these crops has potential to replace declining traditional resource employment options. Allow flexibility in land-use regulations for local processing and direct marketing of agricultural produce. Roadside stands, U-pick operations, and farmer's markets are viable projects, which can provide enhanced economic return to the producer. Use on-site systems to treat and dispose of wastewater from uses on resource lands and in rural areas. On-site wastewater treatment systems should be designed and located to protect water quality in lakes, wells, and aquifers. New on-site system technologies

	may be used, when at least as effective as septic tanks and when approved by state and local health agencies. On-site wastewater treatment systems in rural areas and resource lands should be designed, built, and operated as permanent methods of sewage disposal. Development in the rural areas shall be consistent with the DOH's new on-site septic system rules. Sewage G3: Use on-site systems to treat and dispose of wastewater from uses on resource lands and in rural areas. On-site wastewater treatment systems should be designed and located to protect water quality in lakes, wells, and aquifers. New on-site system technologies may be used, when at least as effective as septic tanks and when approved by state and local health agencies. On-site wastewater treatment systems in rural areas and resource lands should be designed, built, and operated as permanent methods of sewage disposal.
Does the plan discuss environmental risks of septic systems?	Somewhat
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Somewhat
Summary	The wastewater management approach in rural and resource areas relies on on-site systems, such as septic tanks, to treat and dispose of sewage, ensuring water quality protection in lakes, wells, and aquifers. New technologies are permitted if they are as effective as traditional systems and approved by health agencies. Development in these areas is regulated to prevent high-density residential or commercial uses without central sewer services, and rural infrastructure standards avoid the creation of public wastewater systems in low-density regions, promoting self-sustaining, permanent sewage disposal methods.

Appendix Table A-8. Cowlitz County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Cowlitz County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.co.cowlitz.wa.us/1309/Comprehensive-Plan**
Comp Plan Date	7/19/2017
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	In Cowlitz County, on-site sewage is defined as an integrated system of components, located on or nearby the property it serves, that conveys, stores, treats, and/or provides subsurface soil treatment and dispersal of sewage. It consists of a collection system, a treatment component or treatment sequence, and a soil dispersal component. An on-site septic system also refers to a holding tank sewage system or other system that does not have a soil dispersal component.
Did its land use or housing element mention septic?	Mentioned in the Land Use element but not in the housing element. The Land Use element first talks about the smallholding land use category. These are areas intended to provide for self-sustaining lifestyle choices, with the opportunity for the management of natural resources for the creation of economic benefit. The guideline is for lots to have a minimum lot size of five acres and lot width of 100 feet where minimum lot configuration provide adequate area for on-site sewage system and domestic well, in addition to any required buffering from adjacent uses.

What did its capital facilities element cover?	Not mentioned in the public services, facilities, and utilities element
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy LU 12.2 New development within the Smallholding classification should be served by individual wells and on-site sewage systems on individual lots. Policy LU 14.1 New development within the Remote classification should be served by individual wells and on-site sewage systems.
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No
Summary	Both Smallholding and Remote classifications rely on individual wells and on-site sewage, while suburban areas vary in intensity based on utility availability, with a two-acre lot minimum for on-site systems

Appendix Table A-9. Douglas County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Douglas County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.douglascountywa.net/DocumentCenter/View/2154/Countywide-Comprehensive-Plan-Approved-2021**
Comp Plan Date	9/28/2021

Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Under the critical areas element, Douglas County promotes land use intensity limitations aligned with state and federal standards, encouraging community sewage systems for developments like clustering to reduce groundwater contamination risks. Public sewage and water systems may be required in areas with high contamination potential, with careful consideration of utility needs and impacts when siting essential public facilities.
Did its land use or housing element mention septic?	Not mentioned in the land use element, plan does not have a housing element
What did its capital facilities element cover?	Not mentioned in the capital facilities element
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	CA-24. Douglas County encourages the establishment of land use intensity limitations in accordance with state and federal standards. Some types of developments, such as clustering, may be encouraged to utilize community sewage disposal systems instead of dispersed individual septic systems depending on the type and potential impacts to the aquifer. CA-32. Community/public sewage disposal and water systems are encouraged and may be required where site conditions indicate a high degree of potential contamination to groundwater resources. When siting an essential public facility, consideration must be given to what type of public utilities and/or services the facility requires, impacts on existing systems, improvements, public costs involved and alternatives for self-contained, on-site facilities.
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No

Summary	The plan mostly spoke about community sewage systems and ways of encouraging it
Additional Notes	The County has began its comprehensive plan update. This is a 20-year vision for how unincorporated Douglas County will grow through 2046 and the details can be found here. **https://www.douglascountywa.net/684/Douglas-County-2046-Comprehensive-Plan-U**

Appendix Table A-10. Ferry County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Ferry County
GMA Status	Partially Planning
Link to Comp Plan	**https://cms5.revize.com/revize/ferry/Document%20Center/Department/Planning%20&%20Building/Planning%20application/Plans,%20Policies%20and%20Programs/ComprehensivePlanUpdatedWithMaps2016.pdf**
Comp Plan Date	9/24/2012
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Septics are referred to multiple times in the document as noted in columns I through K. The EIS for the comp plan discusses impacts related to septic systems.
Did its land use or housing element mention septic?	Yes, noting that most floodplain development is on septic, noting risk of contamination from failure of septic tanks during floods. "The Ferry County CAO will state that new and replacement on-site sewage disposal systems shall be located to avoid impairment to them or contamination from them during flooding."

What did its capital facilities element cover?	The element notes that sewage disposal in the county is almost exclusively via septic, and states that "if they are improperly designed or constructed, installed in inadequate soils, or used at too high a development density, they can adversely impact surface and groundwater quality and public health." The element discusses lot sizes and soil types necessary for septic systems. It states that a community sewer system is "almost imminent" for Curlew due to population density.
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy L4: "Establish septic guidelines for dense developments."
Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Somewhat
Summary	Risk of contamination from septic systems discussed. Policy calling for additional guidelines around septic systems included.
Additional Notes	This Comp Plan is old (2012) but is the plan linked to on the county's planning department site.

Appendix Table A-11. Franklin County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Columbia County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.franklincountywa.gov/DocumentCenter/View/286/2018-2038-Franklin-County-Comprehensive-Plan-PDF**
Comp Plan Date	5/25/2021
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Utilities In Franklin County, the majority of sewer waste disposal is via septic systems, which are usually private systems serving only one household but occasionally may serve several homes. The Benton-Franklin Health District oversees the issuance of septic system permits throughout Franklin County.
Did its land use or housing element mention septic?	Mentioned in Land Use element but not in the housing element. Land Use In Franklin County, residential developments within rural lands are generally low density, with parcels varying between one and two acres to five acres in size that are served by individual wells and septic tanks as well as private roads. Policies under land use element require that developments meet standards for sewer/ septic prior to final plat or short plat approval.
What did its capital facilities element cover?	Not mentioned in the capital facilities element

Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Rural Lands Goal 1 Policy 2c. Require that development meet design standards for roads, rights-of-way, sewer/septic, domestic water, lighting, and storm drainage, prior to final plat or short plat approval Natural environment element Goal 4, Policy 4 Support the Benton-Franklin Health District to develop and implement septic tank and drain field standards that protect surface and ground water quality and human health. Utilities Goal 6, Policy 4a. Monitor the siting of new utility facilities so as to avoid or mitigate adverse environmental consequences. A. Determine the capability of land and natural systems when providing such facilities and services as storm water drainage and flood prevention, water, sewage/septic and solid waste disposal.
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes
Summary	Franklin County relies primarily on septic systems for waste disposal and ensures their maintenance by supporting the Benton-Franklin Health District in developing and implementing standards to protect water quality and human health. The county requires compliance with design standards for septic systems before approving developments and monitors utility siting to minimize environmental impacts.

Appendix Table A-12. Garfield County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Garfield County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.garfieldcountywa.gov/media/5241**
Comp Plan Date	6/1/2019
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	
Did its land use or housing element mention septic?	The plan notes that portions of the UGA, as well as rural parts of the County, are on septic.
What did its capital facilities element cover?	A wastewater treatment facility is listed, but nothing specific to septic.
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Objective D (rural infrastructure standards) Policy 3: On-site systems should be used to treat and dispose of wastewater from uses on Resource Lands and in Rural Areas. On-site wastewater treatment systems should be designed and located to protect water quality in lakes, wells, and aquifers. New on-site system technologies may be used, when at least as effective as septic tanks and when approved by State and Local Health Agencies. On-site wastewater treatment systems in Rural Areas and Resource Lands should be designed, built, and operated as permanent methods of sewage disposal.

Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No

Appendix Table A-13. Grant County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Grant County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.grantcountywa.gov/238/Grant-County-2018-Comprehensive-Plan**
Comp Plan Date	6/1/2018
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes

If yes to above, what did it mention?	Septic systems are included in multiple policies and discussed throughout the land use element. Section 9.5.4 of the Utilities element covers sewer systems, and notes: "When adequately designed and installed, on-site septic systems can be appropriate for rural level development. Maintenance of such systems varies from excellent to none at all. Poorly maintained septic systems are a potential source of ground and surface water pollution and have been identified both at the state and local level as significant contributors to high nitrate levels in soil and to coliform bacteria in surface water." Essential Facilities Element notes that sewage treatment facilities are essential facilities. Section 11.2.2.3.2 of the Natural Settings and Water Resources Element discusses septic systems and groundwater quality. It states: "Septic (on-site sewage) systems that are improperly sited, operated, or maintained can affect groundwater quality by discharging contaminants to groundwater. WAC Chapter 246-272A regulates on-site sewage system location, design, installation, operation, maintenance, and monitoring to limit the discharge of contaminants and to minimize public health impacts from septic systems. The Grant County Health District is the authority in Grant County regarding on-site sewage systems." Environmental Analysis mentions malfunctioning on-site sewage systems as a source of contaminants for water and lists compliance with development standards and County Health District regulations as mitigation.
Did its land use or housing element mention septic?	Land use element: It is noted that rural residential development tends to be on on-site septic systems. A discussion of rural services notes: "The absence of adequate services poses many public health and safety problems. For instance, it increases the danger for septic system failures, well contamination, and congestion of roads." Descriptions of zoning types note where densities are limited by the ability of area soils to support on-site sewage disposal. Not mentioned in housing element.

What did its capital facilities element cover?	Septic is not mentioned.
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy RU-3.1: "Limited areas of more intense rural development (LAMIRD) should be provided on land exhibiting existing intense patterns of development and lifestyle preferences. Mixed-use areas comprised of high-density residential, small-scale industries and businesses, and public facilities may be located in rural areas that meet the following criteria: ...Where soil conditions are able to handle the cumulative long-term impacts of on-site sewage disposal without adverse impacts to ground and surface waters ..." Policy RU 7.4: "RU-7.4: Residential sewage generated from rural development should be treated via individual onsite septic systems, or other method approved by the Grant County Health Officer. Community systems or de-centralized treatment systems may be used in Rural Villages and Rural Communities. Municipal sewer collection and/or treatment systems should only be extended outside the boundary of a UGA in response to an identified public health hazard." Policy NS-2.2: "NS-2.2: Encourage cluster developments that implement shared community sewage disposal systems instead of dispersed individual septic systems." Policy NS-9.4: "NS-9.4: Support the Grant County Health District to develop and implement septic tank and drain field standards that protect surface and groundwater quality and human health."
Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes

Appendix Table A-14. Grays Harbor County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Grays Harbor County
GMA Status	Partially Planning
Link to Comp Plan	**https://www.graysharbor.us/departments/public_services/planning_division/planning_information/comprehensive_plan.php**
Comp Plan Date	
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	
Did its land use or housing element mention septic?	No Housing Element, Land use element does not appear to include septic
What did its capital facilities element cover?	Mentions wastewater treatment facility, no mention of septic, septage, on-site sewage disposal or biosolids
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	
Does the plan discuss environmental risks of septic systems?	No

Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No
Summary	Grays Harbor County does not appear to include discussion of wastewater or septage in their planning.

Appendix Table A-15. Island County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Island County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.islandcountywa.gov/DocumentCenter/View/270/Full-Comprehensive-Plan-PDF?bidId=**
Comp Plan Date	12/13/2016
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Notes that Clinton "has been experiencing major problems as septic systems age and collapse." Natural Resources section notes septic system effluent as a source of chloride in the environment.
Did its land use or housing element mention septic?	Policies related to placement of different zoning areas call for consideration of the suitability of areas for on-site septic systems.

What did its capital facilities element cover?	Element notes: "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 will not support development of regionally centralized sewage treatment facilities."
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy LU 6.4: "Consider the long term availability of known and/or verifiable water supplies, the general suitability of the area for on-site septic systems, the presence of geologically unstable areas, and the presence of flood or tsunami hazards when establishing density." Policy LU 8.4: "Permit the use of open space areas in Planned Residential Developments for off-site wells, septic systems, trails and walkways, and, where desired by applicants, permit trail systems through open space areas to neighboring properties as connections to other trail systems." Policy LU 9.1: "Maintain development patterns in Rural (R) areas that provide primarily for low density rural residential use, while also considering the long term availability of known and/or verifiable water supplies, the general suitability of the area for on-site septic systems, the presence of geologically unstable areas, and the presence of flood or tsunami hazards." Policy LU 10.1: "Maintain parcel patterns in Rural Agricultural (RA) areas that provide for rural agricultural and rural residential use, while also considering the long term availability of known and/or verifiable water supplies, the general suitability of the area for on-site septic systems, the presence of geologically unstable areas, and the presence of flood or tsunami hazards. "
Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No
Summary	Risk of contamination from septic systems discussed. Policies include consideration of septic systems in siting development.
Additional Notes	Comp Plan is in process of being updated by 12/2025

Appendix Table A-16. Jefferson County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Jefferson County
GMA Status	Fully Planning
Link to Comp Plan	https://www.co.jefferson.wa.us/DocumentCenter/View/18001/Jefferson-CP-2018_12
Comp Plan Date	12/1/2018
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	From the plan foundation, it is stated that the UGA in Jefferson County relies entirely on septic systems for wastewater treatment. This includes de facto UGAs.
Did its land use or housing element mention septic?	Mentioned in the Land Use element but not in the housing element. From the land use section, some residential areas have smaller lots that may need consolidation to meet modern septic, water, and critical area standards, as these factors can reduce developable land by 30-50%. Brinnon, a Rural Village Center in Jefferson County, relies on septic systems with known issues, prompting efforts like feasibility studies for wastewater treatment expansion, pollution correction projects, and policies supporting flexible lot sizes and urban development plans accommodating septic systems.

What did its capital facilities element cover?	Under the capital facilities element, the plan seeks to encourage the development of community septic systems in Rural Centers to protect public health, and the environment, and foster a reliable, integrated collection system. This way areas with water quality concerns associated with septic systems can resort to sewage treatment options
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy CF-P-6.2 Encourage development of community septic systems in Rural Centers to protect public health, the environment, and foster a reliable, integrated collection system. In areas with water quality concerns that are or appear to be related to problems associated with individual septic systems, Jefferson County supports utilizing a range of sewage treatment options, including community drainfields and centralized systems, subject to State law. Policy LU-P-11.4 Promote best management practices and voluntary open space conservation to protect critical areas in land use regulations related to septic systems, forest management, agricultural practices, industry, and other development. Policy LU-P-20.7 Allow minimum lot sizes within the designated boundaries of Rural Village Centers (RVC) which are flexible and determined by such considerations as: septic or sewer availability, potable water availability, zoning, and building regulations such as setbacks and parking requirements, fire prevention measures, and community character. Policy LU-P-32.6 Consider Urban Growth Area development plans that allow urban development on septic systems or alternative wastewater treatment systems in a site design process, such as a binding site plan, subdivision or shadow—plat, that ensures future urban development will not be precluded, and develop regulations that facilitate urban infill in

	areas previously developed or platted at sub urban densities, including multiple accessory dwelling units. Policy LU-P-32.7 Provide incentives for affordable housing through planned urban densities initially on septic systems. Policy LU-P-33.6 In addition to the LOS adopted for public facilities in the Capital Facilities and Utilities Element of this Comprehensive Plan, adopt Urban LOS standards for the following capital facilities and public services in the Port Hadlock / Irondale Unincorporated Urban Growth Area: a. On-Site Septic Sewage Treatment and Disposal: Per Jefferson County Code Chapter 8.15 (On-Site Sewage Disposal Systems) Policy EN-P-2.4 Promote best management practices and voluntary open space conservation to protect critical areas in land use regulations related to septic systems, forest management, agricultural practices, industry, and other development.
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes
Summary	Franklin County relies primarily on septic systems for waste disposal and ensures their maintenance by supporting the Benton-Franklin Health District in developing and implementing standards to protect water quality and human health. The county requires compliance with design standards for septic systems before approving developments and monitors utility siting to minimize environmental impacts.

Appendix Table A-17. King County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	King County
GMA Status	Fully Planning
Link to Comp Plan	**https://cdn.kingcounty.gov/-/media/king-county/depts/executive/performance-strategy-budget/regional-planning/2016compplanupdate/2022updateto2016-asamended/2016_kccp_kingcountycomprehensive_plan-updated_12062022_with_ord_19555.pdf?rev=09dfcfcf75b645709215832e6ed42d66&hash=3F362F136FC5B7FB74D6CA3FE6CDA973**
Comp Plan Date	12/5/2016
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Environment element includes discussion of pollutants from failing septic systems.
Did its land use or housing element mention septic?	Discussed in rural areas element.
What did its capital facilities element cover?	Discussed in services, facilities, and utilities element
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	R-303: Rural Area zoned properties should have low residential densities that can be sustained by minimal infrastructure improvements such as septic systems and rural roads, should cause minimal environmental degradation and impacts to significant historic resources, and that will not cumulatively create the future necessity or expectation of urban levels of services.

	E-499i: King County should work with landowners, other jurisdictions, the state Department of Health, sewer districts, and the Puget Sound Partnership to proactively address failing septic systems with a priority in environmentally sensitive areas, including constrained shoreline environments. F-264: "Except as otherwise provided for in this policy, public sewer service shall be prohibited in the Rural Area or on Natural Resource Lands. Public sewer service may be expanded to the Rural Area or to Natural Resource Lands only: Where needed to address specific health and safety problems threatening the sue of existing structures and the use of septic or other onsite wastewater systems has been determined by King County to be not feasible; or..." F-281: "King County should monitor onsite wastewater systems that have shown evidence of failure or potential for failure. The data should be used to correct existing problems and prevent future problems. King County should analyze public funding options for correcting on-site wastewater system failures and only as a last resort in Rural and Natural Resource Lands, and as otherwise consistent with this plan, conversion to community sewage systems or installation of public sewers." F-282a: "King County should work with landowners, other jurisdictions, the state Department of Health, sewer districts, and the Puget Sound Partnership to develop effective strategies and additional resources for working with landowners to provide technical assistance and requested support regarding managing onsite septic systems, and proactively addressing failing septic systems in environmentally sensitive areas." R-303: Rural Area zoned properties should have low residential densities that can be sustained by minimal infrastructure improvements such as septic systems and rural roads, should cause minimal environmental degradation and impacts to significant historic resources, and that will not cumulatively create the future necessity or expectation of urban levels of services.

Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes
Summary	Risk of contamination from septic systems discussed. Policies to proactively manage contamination risks from septic systems are included in the plan.
Additional Notes	Update in process

Appendix Table A-18. Kitsap County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Kitsap County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.kitsap.gov/dcd/Pages/2016_Comprehensive_Plan.aspx**
Comp Plan Date	6/30/2016
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes

If yes to above, what did it mention?	The policies focus on coordinating utilities and services in densely populated areas like Manchester and Gorst, addressing the impacts of septic systems on groundwater, and encouraging connection to sewer systems when septic capacity is exceeded. Keyport policies emphasize monitoring and addressing failed septic systems, particularly those affecting water quality in Dogfish Bay and Liberty Bay, and promoting sewer connections for properties near critical areas.
Did its land use or housing element mention septic?	No
What did its capital facilities element cover?	The capital facilities element focuses on coordinating utilities in densely populated areas like Manchester and Gorst, addressing the impacts of septic systems on groundwater, and promoting connections to sewer systems when septic capacity is exceeded. Keyport policies emphasize monitoring, addressing failed septic systems, and encouraging properties near critical areas or shorelines to connect to the sewer system, particularly to protect water quality in nearby bays.

Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	**Septic** CapF and Utilities Policy 32. Consider the impacts of septic systems on groundwater quality and quantity. Manchester Goal 11. Work with Kitsap Public Health District and Kitsap Sewer Utility to establish clear communication between government agencies as it relates to septic and sewer issues. Keyport Policy 20. Encourage all new construction and remodel projects involving an increase in sewage beyond the existing capacity of the septic system to connect to sewer if within 200 feet of an existing line. Keyport Policy 21. Immediately address failed septic systems. Keyport Policy 30. Work with the Kitsap Health District to monitor private septic systems and immediately respond to any failed system within Keyport that may flow into Dogfish Bay or Liberty Bay. **On-site Sewage** CapF and Utilities Policy 33. Support Kitsap Public Health District efforts to identify and correct failing on-site sewage systems. Environmental Considerations Keyport Policy 22. Encourage property owners on shorelines or near other critical areas to connect to the sewer system. Keyport Policy 30. Work with the Kitsap Health District to monitor private septic systems and immediately respond to any failed system within Keyport that may flow into Dogfish Bay or Liberty Bay.
Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Somewhat

Summary	The plan focuses on coordinating utilities in densely populated areas like Manchester and Gorst, addressing the impacts of septic systems on groundwater, and promoting connections to sewer systems when septic capacity is exceeded. Keyport policies emphasize monitoring, addressing failed septic systems, and encouraging properties near critical areas or shorelines to connect to the sewer system, particularly to protect water quality in nearby bays.

Appendix Table A-19. Kittitas County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Kittitas County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.co.kittitas.wa.us/uploads/documents/cds/comp-plan/2021/2021%20Comprehensive%20Plan.pdf**
Comp Plan Date	12/1/2021
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	
Did its land use or housing element mention septic?	Yes, both.

What did its capital facilities element cover?	The plan emphasizes that public sewers should be the primary method for wastewater treatment in new developments. It also outlines that individual developments must meet service standards for sewage disposal, and in areas where public sewer systems or water systems lack capacity, development should be deferred until the services are upgraded to meet the standards. Additionally, it highlights the need for coordinated efforts to ensure that the extension of services supports both current and planned growth without overburdening existing infrastructure.
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	<u>Land Use Element</u> 2.2.4 Future Challenges: Nonconforming Lots – talks about how there are approximately 5,900 nonconforming lots that fall below the minimum lot size for rural areas. While they are capable of being developed, meeting minimum lot size necessary for a septic system and a well would be difficult. LU-P34: Construction of a MPR and all necessary on-site and off-site capital facilities and utilities infrastructure must be concurrent. <u>Rural and Resource Lands</u> RR-P56: Developments located for commercial, residential/recreational purposes, such as Master Planned Resorts or Planned Unit Developments, shall have adequate water, septic and public facilities to service such development without over-burdening the County public services. <u>Capital Facilities and Utilities</u> Objective 3: Public and private facilities and services should be provided at levels necessary to support anticipated growth and development per the Comprehensive Plan. The facilities and services needed to support this growth and development include: sewage disposal, solid waste disposal, water, surface water management, police and fire protection, parks and open space and other public utilities. 7.1.4 Sewage Treatment and Disposal 2. New on-site systems should only be allowed in limited areas for small scale development where public sewers are not feasible. 3. On-site wastewater treatment should be designed and located to protect water quality in lakes, streams, wells and aquifers, in compliance with District standards. 4. Operation and maintenance standards should be established for all areas served by on-site systems. Special programs, including inspections and regular pumping of tanks, should be established in all areas with a high risk of system failure. 5. On-site systems that create health or pollution problems should be repaired or replaced. Provision of public sewers to these areas should be considered an option. 6. On-site wastewater systems should be monitored for evidence of existing or potential failures and the data should be used to correct problems and prevent future problems. 7. Solid waste should be handled and disposed in ways that minimize land, air and water pollution, and protect public health.

Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Somewhat
Summary	Overall, the chapter emphasizes sustainable management of sewage treatment through well-maintained on-site systems, proper infrastructure, and stringent regulations to safeguard water quality and public health.

Appendix Table A-20. Klickitat County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Klickitat County
GMA Status	Partially Planning
Link to Comp Plan	**https://www.klickitatcounty.org/DocumentCenter/View/13818/Klickitat-County-Comp-Plan-091316**
Comp Plan Date	10/1/2013
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes

If yes to above, what did it mention?	Under the environment/land element, it is said that soil characteristics like texture, depth to bedrock, and permeability are crucial for land use planning, especially for septic systems, building foundations, and road construction. Ignoring these constraints can lead to water contamination and slope instability, with slope stability and differential settlement being key geologic considerations.
Did its land use or housing element mention septic?	Mentioned in the Land Use element but not in the housing element
What did its capital facilities element cover?	The plan does not have a capital facilities element
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Environmental Goal 8 Where severe soil limitations coincide with other lighting factors such as geologic instability or surface flooding, natural slopes without providing compensating measures to stabilize the slopes. Otherwise, firm earth materials may be weakened by overwatering from septic tank drain fields and irrigation of lawns and fields, the two major geologic factors to consider under land use planning are slope stability and different settlements
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No
Summary	There is a concern on sloped resulting in firm earth materials being weakened by overwatering from septic tank drain fields and irrigation of lawns and fields
Additional Notes	The comprehensive plan they have is that of 1979 and this is a scanned copy.

Appendix Table A-21. Lewis County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Lewis County
GMA Status	Fully Planning
Link to Comp Plan	**https://lewiscountywa.gov/departments/community-development/adopted-plans/**
Comp Plan Date	2/8/2021
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	The Land Use Element and Utilities and Capital Facilities policies focus on managing wastewater and septic systems in rural and urban areas. They emphasize the use of septic systems in areas with suitable soil, support the development of centralized wastewater treatment in urban growth areas (UGAs), and encourage innovative treatment methods to reduce costs. The policies also aim to protect water quality, limit sewer line extensions, and ensure that utility projects respect environmental limits while accommodating development in designated areas.
Did its land use or housing element mention septic?	Yes, the Land Use element. The Housing element did not mention septic.

What did its capital facilities element cover?	The policies involving wastewater focus on improving collection and treatment facilities within urban growth areas (UGAs) and rural development zones, while limiting sewer line extensions outside these areas unless addressing health or contamination issues. They encourage properties to connect to available systems, support constructing a sewer system in the Packwood LAMIRD, and aim to reduce treatment costs through innovative sewage and biosolid management approaches. The policies involving sewage and biosolids aim to reduce the costs of wastewater treatment facilities by exploring alternative and innovative treatment methods, while ensuring that utility projects, including sewage disposal, are designed and constructed in ways that respect the environmental limits of the area.
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	<u>Land Use Element</u> Septic – referenced use of septic systems in rural and resource land development. POLICY NE 3.1 Encourage development on septic systems to occur in areas with few soil limitations for drainfields to help prevent the contamination of groundwater supplies. POLICY NE 3.2 Nurture the establishment of public education campaigns, septic replacement efforts, and/or septic operation and maintenance programs where surface water bodies are impacted by excess nutrients (as a result of septic systems). POLICY NE 6.3 Ensure that land use activities and septic tank discharges do not pollute stormwater runoff that degrades surface or groundwater. Wastewater – Centralized wastewater treatment is the most referenced in rural and resource land development for more developed areas, with septic systems being the other option. POLICY RURAL 3.1 Ensure that rural public facilities and services are provided at levels that are consistent with the preservation of rural character and in the historical and typical manner that is found in rural Lewis County. Use development regulations to ensure that water, wastewater treatment and other services are consistent with established standards. POLICY RURAL 3.3 Ensure that lots within new land divisions are appropriately sized and configured for private wells and wastewater treatment facilities (when those facilities will be used). POLICY RURAL 8.1 Consider the locations in Map LU-2 as the

	existing areas of rural residential settlement. These settlements have been classified in accordance with 36.70.070(5)(d)(i), and typically consist of: • Rural residential areas that have existing densities greater than one unit per five acres; • Platted areas where lots have already been developed; or • Limited infill areas where water and wastewater disposal provide for lots that are smaller than typical rural development. Utilities and Capital Facilities UCF GOAL 11.0 Enhance wastewater collection and treatment facilities to support development within designated UGAs, certain areas of more intensive rural development, and areas where known pollution or health hazards exist. POLICY UCF 11.1 Limit the extension of sewer lines outside of urban growth areas and the boundaries of water/sewer districts, LAMIRDs, and the other special areas mentioned in Appendix A, except when necessary to correct documented groundwater contamination, or existing or impending health hazards. POLICY UCF 11.3 Encourage properties within wastewater service areas to hook to the available system. POLICY UCF 11.4 Work to construct a sewer system within the Packwood LAMIRD. POLICY UCF 11.5 Strive to minimize the cost of existing and future wastewater treatment facilities through strategies such as the consideration of alternative and/or innovative approaches to sewage and biosolid treatment and disposal. POLICY UCF 11.1 Strive to minimize the cost of existing and future wastewater treatment facilities through strategies such as the consideration of alternative and/or innovative approaches to sewage and biosolid treatment and disposal. POLICY UCF 11.5 Strive to minimize the cost of existing and future wastewater treatment facilities through strategies such as the consideration of alternative and/or innovative approaches to sewage and biosolid treatment and disposal. POLICY UCF 6.2 Design and construct utility and facility projects, such as storm water drainage, water withdrawals, and sewage disposal, to respect the environmental limits of the area in which they are proposed.

Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Somewhat
Summary	The Land Use Element outlines policies for septic systems and wastewater management in rural and resource land development. It emphasizes encouraging septic system use in areas with suitable soil, supporting septic system education and maintenance, and preventing contamination of water sources. It also highlights the importance of centralized wastewater treatment in developed areas and ensures that rural development adheres to standards that preserve the rural character and accommodate private wells and septic systems for new land divisions.
Additional Notes	The county is currently working on its 2025 comprehensive plan

Appendix Table A-22. Lincoln County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Lincoln County
GMA Status	Partially Planning
Link to Comp Plan	**https://www.co.lincoln.wa.us/land-services/wp-content/uploads/sites/22/2022/01/compplanFINAL_FULL-1.pdf**
Comp Plan Date	8/1/2019

Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Cities and towns within the County have municipal water systems and sewage collection systems, while the majority of the rural residents rely on domestic exempt wells and on-site septic systems
Did its land use or housing element mention septic?	There is no housing element
What did its capital facilities element cover?	There is a public services, facilities and utilities element. Under facilities for sewage, the majority of the rural residents rely on domestic exempt wells and on-site septic systems
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy 2.6 - New development should be designed at appropriate densities to protect aquifer recharge areas and mitigate septic effluent to maintain clean drinking water and protect public health.
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes
Summary	most rural areas depend on individual wells and septic systems, accessed via county or private roads. New developments that are coming in should maintain appropriate densities to protect aquifer recharge areas and manage septic effluent, ensuring clean drinking water and public health.
Additional Notes	The Lincoln County 2019 comprehensive plan does not have a housing element and there is no capital facilities element. However, there is a public services, facilities & utilities element.

Appendix Table A-23. Mason County Comprehensive Plan Review

	Answer
County Comp Plan	Mason County
GMA Status	Fully Planning
Link to Comp Plan	**https://masoncountywa.gov/community-services/planning/2036-comp-plan-update/index.php**
Comp Plan Date	2/17/2015
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	In its Citizens Guide: it specifically calls out wastewater recycling, onsite sewage systems, and a strong commitment to regular and ongoing monitoring to ensure systems work properly (pg 8) There are also some policies on it but not major policies in land use, housing, or rural. Land use, capital facilities, and utilities also discussed it. Land use it was addressed under master planned development policy. In capital facilities it discussed funding for wastewater treatment. In Utilities it discussed OSS but not policies
Did its land use or housing element mention septic?	Yes. In land use. Not housing or rural.
What did its capital facilities element cover?	Discussed services, facilities, costs, and funding of services. Sewer, solid waste, and wastewater but not septic. However, its Utilities Element discussed septic more than Capital Facilities, but no policies
Were there any goals, policies, or actions relating to septic systems,	Chap 2 - CPPs 10.1 - In order to protect public health and water quality, septic systems and/or

their capacities, or information gathering on this subject?	appropriate alternative disposal systems will be installed where appropriate in rural areas, according to adopted County health codes. Alternative sewage collection and treatment systems should be considered as an option when public health is in jeopardy, and or to correct environmental 15 - In areas within the Urban Growth Area, where public sewer and water are not available, subdivisions must be designed to allow more intensive development when such services become available. This can be accomplished on one of the following two ways: • Before annexation or before urban services are otherwise available at a property, subdivision shall be to urban densities. However, development may be allowed wherein non-urban services are provided on several lots in support of development on others. • Before annexation or before urban services are otherwise available on a property, subdivision of the property may provide for a number of lots meeting the definition of urban density while the remainder of the property is maintained as a single large lot. The large lot portion may be used to site non-urban type services such as wells and septic systems to serve development on the smaller, urban size, lots. Chap 3 - Land Use - under Master Development Policies 1.3. Require that adequate road, water, drainage, sewer and/or septic capacity exist or is planned to meet the demands of the proposed development within the Master Development Plan. Consider alternative standards for utilities and roads that address rural and urban character and utilize low impact development techniques in harmony with the unique environmental characteristics of the area. Chap 11 - Health & Human Services Environmental Health 1.4 The County sanitary code will include standards that ensure new and replacement on-site sewage systems are property designed, constructed and maintained to reduce risks to public health and surface water resources. 1.5 The County will ensure that septic systems are property monitored and managed and failing systems are identified and promptly repaired. 1.6 The County will ensure that wastes are managed to protect groundwater and surface water resources. 1.8 The County will ensure that on-site sewage systems in urban growth areas that pose significant public health risk are converted to sewer upon availability. 2.2 The County will permit solid waste facilities and assure they comply with permit conditions and applicable law to assure wastes are properly managed.

Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes
Summary	Mason's county plan is confusing with its structure in including CPPs, but does mention septic systems explicitly due to the rural nature of the county. Supporting documentation include Mason County's Solid Waste Management Plan and Solid Waste Investment Plan
Additional Notes	Comp plan is being updated in partnership with SCJ Alliance, with draft by June 2025

Appendix Table A-24. Okanogan County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Okanogan County
GMA Status	Partially Planning
Link to Comp Plan	**https://cms9files.revize.com/okanoganwa/Comprehensive%20Plan%20-%20Nov%204.pdf**
Comp Plan Date	11/4/2021
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes

If yes to above, what did it mention?	Environment and natural resource element encourages collaboration with Okanogan County Public Health to develop policies for septic systems near critical aquifer recharge areas. The Resource Lands Element explains that residential development in agricultural resource lands is permitted based on zoning, water supply, on-site sewage capacity, and transportation access.
Did its land use or housing element mention septic?	Mentioned in the Land Use element and not Housing. Land use in rural areas must accommodate housing and businesses while ensuring water supply, septic capacity, and public services. Lot sizes should prevent contamination between septic and wells, and infrastructure must support more intensive development.
What did its capital facilities element cover?	The capital facilities element did not mention septic or sewage or any on-site disposal system
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Land Use WR-4.8 Encourage working with Okanogan County Public Health on the development of policies for onsite septic systems near critical aquifer recharge areas. LU-1.2 Land use designations within rural lands must provide sufficient land for housing and business activities suitable to the rural areas. These designations must be compatible with physical and legally available water supplies, capacity of the area for on-site septic, and the ability to provide adequate levels of public services. RU-1.4 Minimum lot size shall be adequate to provide land for septic and well installations without cross contamination UN-2.5 Establish the existence of adequate roads, water, sewage/septic, power, fire suppression, and internet to support a more intense development

Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Somewhat
Summary	The plan encourages conformance to development standards such as lot sizes to ensure that areas are compliant with on-site sewage disposal and the protection of potable water sources. The plan also encourages collaboration with Okanogan County Public Health to develop policies that will secure onsite septic systems near critical aquifer recharge areas.

Appendix Table A-25. Pacific County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Pacific County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.co.pacific.wa.us/ordres/2020-2040-CompPlan-FINAL.pdf**
Comp Plan Date	4/1/2021
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes

If yes to above, what did it mention?	New septic systems near Willapa Bay surpass State standards for effluent treatment, ensuring higher environmental protection. The critical areas and resource lands element contains a policy that promotes limiting land use intensity based on sewer availability and encourages cluster developments for shared sewage disposal systems over individual septic systems.
Did its land use or housing element mention septic?	Mentioned in both the Land Use element and the Housing element. Under Land use, it states that The Seaview UGA line limits sewer extension to the west, with septic systems commonly used in rural activity centers, which are served by public water but maintain low-density development due to soil conditions and septic tank use. The County's policy restricts sewer and water services to situations of public health hazards, influencing zoning and density regulations, including those for Transitional Forest Lands, which have a density limit of one unit per five acres based on environmental suitability. Under housing, it states that despite the availability of undeveloped residentially-zoned land in the unincorporated county, the addition of affordable housing is hindered by factors such as minimum acreage requirements, environmental regulations, and high costs for land, utilities, water supply, and on-site sewage treatment. These constraints make it challenging to expand the county's affordable housing stock.
What did its capital facilities element cover?	Under the Capital facilities element, it states that property owners in unincorporated Pacific County are individually responsible for the maintenance and servicing of their septic systems.
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy LU-2.7: Residential sewage in rural areas should be treated via individual or neighborhood septic systems, or by other methods approved by the County Health Officer. Municipal sewer treatment systems should be extended beyond UGAs only in response to an identified public health hazard. Policy R-7.2: The establishment of land use intensity limitations based on the availability of sanitary sewers should be encouraged. Cluster developments are encouraged because of the potential for shared, community sewage disposal systems instead of dispersed individual septic systems.

Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Somewhat
Summary	The plan supports treating residential sewage in rural areas with septic systems or approved methods, extending municipal sewer systems beyond UGAs only for public health hazards.

Appendix Table A-26. Pend Oreille County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Pend Oreille County
GMA Status	Partially Planning
Link to Comp Plan	**https://www.pendoreille.gov/media/4791**
Comp Plan Date	1/1/2023
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes

If yes to above, what did it mention?	The County does not maintain sewage treatment facilities. The primary method of sewage treatment in the rural parts of the County is through on-site systems provided by private developers, either for individuals or for larger developments. Northeast Tri-County Health and DOH regulate on-site septic systems
Did its land use or housing element mention septic?	Mentioned in Land Use Element and not in Housing Element. Residential land use patterns in Pend Oreille County range from areas of dispersed very large acreage residential parcels, to single residences on 2.5 acres with private wells and septic systems, to more densely settled rural subdivisions served by community water and/or sewer.
What did its capital facilities element cover?	The capital facilities element did not mention septic or sewage or any on-site disposal system
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	None
Does the plan discuss environmental risks of septic systems?	No

Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No
Summary	The plan does not give specific policies aimed at improving the management of septic systems, but it mentions Northeast Tri-County Health and DOH as institutions that regulate septic systems in Pend Oreille County

Appendix Table A-27. Pierce County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Pierce County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.piercecountywa.gov/DocumentCenter/View/140621/20240926_CompPlanCompiled_FINAL_DRAFT**
Comp Plan Date	10/22/2024
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	The environment and climate change element has policies that aim to support routine septic maintenance and provide loans to low-income communities to help repair, upgrade, or replace failing septic systems

Did its land use or housing element mention septic?	Mentioned in the Land Use element and not the housing element. The land use element has a policy on how to discourage individual septic systems
What did its capital facilities element cover?	Capital facilities element, the county recognizes on-site septic systems as interim facilities and is exploring more decentralized systems
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	CFU-15.5 (CFU-15.5) Recognize that on-site sewage septic systems within the Urban Growth Area are considered interim facilities. CFU-15.5.1 (CFU-15.5.1) Explore strategies to expedite the extension of sewer or developing decentralized LOSS sites in areas with elevated environmental risks from small on-site septic systems. ENC-5.7 (NEW ENV-5.9A) Support TPCHD in enforcing existing state regulations regarding routine septic maintenance regulations through the expansion of an operation and maintenance program. ENC-5.8 (NEW ENV-5.9B) Continue to connect septic system owners in low-income communities outside of established sewer areas with affordable loans to help repair, upgrade, or replace failing systems. ENC-5.9 (NEW ENV-5.9C) Explore partnerships and opportunities to support financing the transition from septic to sewer.
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes

Summary	The county designates rural areas as having individual services (septic tanks, water wells), some district services, and minimal roads. First, the county is seeking to start utilizing more sewer systems. Under maintenance, policies look at supporting routine septic maintenance and to provide loans to low income communities to to help repair, upgrade, or replace failing septic systems
Additional Notes	The county's comprehensive plan update was due December 31, 2024, and they have a draft plan available on their site. This is not the final plan and it has several markings in it but it is the final draft and it is complete enough to be used for this review.

Appendix Table A-28. San Juan County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	San Juan County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.sanjuancountywa.gov/510/Comprehensive-Plan**
Comp Plan Date	10/30/2022
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes

If yes to above, what did it mention?	Under the water resource element, it mentions the on-site sewage system permitting and operation & maintenance. Health and Community Services (H&CS) implements SJCC Chapter 8.16 On-Site Sewage System (OSS) Disposal to protect public health by minimizing exposure to untreated sewage. This includes inadequately treated discharges from OSS that can affect surface and ground water. Permitting requirements for on-site sewage systems include vertical separation to groundwater and horizontal separation to surface water adopted by reference from WAC 246-272A.
Did its land use or housing element mention septic?	Mentioned in Land Use Element and not in Housing Element. Under land use, the availability of water and septic services are noted as the primary factors that limits residential density in residential rural development areas.
What did its capital facilities element cover?	The capital facilities element describes the types of services that exist for urban areas and rural areas and for rural areas, one of such services is the septic system. There was one policy in the capital facilities element that centered on collaboration
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy 7.3.C. 5. Work cooperatively with independent sewer districts to develop fair and consistent policies and incentives to phase out private sewer/septic systems in areas served by community sewage treatment facilities.
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes

Summary	On-site sewage is well-regulated in San Juan County. Their Health and Community Services (H&CS) implements the San Juan County Code Chapter 8.16 to ensure that on-site sewage is well maintained.
Additional Notes	**https://engage.sanjuancountywa.gov/2025-comp-plan-update**

Appendix Table A-29. Skagit County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Skagit County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.skagitcounty.net/PlanningAndPermit/Documents/CompPlan2016/comp-plan-2016-adopted-text-only.pdf**
Comp Plan Date	12/28/2015
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes

If yes to above, what did it mention?	In the rural element, it mentions that Similk Beach was designated a LAMIRD in 2002 to address their failing septic system. The element also includes some policies on how the county will address failing septic systems. The utilities element also states that the only utility problem in Skagit County is septic failures and water rights in the low-flow stream basin. However, the health department is working with the communities experiencing septic failures to find solutions that utilize improved septic treatment. That process involves testing existing systems and determining solutions to problems, most of which have been resolved.
Did its land use or housing element mention septic?	Neither the Land Use element or the Housing element mentions septic systems, on-site sewage, or anything related
What did its capital facilities element cover?	The capital facilities element did not mention septic or sewage or any on-site disposal system
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	policy 3A-3.4 The County's public health responsibility for ensuring adequate wastewater treatment includes the determination of failing on-site septic systems, technical assistance to property owners, and actions to require necessary improvements. These services may include community plans and other strategies for creating area-wide solutions when surface waters or groundwater is threatened. policy 3C-1.9 Single-family residential densities for land designated as Rural Village Residential are: (a) 1 residential dwelling unit per acre, with public water and an approved onsite septic system; (b) 1 dwelling unit per 2.5 acres, with private water and an approved on-site septic system;
Does the plan discuss environmental risks of septic systems?	No

Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes
Summary	The county is experiencing septic failures and is working to address these. The County has considered the feasibility of providing sanitary sewer service to some areas where public health issues have been raised due to failing on-septic systems, although they suggest that sewer service is prohibitively expensive.
Additional Notes	The county is in the process of updating its comprehensive plan. The project time line is copied here https://www.skagitcounty.net/Departments/PlanningAndPermit/2025CPA.htm

Appendix Table A-30. Skamania County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Skamania County
GMA Status	Partially Planning
Link to Comp Plan	**https://www.skamaniacounty.org/home/showpublisheddocument/1385/637122005286830000**
Comp Plan Date	7/10/2007
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes

If yes to above, what did it mention?	The environment element mentions that Septic system regulations are administered by the Skamania County Health Department, and are directed toward the protection of critical resources, which are not necessarily at the site of the potential pollutant source.
Did its land use or housing element mention septic?	The land use element briefly mentioned septic and individual sewage disposal but the housing element did not have any
What did its capital facilities element cover?	The capital facilities element did not mention septic or sewage or any on-site disposal system
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy LU.2.6: Building permits, septic tank permits, or other development permits issued by the County for any project will be in conformance with this Comprehensive Plan. Policy LU.5.7: Adequate on-site wells and septic systems should be properly installed, monitored and maintained in accordance with local and state health department requirements.
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes

Summary	A minimum lot size of two acres for places served by individual wells and sewage disposal systems. A minimum lot size of 12,500 sf for areas served by public water and individual sewage disposal systems. The plan also seeks to ensure that septic tank permits are in conformance with the comprehensive plan and to ensure proper installation and maintenance as specified by the health department
Additional Notes	City has put out an RFP for consultants to help with their comprehensive plan update. RFP copied here **https://www.skamaniacounty.org/home/showpublisheddocument/15565/638726203207970000**

Appendix Table A-31. Snohomish County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Snohomish County
GMA Status	Fully Planning
Link to Comp Plan	https://snohomishcountywa.gov/2139/Comprehensive-Plan
Comp Plan Date	11/29/2018
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	N/A

Did its land use or housing element mention septic?	There is no Land Use and Housing Element
What did its capital facilities element cover?	Transmission and distribution water piping shall be separated at least 10 feet horizontally from on-site waste disposal piping, drainfields, and/or wastewater gravity or force mains whenever possible.
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	None
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No
Summary	The plan briefly talks about the transmission and distribution of water piping for on-site waste disposal
Additional Notes	The county does not have all elements of a comprehensive plan. They only have a capital facilities plan, transportation element, and a parks and recreation element

Appendix Table A-32. Spokane County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Island County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.spokanecounty.org/DocumentCenter/View/52538/Comp-Plan-2023-Printing?bidId=**

Comp Plan Date	6/23/2020
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Limited mentions of septics and on-site wastewater disposal, mostly to clarify that rural areas are served by septics and not sewers.
Did its land use or housing element mention septic?	Rural Land Use section states: "Typically, rural areas will be served by individual wells, on-site wastewater disposal, volunteer fire departments and low levels of police protection." Rural policies note that septic systems are the appropriate level of infrastructure for various rural land uses.
What did its capital facilities element cover?	Includes a goal and set of policies related to sanitary sewer systems, which focuses on wastewater/sewer systems and doesn't mention septic's.
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy RL 1.2: "Designated rural lands shall have low densities which can be sustained by minimal infrastructure improvements such as septic systems, individual wells and rural roads without significantly changing the rural character, degrading the environment or creating the necessity for urban levels of service." Policy RL 3.1: "Designated rural lands shall have low densities which can be sustained by minimal infrastructure improvements, such as septic systems, individual wells and rural roads, without altering the rural character, degrading the environment or creating the necessity for urban level of services." Policy NR.2.1: "Designated agricultural and forest lands shall have low residential densities which can be sustained by minimal infrastructure improvements such as septic systems, individual wells and rural roads without degrading the environment or creating the necessity for urban levels of service. " Policy NR.2.2: "Services in resource land areas will be limited. On-site septic systems, private wells or small, self-contained water systems, volunteer fire departments and minimal police protection will support residences at appropriate densities."

Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No
Summary	Limited mentions of septics and on-site wastewater disposal, mostly to clarify that rural areas are served by septics and not sewers.
Additional Notes	County is currently working on 2026 update

Appendix Table A-33. Stevens County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Stevens County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.stevenscountywa.gov/files/documents/StevensCountyComprehensivePlan-Volume11342111527120722AM.pdf https://www.stevenscountywa.gov/files/documents/StevensCountyComprehensivePlan-Volumellwithoutallappendices1342111629120722AM.pdf**
Comp Plan Date	12/8/2022

Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	In the rural development standards and uses, a minimum lot size is required for septic systems. The plan also supports the installation of on-site sewage.
Did its land use or housing element mention septic?	Neither the Land Use element or the Housing element mentions septic systems, on-site sewage, or anything related
What did its capital facilities element cover?	Capital facilities section does not mention anything related to septic systems, wastewater, septage or sewage
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Natural Resources Element NR-20 Support installation of on-site sewage systems that protect surface and groundwater quality and human health
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No
Summary	The plan talks about minimum lot size requirements for septic systems. The plan also supports the installation of on-site sewage.

Appendix Table A-34. Thurston County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Thurston County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.thurstoncountywa.gov/departments/community-planning-and-economic-development/community-planning/comprehensive-plan/current-comprehensive-plan**
Comp Plan Date	11/12/2019
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Funding from Ecology to convert septic systems to sewer; septic-related policy in utilities section; references to contamination from septic systems throughout Health element; noted as a source of pollution in Environment section; biosolids management program listed in capital facilities element;
Did its land use or housing element mention septic?	No mention in housing element. Land Use element includes a policy about septic systems; mentions septic systems as part of locational guidelines for two zoning designations.
What did its capital facilities element cover?	Proposed project to "Implement Biosolids Management Program."

Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Utilities Goal 3 Policy 3: "Require that land use and activities, including septic tank effluent, not generate polluted stormwater runoff that has the potential to release pollutants to the County's municipal stormwater system or degrade surface or groundwater, including shellfish harvest areas." Environmental, Recreation, and Open Space Goal 2 Policy 13: "The county should encourage the use of no- and low-water use appliances and fixtures, particularly in conjunction with septic systems, to reduce the potential for groundwater contamination." Land Use Objective B Policy 5: "Individual septic systems should be the method for handling residential sewage in rural areas. Only in areas of identified health hazards or water quality problems should sewer systems be permitted. In such cases, the county should be the sewer and water provider."
Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Somewhat
Summary	Risk of contamination from septic systems discussed. Includes policies related to contamination that involve septics.

Additional Notes	From Health element: "There are an estimated 16,744 septic systems within the city limits of Lacey, Olympia, and Tumwater and their associated urban growth areas. These release more than 3.5 million gallons of liquid sewage each day. The cumulative result of urban septic systems is significant volumes of largely untreated effluent flowing unimpeded through the area's porous soils to groundwater aquifers and, eventually, to surface waters. While septic system effluent represents about 20% of the volume of all local wastewater, it contains roughly 75% of the total nitrogen loading from wastewater. This contamination threatens water supplies and has led to the abandonment of some drinking water wells."

Appendix Table A-35. Wahkiakum County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Wahkiakum County
GMA Status	Partially Planning
Link to Comp Plan	**https://www.co.wahkiakum.wa.us/DocumentCenter/View/2935/Comp-Plan-1984**
Comp Plan Date	1/20/2025
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	A majority of Wahkiakum County is served through septic tanks. However, the natural environment element mentioned that some of these septic systems are failing. This is because some natural hazards like subsidence (sinking soils), soil movement or creep, fault displacement, liquefaction of sand and clay, and the like have been ignored which have resulted in several issues in addition to failing septic systems.

Did its land use or housing element mention septic?	Mentioned in the Land Use element but not in the housing element. The land use element covered the requirements and policies aimed at maintaining the septic system. Regional Health District approval for on-site sewage disposal is required before preliminary plat approval, and overdevelopment in rural areas relying on private wells and septic systems is discouraged to protect public health and rural character. Commercial and industrial proposals must align with community character and consider impacts on wells and septic systems, while rural residential areas depend on essential utilities like electricity, telephone, well water, and roadway access at relatively low service costs.
What did its capital facilities element cover?	There is no capital facilities element. However, there is a public facilities and services element that talks about septic systems. Wahkiakum County does not provide any public sewer service. The majority of homes and businesses in the unincorporated communities are on septic tank and private wells
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Land Use: Rural service areas Policy 1 Over-development in rural service areas on private wells and septic tank sewage disposal systems should be discouraged in the interest of public health and preserving the rural character of the service areas. Policy 11 New commercial and industrial proposals should be reviewed for consistency with the overall character of the community and their impact on the capacity of the wells and septic tank drain fields in the area.
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes

Summary	Wahkiakum County relies primarily on septic systems and private wells, with Regional Health District approval required for on-site sewage disposal before plat approvals to ensure proper system capabilities. However, natural hazards such as soil subsidence and liquefaction have contributed to septic system failures, highlighting the need for better land use policies and hazard mitigation to maintain system functionality.
Additional Notes	I called the building and planning office and they said the only comprehensive plan they have is that of 1984 and this is a scanned copy. The only copy aside from this is a physical copy at the assessor's office and even that the pages have been messed up by someone. I used "I love pdf OCR" to convert the scanned pdf to Word and did the review on the Word document.

Appendix Table A-36. Walla Walla County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Walla Walla County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.co.walla-walla.wa.us/document_center/commdev/planning/comp%20plan/FINAL%20Walla%20Walla%20County%20Comp%20Plan%20(080519)%20(complete).pdf**
Comp Plan Date	8/5/2019
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	In the introduction section, The gravel aquifer, which is hydraulically connected to the overlying surface streams, readily receives recharge from these surface flows. Due to its porous nature, the gravel aquifer is susceptible to contamination from surface pollutants, such as agricultural chemicals or leaking septic systems.
Did its land use or housing element mention septic?	Mentioned in the Land Use element and not in the housing element. In the land use element, it mentions Lowden, Dixie, Prescott, Rural residential Mill Creek, and most places in Burbank, these areas only have septic systems. In these areas, there are limited soils to support on-site sewage and in addition to the extensive use of on-site sewage disposal throughout the county, water passes quickly through the soil in these areas.

What did its capital facilities element cover?	Capital facilities section does not mention anything related to septic systems, wastewater, septage or sewage
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	RL 10.4 Rural lands often have an established land use pattern that precludes urbanization and are generally served by septic tanks and individual wells or a small community water system and are anticipated to continue as such. Policy RL 3.5 Development should occur where soil conditions are able to handle the cumulative long-term impacts of on-site sewage disposal without adverse impacts to ground and surface waters. Policy RL 11.1 Allow development in the LAMIRD designation to occur where soil conditions are able to handle the cumulative long-term impacts of onsite sewage disposal without adverse impacts to ground and surface waters.
Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes
Summary	The plan briefly talks about one issue that exists in Walla Walla County in relation to septic systems. Several cities and unincorporated areas in Walla Walla County use septic systems and there ius not enough soil to support this as such On site septic systems rely exclusively on purification of the effluent by microorganisms in the soil. High percolation levels do not allow microorganisms enough time to properly treat the effluent, which in turn, contributes further contaminants to the water supply.

Appendix Table A-37. Whatcom County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Whatcom County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.whatcomcounty.us/1171/Current-Comprehensive-Plan**
Comp Plan Date	8/9/2016
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	In the utilities element, it states that Whatcom County does not currently own, operate, or maintain a sewage treatment facility or associated pumping stations or pipelines. Sewage treatment in the unincorporated county is primarily by septic system. Sewage treatment is primarily by septic system in the unincorporated areas of the County
Did its land use or housing element mention septic?	Mentioned in Land Use Element and not in Housing Element
What did its capital facilities element cover?	Capital facilities section does not mention anything related to septic systems, wastewater, septage or sewage
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy 2EE-5: Ensure that adequate onsite wells and onsite sewage and septic systems are properly installed, monitored, and maintained. Provide technical assistance to property owners, and require necessary improvements when needed to protect health, safety and environmental quality. Policy 2EE-6: Promote better land use practices and protect water quality by encouraging landowners and developers to investigate and implement innovative subdivision, septic system designs, and stormwater management.

Does the plan discuss environmental risks of septic systems?	Yes
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes
Summary	The plan briefly talks about the environmental effect of pporly maintained septic systems which includes high nitrate levels in soil and coliform bacteria in surface water

Appendix Table A-38. Whitman County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Whitman County
GMA Status	Partially Planning
Link to Comp Plan	**https://www.whitmancounty.org/DocumentCenter/View/4964/Whitman-County-Comprehensive-Plan---Adopted-July-5-2022-PDF**
Comp Plan Date	7/5/2022
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	See other answers

Did its land use or housing element mention septic?	Mentioned in one land use policy as part of the considerations in allowing a zoning change for commercial and industrial uses. See column K.
What did its capital facilities element cover?	Brief mention that on-site sewage disposal is used throughout the majority of unincorporated Whitman County and that OSSs are reviewed and approved by Whitman County Environmental Health.
Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	Policy LU-4.3 - The County should require proposed industrila and commercial uses seeking a zoning change to allow said uses to locate on sites that meet the crtieria below...With an adequate water supply and sewage disposal system to serve the full development and operation of the planed uses..."
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	No
Summary	Briefly mentioned to acknowledge use of septic in unincorporated areas and to note septic capacity as a consideration in allowing certain types of development.

Appendix Table A-39. Yakima County Comprehensive Plan Review

Prompt	Answer
County Comp Plan	Yakima County
GMA Status	Fully Planning
Link to Comp Plan	**https://www.yakimacounty.us/846/Horizon-2040-Comprehensive-Plan**
Comp Plan Date	8/29/2017
Did the plan have anything on wastewater, septage, on-site sewage disposal systems, or biosolids?	Yes
If yes to above, what did it mention?	Natural settings element talks about the difficulty in creating septic systems due to slope. It also notes that areas that are isolated from services have poor ground for septic tanks.
Did its land use or housing element mention septic?	It is mentioned in both Land Use element and the Housing element. In the Land Use element, it is mentioned in some policies. It is also mentioned under the creation of Rural self-sufficient areas. It can be found in some Rural Settlement LAMIRDs like Tampico and Outlook. Under housing, it is said that in some unincorporated areas there is stressed community septic systems and increasing population densities in specified unincorporated areas would encourage urban-level services that could prevent septic system failures.
What did its capital facilities element cover?	Achieving urban densities within Urban Growth Areas (UGAs) requires public water supply systems and regional sewer systems. Development relying on wells and septic systems leads to lower densities due to the land needed for well control zones and septic drainfields

Were there any goals, policies, or actions relating to septic systems, their capacities, or information gathering on this subject?	LU-R 10.2 :Establish lot sizes which will make feasible individual wells and septic systems on each parcel, without unduly affecting nearby wells and septic systems. This lot size may vary depending on water availability and soil suitability for septic systems in each area. LU-R 11.4 : New development within the Remote Rural/Extremely Limited Development Potential category should be served by individual wells and septic systems. LU-ER-AG 1.17 :A second farm dwelling may be allowed on an agricultural parcel of at least twenty acres, subject to an administrative review. Siting approval should include location and capacity of the well(s) and septic system(s), road access, and impact on the agricultural productivity of the land. The property owner shall be required to sign a covenant stipulating that the second farm dwelling is intended for use by family or employees. Utilities: UT 11.1 :Development proposed for individual wells and septic systems should be allowed only at densities which meet self-sufficiency standards. UT 11.7 :Interim on-site approved septic systems may be permitted within the urban growth area if public sewer service is not available, only if: • Ground water protection policies are enforced; and • The design incorporates stub-outs to facilitate future hook-up; and • The applicant agreed not to object to future Local Improvement Districts (LID) or hook-up actions; and • Land use densities and soil conditions allow for safe operation of the septic system.
Does the plan discuss environmental risks of septic systems?	No
Does the plan include policies specifically aimed at improving management of septic systems/ reducing environmental risks?	Yes
Summary	Briefly mentions ways of reducing pressure on septic systems by ensuring their location on smaller lot sizes. It also seeks to encourage septic systems in unincorporated areas.
Additional Notes	They have updated their comprehensive plan and I used the current one called Horizon 2040

Appendix B: Wastewater Projections from Growth Data

Projections of the Total Resident Population for Growth Management

Appendix Table B-1. 2022 Growth Management Population Projections by Year

	2020*	2021**	2022**	2025	2030	2035	2040	2045	2050
Washington State	7,706,310	7,766,975	7,864,400	8,748,039	9,406,820	10,043,320	10,660,617	11,262,964	11,853,278
Adams	20,613	20,900	21,100	23,296	24,610	25,858	27,058	28,233	29,388
Asotin	22,285	22,500	22,600	24,581	26,006	27,320	28,525	29,651	30,715
Benton	206,873	209,400	212,300	238,560	255,501	272,005	288,124	303,953	319,548
Chelan	79,141	80,000	80,650	89,082	96,710	104,044	111,117	117,996	124,721
Clallam	77,155	77,750	77,625	85,816	89,024	91,835	94,274	96,396	98,274
Clark	503,311	513,100	520,900	586,988	639,352	690,875	741,645	791,809	841,482
Columbia	3,952	3,950	3,950	4,163	4,200	4,211	4,185	4,142	4,085
Cowlitz	110,730	111,500	112,350	123,253	128,879	133,993	138,661	142,965	146,997
Douglas	42,938	43,550	44,000	48,963	52,515	55,945	59,271	62,519	65,703
Ferry	7,178	7,250	7,300	7,795	8,188	8,541	8,853	9,137	9,395
Franklin	96,749	98,350	99,750	114,304	130,400	146,442	162,464	178,501	194,548
Garfield	2,286	2,300	2,300	2,441	2,492	2,522	2,541	2,549	2,551
Grant	99,123	100,800	101,800	113,551	123,176	132,526	141,665	150,669	159,567
Grays Harbor	75,636	76,050	76,400	82,530	85,184	87,404	89,238	90,774	92,068
Island	86,857	87,100	87,700	97,365	102,564	107,455	112,060	116,450	120,670
Jefferson	32,977	33,100	33,350	37,353	40,784	44,090	47,284	50,365	53,357
King	2,269,675	2,287,050	2,317,700	2,567,956	2,776,970	2,979,984	3,177,919	3,371,875	3,562,510
Kitsap	275,611	277,700	280,900	309,140	337,507	364,872	391,380	417,222	442,539
Kittitas	46,468	45,225	47,200	53,173	57,143	61,008	64,778	68,461	72,079
Klickitat	22,735	23,000	23,150	25,515	27,092	28,583	30,004	31,361	32,666

	2020*	2021**	2022**	2025	2030	2035	2040	2045	2050
Lewis	82,149	82,700	83,400	91,754	95,616	99,103	102,248	105,122	107,791
Lincoln	10,876	10,900	11,050	11,982	12,597	13,147	13,651	14,105	14,541
Mason	65,726	65,750	66,200	74,803	79,474	83,914	88,140	92,187	96,098
Okanogan	42,104	42,350	42,700	46,329	49,745	52,946	55,958	58,827	61,584
Pacific	23,365	23,425	23,600	25,930	26,788	27,508	28,101	28,577	28,973
Pend Oreille	13,401	13,475	13,625	15,036	16,427	17,755	19,026	20,250	21,440
Pierce	920,393	928,200	937,400	1,044,963	1,117,512	1,187,399	1,255,042	1,320,953	1,385,463
San Juan	17,788	17,850	18,150	20,024	22,735	25,397	28,019	30,595	33,144
Skagit	129,523	130,000	131,250	146,910	159,634	171,907	183,768	195,316	206,608
Skamania	11,604	11,750	11,900	13,045	13,751	14,417	15,048	15,646	16,226
Snohomish	827,957	837,800	847,300	951,570	1,023,820	1,094,295	1,163,254	1,231,038	1,297,841
Spokane	539,339	542,100	550,700	608,092	649,417	688,854	726,624	763,083	798,495
Stevens	46,445	46,725	47,050	52,179	57,057	61,745	66,257	70,635	74,905
Thurston	294,793	297,800	300,500	339,104	363,211	386,639	409,440	431,732	453,608
Wahkiakum	4,422	4,475	4,525	4,947	5,200	5,436	5,649	5,844	6,026
Walla Walla	62,584	62,100	62,625	68,811	71,855	74,596	77,071	79,340	81,457
Whatcom	226,847	226,300	231,650	259,547	279,846	299,569	318,762	337,551	355,998
Whitman	47,973	44,600	47,800	52,541	54,128	55,536	56,794	57,931	58,976
Yakima	256,728	258,100	259,950	284,647	299,710	313,644	326,719	339,204	351,241

*OFM Adjusted Census **Estimate

Appendix Table B-2. 2022 GMA Projections Other than Population

	2050 Housing Units	Percentage in Incorporated Areas	Population Assumed to be on Septic	Volume of Septage Generated if Pumped Every 5 yrs (gal)	Volume of Septage Generated if Pumped Every 5 yrs (gal/day)	Volume of Septage Generated if Pumped Every 10 yrs (gal)	Volume of Septage Generated if Pumped Every 10 yrs (gal/day)
Washington State	5,339,314						
Adams	13,238	42%	5,625	1,687,603	4,624	843,802	2,312
Asotin	13,836	44%	6,052	1,815,559	4,974	907,779	2,487
Benton	143,941	10%	13,870	4,160,967	11,400	2,080,483	5,700
Chelan	56,181	35%	19,429	5,828,663	15,969	2,914,332	7,984
Clallam	44,268	44%	19,385	5,815,589	15,933	2,907,794	7,967
Clark	379,046	43%	164,355	49,306,524	135,086	24,653,262	67,543
Columbia	1,840	40%	743	222,827	610	111,414	305
Cowlitz	66,215	42%	27,981	8,394,203	22,998	4,197,102	11,499
Douglas	29,596	57%	17,003	5,100,763	13,975	2,550,382	6,987
Ferry	4,232	61%	2,594	778,209	2,132	389,105	1,066
Franklin	87,634	9%	7,932	2,379,738	6,520	1,189,869	3,260
Garfield	1,149	29%	332	99,608	273	49,804	136
Grant	71,877	23%	16,840	5,052,135	13,841	2,526,068	6,921
Grays Harbor	41,472	36%	14,861	4,458,323	12,215	2,229,161	6,107
Island	54,356	72%	39,035	11,710,587	32,084	5,855,293	16,042
Jefferson	24,035	53%	12,729	3,818,829	10,463	1,909,414	5,231
King	1,604,734	10%	153,875	46,162,472	126,473	23,081,236	63,236
Kitsap	199,342	64%	127,301	38,190,356	104,631	19,095,178	52,316
Kittitas	32,468	52%	16,741	5,022,198	13,759	2,511,099	6,880
Klickitat	14,714	69%	10,222	3,066,516	8,401	1,533,258	4,201

Lewis	48,555	61%	29,818	8,945,398	24,508	4,472,699	12,254
Lincoln	6,550	54%	3,566	1,069,917	2,931	534,959	1,466
Mason	43,287	88%	38,230	11,468,965	31,422	5,734,483	15,711
Okanogan	27,741	66%	18,283	5,484,887	15,027	2,742,444	7,514
Pacific	13,051	74%	9,710	2,913,133	7,981	1,456,566	3,991
Pend Oreille	9,658	81%	7,779	2,333,751	6,394	1,166,876	3,197
Pierce	624,082	44%	271,607	81,481,966	223,238	40,740,983	111,619
San Juan	14,930	89%	13,354	4,006,050	10,975	2,003,025	5,488
Skagit	93,067	44%	40,490	12,146,883	33,279	6,073,441	16,640
Skamania	7,309	79%	5,796	1,738,949	4,764	869,474	2,382
Snohomish	584,613	43%	249,056	74,716,933	204,704	37,358,466	102,352
Spokane	359,682	27%	98,251	29,475,242	80,754	14,737,621	40,377
Stevens	33,741	79%	26,736	8,020,653	21,974	4,010,327	10,987
Thurston	204,328	47%	96,889	29,066,732	79,635	14,533,366	39,817
Wahkiakum	2,714	86%	2,332	699,746	1,917	349,873	959
Walla Walla	36,692	26%	9,613	2,883,841	7,901	1,441,920	3,950
Whatcom	160,359	42%	67,569	20,270,734	55,536	10,135,367	27,768
Whitman	26,566	13%	3,497	1,049,070	2,874	524,535	1,437
Yakima	158,217	34%	54,239	16,271,646	44,580	8,135,823	22,290
		Total		517,116,167	1,416,757	258,558,084	708,378

Appendix C: Growth Projections

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Hello!

This sheet is intended to predict the septage volumes of counties by their growth projections up to 2050. Using each county's medium growth projections, we convert their population to housing units, and then into unincorporated housing units following several scenarios. Our assumption is that each unincorporated housing unit will be using a septic system.

Scenario 1 assumes that there is no change in unincorporated housing units; this scenario assumes that all population growth is in urban areas.

Scenario 2 assumes that unincorporated housing units grow proportional to population; this scenario assumes that that the overall % of unincorpated housing units remains the same and thus grows.

These scenarios are meant to account for the fact that, ideally, all growth happens in urban areas and that unincorpated areas are actually reduced over time. But this is not entirely realistic, so the scenarios are intended to account for that.

From the unincorporated housing units, we assume every unit accounts for a 3 bedroom house and a 1500 gal septic tank. Then we assume that every septic tank gets pumped every 5 years and divide the total gallons of septic tanks by 5 years to get an average yearly pumped septic for each county.

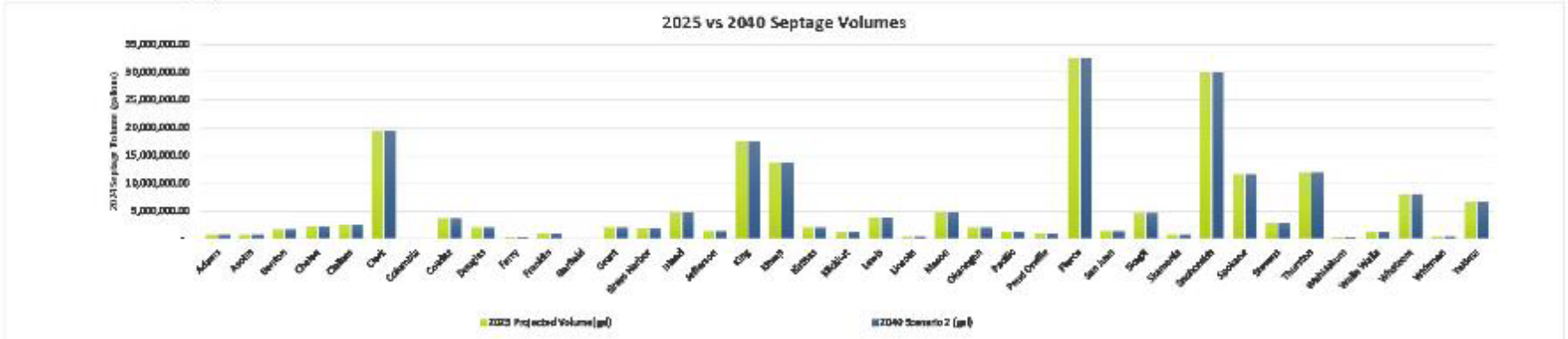
Reported volumes on the next sheet are from the WSALPHO member survey and are volumes reported to us by the county health district.

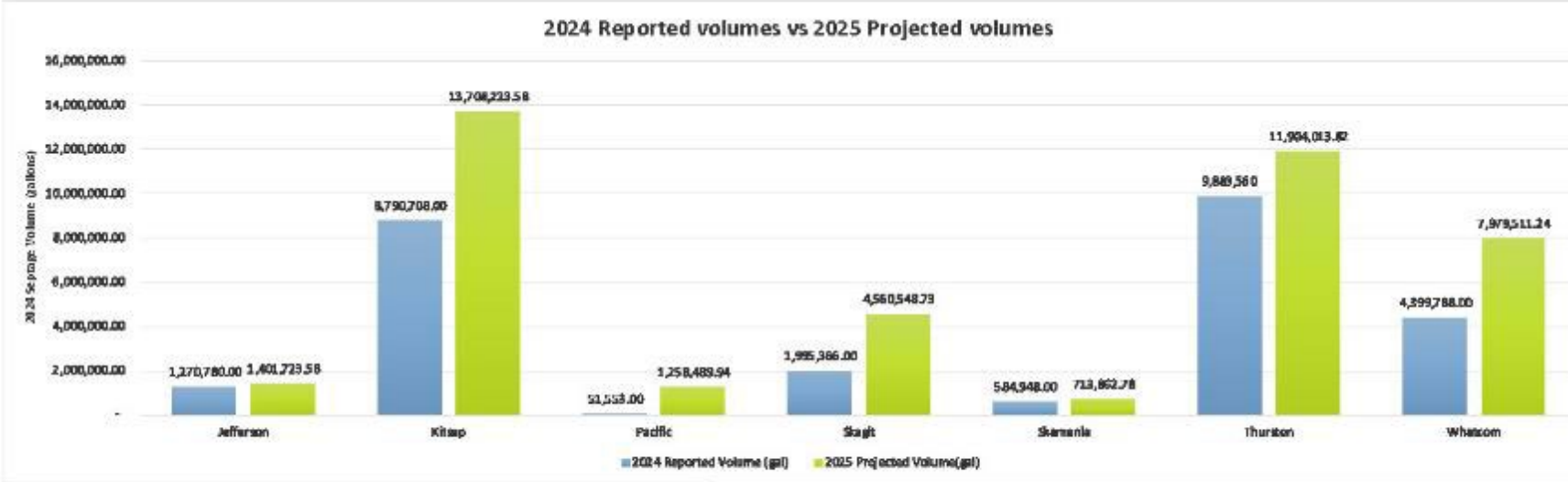
Assumptions

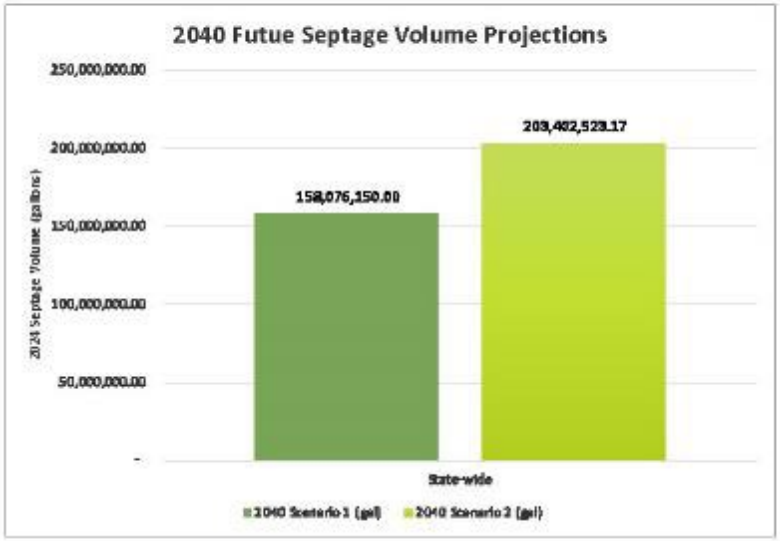
3 bedroom house
1500 gallon tank - above min state requirement
every home in unincorporated is on septic

4 bedroom minimum tank size (gal)	1500
Household Average	2.22 DP04 Census

	2024 Reported Volume (gal)	2025 Projected Volume(gal)	2040 Scenario 1 (gal)	2040 Scenario 2 (gal)	2025 Projected Gallons of Septage per Person	
Adams			429,300.00	429,300.00	700,210.62	20.88
Asotin			658,350.00	658,350.00	703,850.45	29.54
Benton			1,157,400.00	1,157,400.00	1,709,626.95	5.59
Chelan			1,983,200.00	1,983,200.00	2,147,736.79	24.48
Clallam			2,491,500.00	2,491,500.00	2,526,100.96	32.29
Clark			12,685,200.00	12,685,200.00	18,393,436.70	25.20
Columbia			182,600.00	182,600.00	98,857.70	33.55
Cowlitz			2,873,250.00	2,873,250.00	3,578,178.84	26.00
Douglas			1,492,350.00	1,492,350.00	2,028,411.87	34.76
Ferry			373,200.00	373,200.00	296,912.90	51.99
Franklin			403,800.00	403,800.00	813,009.05	4.17
Garfield			51,750.00	51,750.00	42,404.39	22.64
Grant			1,357,800.00	1,357,800.00	1,949,020.51	13.70
Grays Harbor			1,998,150.00	1,998,150.00	1,879,199.80	25.62
Island			4,515,900.00	4,515,900.00	4,846,011.03	51.99
Jefferson	1,270,780.00		1,516,350.00	1,516,350.00	1,401,723.58	45.98
King			13,940,700.00	13,940,700.00	17,483,822.37	6.14
Kitsap	8,790,708.00		10,848,150.00	10,848,150.00	13,708,223.58	39.26
Kittitas			1,836,300.00	1,836,300.00	2,008,925.15	39.52
Klickitat			1,097,550.00	1,097,550.00	1,223,162.84	48.28
Lewis			3,262,050.00	3,262,050.00	3,850,452.21	39.71
Lincoln			468,150.00	468,150.00	421,572.81	43.04
Mason			4,407,300.00	4,407,300.00	4,761,450.16	67.06
Okanogan			2,147,250.00	2,147,250.00	1,998,788.20	51.00
Pacific	51,559.00		1,789,500.00	1,789,500.00	1,258,489.94	76.58
Pend Oreille			959,100.00	959,100.00	893,303.83	71.57
Pierce			23,467,950.00	23,467,950.00	92,466,055.59	25.50
San Juan			1,847,700.00	1,847,700.00	1,332,328.36	103.87
Skagit	1,935,365.00		3,697,800.00	3,697,800.00	4,960,548.73	28.08
Skamania	584,968.00		689,250.00	689,250.00	718,852.78	59.40
Snohomish			20,546,250.00	20,546,250.00	29,915,016.59	24.82
Spokane			9,178,950.00	9,178,950.00	11,646,097.06	17.02
Stevens			2,648,600.00	2,648,600.00	2,864,434.85	56.92
Thurston	6 000,530		8,697,600.00	8,697,600.00	11,904,013.82	29.20
Wahkiakum			282,150.00	282,150.00	285,948.82	63.81
Walla Walla			981,300.00	981,300.00	1,180,609.21	15.68
Whatcom	4,999,788.00		6,924,450.00	6,924,450.00	7,979,511.24	27.88
Whitman			413,100.00	413,100.00	450,909.98	8.61
Yakima			4,658,900.00	4,658,900.00	6,568,281.75	18.18
State-wide	26,975,703.00		158,076,150.00	158,076,150.00	203,402,523.17	20.51
	33,448,106.00					




2024 Reported volumes vs 2025 Projected volumes
2024 Septage Volume (gallons)
16,000,000.00
14,000,000.00
12,000,000.00
10,000,000.00
8,000,000.00
6,000,000.00
4,000,000.00
2,000,000.00
-
1,270,780.00
1,401,723.58
8,790,708.00
13,708,223.58
51,553.00
1,258,489.94
1,995,386.00
4,560,548.73
584,948.00
713,862.78
9,889,560
11,904,013.82
4,399,788.00
7,978,511.24
Jefferson
Kitsap
Pacific
Skagit
Skamania
Thurston
Whatcom
2024 Reported Volume (gal)
2025 Projected Volume(gal)


2040 Futue Septage Volume Projections
2024 Septage Volume (gallons)
250,000,000.00
200,000,000.00
150,000,000.00
100,000,000.00
50,000,000.00
-
158,076,150.00
203,402,523.17
State-wide
2040 Scenario 1 (gal)
2040 Scenario 2 (gal)

County	2025 Pop	Unincorporated	Yearly Flow if Pumped every 5 years	Daily average off of 5 year pumping	Yearly Flow if Pumped every 10 years	Daily average off of 10 year pumping
Adams	20,613	2,862	858600	2352	429300	1176
Asotin	22,285	4,389	1316700	3607	658350	1804
Benton	206,871	7,716	2314800	6342	1157400	3171
Chelan	79,141	12,888	3866400	10593	1933200	5296
Clallam	77,155	16,610	4983000	13652	2491500	6826
Clark	503,311	84,568	25370400	69508	12685200	34754
Columbia	3,952	884	265200	727	132600	363
Cowlitz	110,730	19,195	5758500	15777	2879250	7888
Douglas	42,938	9,949	2984700	8177	1492350	4089
Ferry	7,178	2,488	746400	2045	373200	1022
Franklin	96,749	2,692	807600	2213	403800	1106
Garfield	2,286	345	103500	284	51750	142
Grant	99,123	9,052	2715600	7440	1357800	3720
Grays Harbor	75,036	12,921	3876300	10620	1938150	5310
Island	86,857	30,106	9031800	24745	4515900	12372
Jefferson	32,977	10,109	3032700	8309	1516350	4154
King	2,269,675	92,938	27881400	76387	13940700	38194
Kitsap	275,611	72,321	21696300	59442	10848150	29721
Kittitas	46,468	12,242	3672600	10062	1836300	5031
Klickitat	22,735	7,317	2195100	6014	1097550	3007
Lewis	82,149	21,747	6524100	17874	3262050	8937
Lincoln	10,876	3,121	936300	2565	468150	1283
Mason	65,726	29,382	8814600	24150	4407300	12075
Okanogan	42,104	14,315	4294500	11766	2147250	5883
Pacific	23,365	11,930	3579000	9805	1789500	4903
Pend Oreille	13,401	6,394	1918200	5255	959100	2628
Pierce	920,393	156,453	46935900	128592	23467950	64296
San Juan	17,788	12,318	3695400	10124	1847700	5062
Skagit	129,523	24,252	7275600	19933	3637800	9967
Skamania	11,604	4,595	1378500	3777	689250	1888
Snohomish	827,957	136,975	41092500	112582	20546250	56291
Spokane	539,339	61,193	18357900	50296	9178950	25148
Stevens	46,445	17,624	5287200	14485	2643600	7243
Thurston	294,793	57,584	17275200	47329	8637600	23665
Wahkiakum	4,422	1,881	564300	1546	282150	773
Walla Walla	62,584	6,542	1962600	5377	981300	2688
Whatcom	226,847	42,163	12648900	34655	6324450	17327
Whitman	47,973	2,754	826200	2264	413100	1132
Yakima	256,728	31,026	9307800	25501	4653900	12750
	2025 Pop	Unincorporated	Yearly Flow if Pumped every 5 years	Daily average off of 5 year pumping	Yearly Flow if Pumped every 10 years	Daily average off of 10 year pumping
State	7,706,310	1,053,841	316152300	866171	158076150	433085

County	2040 Pop	Unincorporated	Yearly Flow if Pumped every 5 years	Daily average off of 5 year pumping	Yearly Flow if Pumped every 10 years	Daily average off of 10 year pumping
Adams	24,307	4,668	1400421.236	3837	700210.6182	1918
Asotin	23,815	4,692	1407700.777	3857	703850.3884	1928
Benton	262,507	11,398	3419253.891	9368	1709626.946	4684
Chelan	91,914	14,318	4295473.468	11768	2147736.734	5884
Clallam	85,374	16,841	5052201.922	13842	2526100.961	6921
Clark	660,653	129,036	38710873.41	106057	19355436.7	53029
Columbia	3,625	659	197735.4066	542	98867.70332	271
Cowlitz	125,320	23,854	7156347.282	19606	3578173.641	9803
Douglas	52,256	13,523	4056823.739	11115	2028411.87	5557
Ferry	7,169	1,979	593824.6007	1627	296912.3003	813
Franklin	132,930	5,420	1626018.103	4455	813009.0514	2227
Garfield	2,172	283	84809.18104	232	42404.59052	116
Grant	123,116	12,993	3898041.028	10680	1949020.514	5340
Grays Harbor	77,614	12,528	3758398.609	10297	1879199.304	5148
Island	99,870	32,307	9692022.056	26553	4846011.028	13277
Jefferson	39,170	9,345	2803447.16	7681	1401723.58	3840
King	2,690,851	116,225	34867644.75	95528	17433822.37	47764
Kitsap	317,694	91,388	27416447.15	75114	13708223.58	37557
Kittitas	57,521	13,360	4007850.291	10980	2003925.146	5490
Klickitat	26,059	8,154	2446284.688	6702	1223142.344	3351
Lewis	92,313	25,536	7660904.423	20989	3830452.212	10494
Lincoln	11,459	2,810	843145.6168	2310	421572.8084	1155
Mason	79,792	31,743	9522900.322	26090	4761450.161	13045
Okanogan	44,660	13,259	3977576.402	10897	1988788.201	5449
Pacific	25,033	8,390	2516979.881	6896	1258489.94	3448
Pend Oreille	15,311	5,555	1666607.662	4566	833303.831	2283
Pierce	1,104,062	216,441	64932187.18	177896	32466093.59	88948
San Juan	22,046	8,882	2664656.726	7300	1332328.363	3650
Skagit	155,142	30,404	9121097.469	24989	4560548.734	12495
Skamania	13,322	4,759	1427725.56	3912	713862.7798	1956
Snohomish	1,039,254	199,433	59830033.87	163918	29915016.93	81959
Spokane	630,994	77,641	23292194.11	63814	11646097.06	31907
Stevens	53,502	19,096	5728869.706	15696	2864434.853	7848
Thurston	371,542	79,360	23808027.64	65227	11904013.82	32614
Wahkiakum	4,923	1,906	571896.6454	1567	285948.3227	783
Walla Walla	66,695	7,871	2361218.419	6469	1180609.209	3235
Whatcom	280,275	53,197	15959022.48	43723	7979511.238	21862
Whitman	50,698	3,006	901819.9645	2471	450909.9823	1235
Yakima	283,351	43,755	13126563.51	35963	6563281.753	17982
	2040 Pop	Unincorporated	Yearly Flow if Pumped every 5 years	Daily average off of 5 year pumping	Yearly Flow if Pumped every 10 years	Daily average off of 10 year pumping
State	9,248,473	1,356,017	406805046.3	1114534	203402523.2	557267

County	Total housing units	Unincorporated	% of county with housing units in
Adams	6,735	2,862	42%
Asotin	10034	4389	44%
Benton	80076	7716	10%
Chelan	37267	12888	35%
Clallam	37930	16610	44%
Clark	195036	84568	43%
Columbia	2190	884	40%
Cowlitz	45424	19195	42%
Douglas	17318	9949	57%
Ferry	4059	2488	61%
Franklin	29740	2692	9%
Garfield	1194	345	29%
Grant	38635	9052	23%
Grays Harbor	36058	12921	36%
Island	41922	30106	72%
Jefferson	19087	10109	53%
King	969234	92938	10%
Kitsap	113248	72321	64%
Kittitas	23743	12242	52%
Klickitat	10533	7317	69%
Lewis	35412	21747	61%
Lincoln	5732	3121	54%
Mason	33269	29382	88%
Okanogan	21720	14315	66%
Pacific	16034	11930	74%
Pend Oreille	7938	6394	81%
Pierce	359489	156453	44%
San Juan	13772	12318	89%
Skagit	55744	24252	44%
Skamania	5794	4595	79%
Snohomish	321523	136975	43%
Spokane	224019	61193	27%
Stevens	22242	17624	79%
Thurston	121438	57584	47%
Wahkiakum	2189	1881	86%
Walla Walla	24971	6542	26%
Whatcom	100064	42163	42%
Whitman	20922	2754	13%
Yakima	90504	31026	34%
State	3,202,239	1,053,841	33%

County	2020 Pop	Unincorporated	Yearly Flow if Pumped every 5 years	Daily average off of 5 year pumping	Yearly Flow if Pumped every 10 years	Daily average off of 10 year pumping
Adams	20,613	2,862	858600	2352	429300	1176
Asotin	22,285	4389	1316700	3607	658350	1804
Benton	206,873	7716	2314800	6342	1157400	3171
Chelan	79,141	12888	3866400	10593	1933200	5296
Clallam	77,155	16610	4983000	13652	2491500	6826
Clark	503,311	84568	25370400	69508	12685200	34754
Columbia	3,952	884	265200	727	132600	363
Cowlitz	110,730	19195	5758500	15777	2879250	7888
Douglas	42,938	9949	2984700	8177	1492350	4089
Ferry	7,178	2488	746400	2045	373200	1022
Franklin	96,749	2692	807600	2213	403800	1106
Garfield	2,286	345	103500	284	51750	142
Grant	99,123	9052	2715600	7440	1357800	3720
Grays Harbor	75,636	12921	3876300	10620	1938150	5310
Island	86,857	30106	9031800	24745	4515900	12372
Jefferson	32,977	10109	3032700	8309	1516350	4154
King	2,269,675	92938	27881400	76387	13940700	38194
Kitsap	275,611	72321	21696300	59442	10848150	29721
Kittitas	46,468	12242	3672600	10062	1836300	5031
Klickitat	22,735	7317	2195100	6014	1097550	3007
Lewis	82,149	21747	6524100	17874	3262050	8937
Lincoln	10,876	3121	936300	2565	468150	1283
Mason	65,726	29382	8814600	24150	4407300	12075
Okanogan	42,104	14315	4294500	11766	2147250	5883
Pacific	23,365	11930	3579000	9805	1789500	4903
Pend Oreille	13,401	6394	1918200	5255	959100	2628
Pierce	920,393	156453	46935900	128592	23467950	64296
San Juan	17,788	12318	3695400	10124	1847700	5062
Skagit	129,523	24252	7275600	19933	3637800	9967
Skamania	11,604	4595	1378500	3777	689250	1888
Snohomish	827,957	136975	41092500	112582	20546250	56291
Spokane	539,339	61193	18357900	50296	9178950	25148
Stevens	46,445	17624	5287200	14485	2643600	7243
Thurston	294,793	57584	17275200	47329	8637600	23665
Wahkiakum	4,422	1881	564300	1546	282150	773
Walla Walla	62,584	6542	1962600	5377	981300	2688
Whatcom	226,847	42163	12648900	34655	6324450	17327
Whitman	47,973	2754	826200	2264	413100	1132
Yakima	256,728	31026	9307800	25501	4653900	12750
State	7,706,310	1,053,841	316,152,300	866,171	158,076,150	433,085

County	2025 Pop	Unincorporated	Yearly Flow if Pumped every 5 years	Daily average off of 5 year pumping	Yearly Flow if Pumped every 10 years	Daily average off of 10 year pumping
Adams	21,570	4,129	1238655.27	3394	619327.635	1697
Asotin	22,760	4,484	1345339.898	3686	672669.9492	1843
Benton	220,889	9,588	2876286.994	7880	1438143.497	3940
Chelan	82,483	12,849	3854728.747	10561	1927364.374	5280
Clallam	79,459	15,674	4702168.254	12883	2351084.127	6441
Clark	563,507	106,156	31846719.34	87251	15923359.67	43626
Columbia	3,855	701	210281.3773	576	105140.6886	288
Cowlitz	114,123	21,723	6516947.182	17855	3258473.591	8927
Douglas	45,336	11,732	3519598.918	9643	1759799.459	4821
Ferry	7,218	1,993	597883.3823	1638	298941.6911	819
Franklin	105,837	4,315	1294612.788	3547	647306.3942	1773
Garfield	2,260	294	88245.28046	242	44122.64023	121
Grant	105,140	11,096	3328893.35	9120	1664446.675	4560
Grays Harbor	76,417	12,335	3700434.799	10138	1850217.399	5069
Island	90,153	29,163	8749022.374	23970	4374511.187	11985
Jefferson	34,586	8,251	2475364.398	6782	1237682.199	3391
King	2,377,737	102,701	30810360.37	84412	15405180.19	42206
Kitsap	286,241	82,340	24702107.22	67677	12351053.61	33839
Kittitas	49,234	11,435	3430442.816	9398	1715221.408	4699
Klickitat	23,625	7,393	2217793.306	6076	1108896.653	3038
Lewis	84,957	23,501	7050442.051	19316	3525221.026	9658
Lincoln	11,094	2,721	816289.159	2236	408144.5795	1118
Mason	69,262	27,554	8266181.097	22647	4133090.549	11324
Okanogan	42,897	12,735	3820557.432	10467	1910278.716	5234
Pacific	24,009	8,047	2414020.291	6614	1207010.146	3307
Pend Oreille	13,922	5,051	1515414.53	4152	757707.2651	2076
Pierce	967,550	189,680	56904102.46	155902	28452051.23	77951
San Juan	18,891	7,611	2283318.072	6256	1141659.036	3128
Skagit	136,028	26,658	7997348.535	21911	3998674.268	10955
Skamania	12,079	4,315	1294512.613	3547	647256.3066	1773
Snohomish	881,083	169,080	50724101.84	138970	25362050.92	69485
Spokane	563,048	69,280	20784069.75	56943	10392034.88	28471
Stevens	48,314	17,245	5173350.734	14174	2586675.367	7087
Thurston	313,985	67,066	20119834.52	55123	10059917.26	27561
Wahkiakum	4,581	1,773	531950.9711	1457	265975.4855	729
Walla Walla	63,714	7,519	2255681.39	6180	1127840.695	3090
Whatcom	240,321	45,613	13684018.34	37490	6842009.17	18745
Whitman	48,649	2,885	865372.1932	2371	432686.0966	1185
Yakima	263,562	40,699	12209815.14	33452	6104907.572	16726
State	8,100,384	1,187,388	356,216,267	975,935	178,108,134	487,967

County	2030 Pop	Unincorporated	Yearly Flow if Pumped every 5 years	Daily average off of 5 year pumping	Yearly Flow if Pumped every 10 years	Daily average off of 10 year pumping
Adams	22,565	4,319	1295793.054	3550	647896.5268	1775
Asotin	23,214	4,574	1372175.765	3759	686087.8823	1880
Benton	235,177	10,208	3062336.949	8390	1531168.474	4195
Chelan	85,889	13,380	4013903.439	10997	2006951.719	5498
Clallam	81,791	16,134	4840169.694	13261	2420084.847	6630
Clark	503,307	113,929	34178794.97	93641	17089397.49	46820
Columbia	3,806	692	207608.54	569	103804.27	284
Cowlitz	110,309	22,520	6755986.998	18510	3377993.499	9255
Douglas	47,750	12,357	3707006.536	10156	1853503.268	5078
Ferry	7,239	1,999	599622.8601	1643	299811.4301	821
Franklin	114,907	4,685	1405558.28	3851	702779.1399	1925
Garfield	2,247	292	87737.67486	240	43868.83743	120
Grant	111,367	11,753	3526049.703	9660	1763024.851	4830
Grays Harbor	77,203	12,462	3738496.248	10242	1869248.124	5121
Island	93,670	30,301	9090334.495	24905	4545167.248	12453
Jefferson	36,226	8,642	2592741.303	7103	1296370.651	3552
King	2,487,380	107,437	32231097.97	88304	16115548.98	44152
Kitsap	297,608	85,610	25683059.81	70365	12841529.91	35182
Kittitas	52,091	12,098	3629507.997	9944	1814753.999	4972
Klickitat	20,511	7,670	2300966.422	6304	1150483.211	3152
Lewis	87,746	24,273	7281896.586	19950	3640948.293	9975
Lincoln	11,270	2,764	829239.1222	2272	414619.5611	1136
Mason	72,981	29,033	8710030.935	23863	4355015.468	11932
Okanogan	43,676	12,966	3889937.908	10657	1944968.954	5329
Pacific	24,475	8,203	2460874.948	6742	1230437.474	3371
Pend Oreille	14,442	5,240	1572016.711	4307	786008.3553	2153
Pierce	1,015,395	199,058	59717496.12	163610	29858748.06	81805
San Juan	19,986	8,052	2415668.572	6618	1207834.286	3309
Skagit	142,805	27,986	8395781.439	23002	4197890.72	11501
Skamania	12,529	4,476	1342739.344	3679	671369.6718	1839
Snohomish	935,370	179,498	53849413.89	147533	26924706.94	73766
Spokane	587,377	72,274	21682138.18	59403	10841069.09	29702
Stevens	50,215	17,923	5376905.392	14731	2688452.696	7366
Thurston	333,783	71,295	21388469.92	58599	10694234.96	29299
Wahkiakum	4,713	1,824	547278.9624	1499	273639.4812	750
Walla Walla	64,977	7,668	2300395.67	6302	1150197.835	3151
Whatcom	254,158	48,240	14471905.22	39649	7235952.608	19825
Whitman	49,489	2,934	880314.1785	2412	440157.0893	1206
Yakima	271,120	41,866	12559948.25	34411	6279974.127	17205
State	8,502,764	1,246,638	373,991,400	1,024,634	186,995,700	512,317

County	2035 Pop	Unincorporated	Yearly Flow if Pumped every 5 years	Daily average off of 5 year pumping	Yearly Flow if Pumped every 10 years	Daily average off of 10 year pumping
Adams	23,498	4,498	1349370.493	3697	674685.2465	1848
Asotin	23,565	4,643	1392923.317	3816	696461.6587	1908
Benton	249,060	10,810	3243113.232	8885	1621556.616	4443
Chelan	89,022	13,868	4160319.854	11398	2080159.927	5699
Clallam	83,755	16,521	4956393.891	13579	2478196.945	6790
Clark	622,329	121,551	36465283.8	99905	18232641.9	49952
Columbia	3,732	679	203572.0104	558	101786.0052	279
Cowlitz	122,021	23,227	6967959.238	19090	3483979.619	9545
Douglas	50,051	12,952	3885641.552	10646	1942820.776	5323
Ferry	7,223	1,994	598297.5437	1639	299148.7718	820
Franklin	123,928	5,053	1515904.397	4153	757952.1983	2077
Garfield	2,215	288	86488.18416	237	43244.09208	118
Grant	117,339	12,384	3715132.365	10178	1857566.182	5089
Grays Harbor	77,587	12,524	3757091.154	10293	1878545.577	5147
Island	86,903	31,347	9404085.444	25765	4702042.722	12882
Jefferson	37,750	9,006	2701815.938	7402	1350907.969	3701
King	2,591,467	111,933	33579841.74	92000	16789920.87	46000
Kitsap	308,048	88,613	26584013.9	72833	13292006.95	36416
Kittitas	54,850	12,739	3821744.901	10471	1910872.451	5235
Klickitat	25,318	7,922	2376723.425	6512	1188361.713	3256
Lewis	90,188	24,949	7484554.159	20506	3742277.08	10253
Lincoln	11,386	2,793	837774.3253	2295	418887.1626	1148
Mason	76,485	30,427	9128221.264	25009	4564110.632	12504
Okanogan	44,256	13,139	3941594.744	10799	1970797.372	5399
Pacific	24,813	8,316	2494859.656	6835	1247429.828	3418
Pend Oreille	14,903	5,407	1622196.721	4444	811098.3603	2222
Pierce	1,060,768	207,953	62385976.82	170920	31192988.41	85460
San Juan	21,035	8,475	2542459.142	6966	1271229.571	3483
Skagit	149,164	29,232	8769639.316	24026	4384819.658	12013
Skamania	12,942	4,623	1387000.765	3800	693500.3825	1900
Snohomish	988,014	189,600	56880138.14	155836	28440069.07	77918
Spokane	609,957	75,052	22515644.91	61687	11257822.45	30843
Stevens	51,940	18,539	5561614.379	15237	2780807.19	7619
Thurston	352,953	75,390	22616863.72	61964	11308431.86	30982
Wahkiakum	4,830	1,870	560865.1365	1537	280432.5682	768
Walla Walla	65,959	7,784	2335161.642	6398	1167580.821	3199
Whatcom	267,462	50,765	15229442.76	41725	7614721.38	20862
Whitman	50,163	2,974	892303.3429	2445	446151.6715	1222
Yakima	277,633	42,872	12861670.53	35237	6430835.264	17619
State	8,884,512	1,302,712	390,813,698	1,070,722	195,406,849	535,361

County	2040 Pop	Unincorporated	Yearly Flow if Pumped every 5 years	Daily average off of 5 year pumping	Yearly Flow if Pumped every 10 years	Daily average off of 10 year pumping
Adams	24,387	4,668	1400421.236	3837	700210.6182	1918
Asotin	23,815	4,692	1407700.777	3857	703850.3884	1928
Benton	262,587	11,398	3419253.891	9368	1709626.946	4684
Chelan	91,914	14,318	4295473.468	11768	2147736.734	5884
Clallam	85,374	16,841	5052201.922	13842	2526100.961	6921
Clark	660,653	129,036	38710873.41	106057	19355436.7	53029
Columbia	3,625	659	197735.4066	542	98867.70332	271
Cowlitz	125,320	23,854	7156347.282	19606	3578173.641	9803
Douglas	52,256	13,523	4056823.739	11115	2028411.87	5557
Ferry	7,169	1,979	593824.6007	1627	296912.3003	813
Franklin	132,930	5,420	1626018.103	4455	813009.0514	2227
Garfield	2,172	283	84809.18104	232	42404.59052	116
Grant	123,116	12,993	3898041.028	10680	1949020.514	5340
Grays Harbor	77,614	12,528	3758398.609	10297	1879199.304	5148
Island	99,870	32,307	9692022.056	26553	4846011.028	13277
Jefferson	39,170	9,345	2803447.16	7681	1401723.58	3840
King	2,690,851	116,225	34867644.75	95528	17433822.37	47764
Kitsap	317,694	91,388	27416447.15	75114	13708223.58	37557
Kittitas	57,521	13,360	4007850.291	10980	2003925.146	5490
Klickitat	26,059	8,154	2446284.688	6702	1223142.344	3351
Lewis	92,313	25,536	7660904.423	20989	3830452.212	10494
Lincoln	11,459	2,810	843145.6168	2310	421572.8084	1155
Mason	79,792	31,743	9522900.322	26090	4761450.161	13045
Okanogan	44,660	13,259	3977576.402	10897	1988788.201	5449
Pacific	25,033	8,390	2516979.881	6896	1258489.94	3448
Pend Oreille	15,311	5,555	1666607.662	4566	833303.831	2283
Pierce	1,104,062	216,441	64932187.18	177896	32466093.59	88948
San Juan	22,046	8,882	2664656.726	7300	1332328.363	3650
Skagit	155,142	30,404	9121097.469	24989	4560548.734	12495
Skamania	13,322	4,759	1427725.56	3912	713862.7798	1956
Snohomish	1,039,254	199,433	59830033.87	163918	29915016.93	81959
Spokane	630,994	77,641	23292194.11	63814	11646097.06	31907
Stevens	53,502	19,096	5728869.706	15696	2864434.853	7848
Thurston	371,542	79,360	23808027.64	65227	11904013.82	32614
Wahkiakum	4,925	1,906	571896.6454	1567	285948.3227	783
Walla Walla	66,695	7,871	2361218.419	6469	1180609.209	3235
Whatcom	280,275	53,197	15959022.48	43723	7979511.238	21862
Whitman	50,698	3,006	901819.9645	2471	450909.9823	1235
Yakima	283,351	43,755	13126563.51	35963	6563281.753	17982
State	9,248,473	1,356,017	406,805,046	1,114,534	203,402,523	557,267

County	2045 Pop	Unincorporated	Yearly Flow if Pumped every 5 years	Daily average off of 5 year pumping	Yearly Flow if Pumped every 10 years	Daily average off of 10 year pumping
Adams	25,253	4,834	1450151.207	3973	725075.6034	1987
Asotin	23,992	4,727	1418163.218	3885	709081.609	1943
Benton	275,845	11,973	3591891.791	9841	1795945.895	4920
Chelan	94,626	14,741	4422215.031	12116	2211107.516	6058
Clallam	86,700	17,102	5130671.008	14057	2565335.504	7028
Clark	690,416	136,412	40923591.3	112119	20461795.65	56060
Columbia	3,502	637	191026.0397	523	95513.01987	262
Cowlitz	128,282	24,418	7325491.079	20070	3662745.539	10035
Douglas	54,388	14,074	4222338.67	11568	2111169.335	5784
Ferry	7,090	1,958	587280.8507	1609	293640.4253	804
Franklin	141,945	5,788	1736290.827	4757	868145.4134	2378
Garfield	2,119	276	82739.71207	227	41369.85604	113
Grant	128,760	13,590	4076992.001	11170	2038496	5585
Grays Harbor	77,365	12,488	3746340.974	10264	1873170.487	5132
Island	102,639	33,202	9960743.485	27290	4980371.743	13645
Jefferson	40,486	9,659	2897634.969	7939	1448817.484	3969
King	2,786,551	120,359	36107711.03	98925	18053855.52	49463
Kitsap	326,724	93,986	28195720.66	77249	14097860.33	38624
Kittitas	60,112	13,961	4188381.577	11475	2094190.789	5738
Klickitat	26,742	8,368	2510401.21	6878	1255200.605	3439
Lewis	94,187	26,055	7816424.609	21415	3908212.304	10707
Lincoln	11,486	2,817	845132.2589	2315	422566.1295	1158
Mason	82,932	32,992	9897648.505	27117	4948824.252	13558
Okanogan	44,932	13,339	4001801.677	10964	2000900.839	5482
Pacific	25,145	8,427	2528241.086	6927	1264120.543	3463
Pend Oreille	15,676	5,688	1706338.039	4675	853169.0194	2337
Pierce	1,145,753	224,614	67384121.78	184614	33692060.89	92307
San Juan	23,014	9,272	2781656.985	7621	1390828.493	3810
Skagit	160,830	31,518	9455505.962	25905	4727752.981	12953
Skamania	13,672	4,884	1465235.239	4014	732617.6193	2007
Snohomish	1,089,406	209,058	62717293.25	171828	31358646.62	85914
Spokane	650,818	80,080	24023967.24	65819	12011983.62	32910
Stevens	54,940	19,609	5882847.401	16117	2941423.7	8059
Thurston	389,659	83,230	24968946.29	68408	12484473.14	34204
Wahkiakum	5,004	1,937	581070.2159	1592	290535.108	796
Walla Walla	67,241	7,935	2380548.582	6522	1190274.291	3261
Whatcom	292,714	55,558	16667306.41	45664	8333653.207	22832
Whitman	51,121	3,031	909344.3214	2491	454672.1607	1246
Yakima	288,522	44,554	13366116.07	36619	6683058.037	18310
State	9,598,597	1,407,151	422,145,323	1,156,563	211,072,661	578,281

County	2050 Pop	Unincorporated	Yearly Flow if Pumped every 5 years	Daily average off of 5 year pumping	Yearly Flow if Pumped every 10 years	Daily average off of 10 year pumping
Adams	26,100	4,996	1498790.104	4106	749395.0521	2053
Asotin	24,111	4,751	1425197.289	3905	712598.6443	1952
Benton	288,887	12,539	3761717.065	10306	1880858.532	5153
Chelan	97,195	15,141	4542273.688	12445	2271136.844	6222
Clallam	87,800	17,319	5195766.027	14235	2597883.014	7117
Clark	735,724	143,699	43109648.53	118109	21554824.26	59054
Columbia	3,366	612	183607.5528	503	91803.77638	252
Cowlitz	130,993	24,934	7480301.624	20494	3740150.812	10247
Douglas	56,461	14,611	4383273.215	12009	2191636.608	6004
Ferry	6,986	1,929	578666.2938	1585	289333.1469	793
Franklin	150,970	6,156	1846685.872	5059	923342.9361	2530
Garfield	2,061	268	80475.01019	220	40237.50509	110
Grant	130,321	14,176	4252808.481	11652	2126404.241	5826
Grays Harbor	76,892	12,411	3723436.311	10201	1861718.155	5101
Island	105,250	34,047	10214131.59	27984	5107065.793	13992
Jefferson	41,719	9,953	2985882.361	8180	1492941.18	4090
King	2,879,176	124,360	37307931.93	102214	18653965.96	51107
Kitsap	335,268	96,444	28933053.2	79269	14466526.6	39634
Kittitas	62,643	14,549	4364732.285	11958	2182366.143	5979
Klickitat	27,376	8,566	2569917.864	7041	1284958.932	3520
Lewis	95,871	26,521	7956177.006	21798	3978088.503	10899
Lincoln	11,496	2,820	845868.0523	2317	422934.0261	1159
Mason	85,947	34,192	10257478.37	28103	5128739.184	14051
Okanogan	45,101	13,390	4016853.411	11005	2008426.705	5503
Pacific	25,183	8,440	2532061.852	6937	1266030.926	3469
Pend Oreille	16,009	5,809	1742585.204	4774	871292.6021	2387
Pierce	1,186,146	232,532	69759718.29	191123	34879859.15	95561
San Juan	23,957	9,652	2895635.543	7933	1447817.772	3967
Skagit	166,201	32,587	9775980.767	26784	4887990.384	13392
Skamania	14,006	5,003	1501030.19	4112	750515.0948	2056
Snohomish	1,138,649	218,507	65552221.34	179595	32776110.67	89798
Spokane	669,671	82,400	24719897.37	67726	12359948.69	33863
Stevens	56,278	20,087	6026117.329	16510	3013058.664	8255
Thurston	407,392	87,018	26105258.61	71521	13052629.31	35761
Wahkiakum	5,070	1,962	588734.2116	1613	294367.1058	806
Walla Walla	67,645	7,983	2394851.487	6561	1197425.744	3281
Whatcom	304,836	57,858	17357540.19	47555	8678770.093	23777
Whitman	51,459	3,051	915356.6917	2508	457678.3458	1254
Yakima	293,279	45,288	13586489.61	37223	6793244.807	18612
State	9,937,575	1,456,561	436,968,152	1,197,173	218,484,076	598,587

Pacific County Totaling

		gallons	pg2	pg3	pg4	pg5	Q2	pg2	pg 3	pg 4	Q3	pg 2	pg3	pg 4
EVERGREEN	Q1	1050	800	825	1075	1125	2050	1050	1000	1275	500	2300	1100	1050
		1100	1050	1650	700	1075	825	1200	1075	1075	1050	4275	1075	1125
		1100	1375	2000	1050	1100	1050	1050	1200	750	1175	1100	1000	1100
		1750	1175	1875	600	2200	1100	2200	1325	1075	1775	2350	1520	1050
		1450	1175	1050	1050		1050	1050	1100	1025	1025	1700	2325	1950
		1050	1075	1045	600		1050	1175	1575	1000	1100	1225	1075	1075
		1050	1175	750	1075		1050	1100	1100	875	2150	1000	1050	1150
		1325	1320	1050	2400		1050	1025	1075	1150	900	950	1500	1125
		1075	1300	1050	850		1075	1000	1050	1975	1100	925	1050	1150
		1225	1250	1045	1200		1350	1100	1650	725	800	1375	2800	1700
		1075	1200	1045	1075		1050	500	2500	600	1050	1050	2400	2400
		1075	2325	1100	925		1125	1075	1050	1050	1150	1200	1650	750
		1075	1050	875	1075		2000	1175	1075	1050	1050	1050	975	1075
		1100	1050	800	1050		1075	1075	1225	1000	1100	2300	1050	1050
		1100	1175	1000	900		1075	1275	1100	1100	1075	1000	1300	2325
		800	1100	1000	850		1075	1000	1500	1575	1550	1100	1050	800
		1175	1050	1075	1100		1100	1125	1875	1250	1100	1100	1025	1125
		2225	1550	1050	800		600	1075	1058		1050	1025	1100	800
		1125	1075	1000	1200		1075	2950	1050		1050	1000	1050	1050
		1075	325	1075	1100		1125	2925	1000		1050	1825	2225	1175
		1850	975	1100	2100		1050		1075		1750	1000	1075	
		1075	1050	2850	1075		1075		750		600	1050	1300	
		1050	1225	2300	1225		775		1300		1050	1100	1050	
		1050	1575	27250	1075		1075		1100		650	1150	1050	
		1325	875	700	5150		800		950		950	1075	1050	
		1150	2700	1100	1250		2038		1100		1050	1125	1050	
		1050	2250	2250	1550		1050		1075		1175	1100	1050	
		1225	875	1100	1225		1050		1075		1050	1100	1050	
		1078	1550	1075	1325		1300		1100		1075	1050	1050	
		1000	1075	1150	950		1100		3850		2100	2350	1075	
		500	1050	1000	1075		1075		1100		1075	1050	1050	
		2150	500		1325		1050		1425		1050	1100	1050	
		1050	500		1050		2000		2050		1725	1075	1150	
		1225	600		1075		600		1150		1800	1075	1600	
		2100	1125		1150		1050				1100	1200		
		2150			1050		1050				950	1050		
		1000					1200							
		1225					1075							
		2100					1100							
		2100					600							
							1050							
							1075							
							1125							
							1075							
							1050							
							1200							
							1050							
							1200							
							800							

ED'S SEPTIC Q1	30600
	22450
	12950
ED'S SEPTIC Q2	23400
	15150
	22850
ED'S SEPTIC Q3	17950
	28550
	31550
ED'S SEPTIC Q4	3600
SUM	51553

Appendix D: LOSS Operator Survey

LOSS Survey Data	
Avg Design Flow	14861.4615 gpd
Avg Operating %	55%
Avg Pump Frequency	2.5 years
Avg Pump Hauling Travel (one way)	35.3 miles

Septage Hauling Providers	Lat	Long
Celtic Risers	48.116157	-122.587661
Bigfoot septic	46.378334	-120.310264
Gobers LLC	47.68720661	-117.2539851
Apple Valley Pumping	47.40950702	-120.1872163
danos septic	47.50808113	-122.7448177
A1 Septic On Lopez LLC	48.47753827	122.9049179
Shold Excavating	48.02396981	-122.7688638
Stanglands Septic Service	46.97178932	-123.7185519
San Juan Septic	48.54836477	-123.0510602
Bishop Sanitation	45.5894855	-121.1739781
A Advanced Septic	47.29458513	-122.2592737
Arrow Septic	47.47526131	-122.8250089
Basin Septic	47.09560604	-119.1972225
Allcounty Septic Service	47.93720884	-122.1029701
South Island Pumping	48.116157	-122.587661

Septage Disposal	Lat	Long
Cheyne landfill	46.47685912	-120.2689229
Spokane Riverside Park Wastewater treatment plant.	47.69760308	-117.4771338
Unknown, Quincy WA	47.23648786	119.8552281
Kitsap County Central Kitsap Wastewater Treatment Plant	47.67423783	-122.6312593
Anacortes Water Treatment	48.43636147	-122.3707568
La Conner Sewer Treatment	48.39158337	-122.4849266
Aberdeen WWTP	46.96664421	-123.8298445
City of Bellingham	48.75863302	-122.4743313
Mt Vernon	38.71288653	-77.10836053
City of Port Angeles WWTP	48.11157282	-123.4671167
Tricities, Wa	46.25840244	-119.261655
Ace Acme septic TENELCO	46.2350663	-119.0877467

Response ID	How many systems do you manage?	What is the design flow of your system(s)? (gpd)	Are you operating at your design flow? If not, approximately what percentage of the design flow is your system operating at?	How often do you have the tanks in your system pumped? Please provide any reporting data such as volumes and load manifests from pumper trucks. (Years)	Which septage hauling providers do you utilize? Please provide a list of these and any available contact information.
17	2	4700	38%	0.75	Celtic Risers 360-841-2883; 360-4289545
		8000	50%	0.75	
29	1	80000	50%	As needed. Big tanks 5-10 years	Bigfoot septic
31	1	30,000	66%		Globus LLC 11215 E. Trent Spokane valley, Wa 99206 (509)924 5372
39	1		67%	0.25	Apple Valley Pumping 24 N Wenatchee Road East Wenatchee WA 98802 (509) 884 7960
40	8	3500	>100% <100%	As needed.	danos septic
44	1	21000	50%	10	A1 Septic On Lopez LLC 360 622 6354 Jason Kramer
51	1	3600	25%	7	All County Operations Hercules Hubbell 360 779 9609
63	1	9720	100%		Shold Excavating 171 Promwell Rd Port Hadlock, WA 98339 360 385 0480
64	1	80,000	33%		Stanglands Septic Service 5530 OLYMPIC HWY Aberdeen, WA 98520 (360)533 2292
66	6	2600		4	Danos septic. Baker septic. Northwest septic.
		3480			
		4860			
		5240			
		6120			
		7000			
82	1	3500	100%	4	San Juan Septic
84	1		75%	1	Bishop Sanitation
86	1				
88	1	4760	75%	0.5	A Advanced Septic
93	1	8,000	100%	1	Arrow Septic.
		10,000	100%	2	
		12,000	100%	3	
		40,000	55%	0.333333333	
99	1	6,250	25%	2	Basin Septic, Moses Lake, Wa
100	1	18000	7%		The answers to items 5 thru 9 are more a Water and Wastewater issue.
105	200			0.375	Allcounty Septic Service
106	1				
109	1	4200	25%	2	South Island Pumping - Whidbey Island
110	2080	360	40%	3.5	Varied
		15,000	60%	2	

Response ID	Which septage disposal facilities do you or your hauling providers utilize? Please provide a list of these and any available contact information.	How far are hauling providers traveling to dispose of septage? (miles)
17	See Col F	
29	Cheyne landfil	10
31	Spokane Riverside Park Wastewater treatment plant. 3100-3932 N Riverside State Park Dr, Spokane, WA 99224	8
39	Unknown but I believe it is in Quincy WA	55
40	central kitsap treatment plant bio recycling union	100
44	Anacortes WWTP, Laconner TP	14
51	unknown	
63	I am unsure. My guess would be that Shold Excavating has their own septage disposal facility, but I do not know that for a fact	1
64	I think they haul to Aberdeen wwtp	
66	La conner Tjolker enterprises Kitsap central waste water Bio recycling City of Bellingham	55
82	Sepatage from San Juan Island must be transported off island for disposal and either goes to Anacortes or Mt Vernon.	10
84		40
86		
88	Unknown	30
93	City of Port Angeles WWTP	40
99	Tricities, Wa. municipality I believe.	60
100		
105	Ace Acme septic TENELCO	
106		
109	?	
110	Most go to King co metro---	

Response ID	How many systems do you manage?	What is the design flow of your system(s)?	Are you operating at your design flow? If not, approximately what percentage of the design flow is your system operating at?	How often do you have the tanks in your system pumped? Please provide any reporting data such as volumes and load manifests from pumper trucks.
17	2	#1 - 4700 gpd –2 - 8000 gpd	#1 - 30% #2 - 50%	every 6-12 months See #5 for volumes
29	1	80000 gallons per day	50 percent	Septic tanks as needed. Big tanks 5-10 years
31	1	30,000 gpd	2/3	2 trucks full (6400 gal) pulled from digester monthly average
39	We have one system which includes three drain fields and 31 tanks		67%	Every three months
40	8	3500 and greater	one is operating above design flow and the rest are below daily design flow	tanks are all pumped on an as needed bassis, they are checked monthly
44	1	21000 gallons/day	No. Approximately 1/2 of designf low	Basically every 10 years
51	1	3600 gpd	25%	Roughly once every 7 years. Approximately 1500 gallons was pumped during a pump station replacement project. That included solids and clarified spetage to provide storage during project
63	1	9720 gpd	No (new system). Appx 10%	Unknown. New system
64	1	80,000 gpd	no, 1/3	5 loads in 2024, 7000 gallons per haul.
66	6	2600-7000	Some are slightly below others are significantly below. All on average but peak occasional flows exceed significantly	Each loss is different. Some have 1000 gallon tanks at each residence. Those are pumped every 3-5 years. Some have very large 20,000 gallons tnaks. These are pumped every 2 years or so to reduce scum build up.

Response ID	Which septage hauling providers do you utilize? Please provide a list of these and any available contact information.	Which septage disposal facilities do you or your hauling providers utilize? Please provide a list of these and any available contact information.	How far are hauling providers traveling to dispose of septage?	Do you have any concerns regarding the disposal of septage generated by your facility?
17	Celtic Risers 360-341-2863; 360-3209545	See #5	See #5	no
29	Bigfoot septic	Cheyne landfil	10 miles	No
31	Gobers LLC 11215 E. Trent Spokane valley, Wa 99206 (509)924-5372	Spokane Riverside Park Wastewater treatment plant. 3100-3932 N Riverside State Park Dr, Spokane, WA 99224	8 miles	No
39	Apple Valley Pumping 24 N Venture Road East Wenatchee WA 98802 (509) 884-7960	Unknown but I believe it is in Quincy WA	55 miles	No
40	danos septic	central kitsap treatment plant bio recycling union	up to 100 miles	none at all.
44	A1 Septic On Lopez LLC- 360-622-6354- Jason Kramer	Anacortes WWTP, Laconner TP	45 minute ferry ride each way and 14 miles total each way.	None at all.
51	All County Operations Hercules Hubbell 360-779-9609	unknown	unknown	no
63	Shold Excavating 121 Promwell Rd Port Hadlock, WA 98339 360-385-0480	I am unsure. My guess would be that Shold Excavating has their own septage disposal facility, but I do not know that for a fact	Less than 1 mile.	No.
64	Stanglands Septic Service 5510 OLYMPIC HWY Aberdeen, WA 98520 (360)533-2292	I think they haul to Aberdeen wwtp	not sure	no
66	Danos septic Baker septic Northwest septic	La conner Tjolker enterprises Kitsap central waste water Bio recycling City of Bellingham	40 -70 miles each way	No

Response ID	Are you able to provide any additional data or information that would be helpful in assessing the capacity of your facility to manage septage, now and in the future? If so, please provide.
17	We are currently running on our 20,000 gallon aeration basin and are keeping up with the influence from the community just fine I see no problems because as more new homes move into the park to fill vacant lots we have the other 10,000 gallon tank we can put back into service as an aeration basin if/when necessary.
29	
31	
39	N/A
40	it would be helpful if there was a license or certification to do any loss in the state. i would like to expand and do more loss systems out of the countys i work in but due to county licensing requirements i can not
44	No
51	no
63	Not yet. We have a very new system, and therefore not a lot of insight to share.
64	we contract out the hauling and disposal
66	Making the permitting and subition process easier and electronic. Make history of the loss and repairs, maintenance visible to the operator. Knowing history helps diagnostic

Response ID	How many systems do you manage?	What is the design flow of your system(s)?	Are you operating at your design flow? If not, approximately what percentage of the design flow is your system operating at?	How often do you have the tanks in your system pumped? Please provide any reporting data such as volumes and load manifests from pumper trucks.
82	1	3500 gpd	yes, approximately	Relatively infrequently. Last pumping done about 4 years ago when media was prged with hydrogen peroxide.
84	1	Sand Filter w/pumps	75%	Approximately 1 time per 12 months 2-3000 gallons trucks
86	1			
88	1	4768	75%	Biannual
93	1	3 systems between 8-12k, 1 system around 40k	3 smaller systems are operating around design flow, 40k system is operating at around 55% design flow	Smaller systems have some portion of tanks (not 100%) pumped annually, approximately 3-4k gallons each; 40k system has tanks pumped 3x per year for a total of around 13k gallons per year
99	One system	We operated three lift stations and 2 septic tanks. Our system runs up hill to the drain field.	our design flow is for 6250 gallons a day and we operate at approximately 25% of that daily rate	We have a 5000 gallon tank and a 10,000 gallon tank. They are checked every 2 years and pumped as needed. We also have overfill alarms. I do not have volumes or manifest. We are new owners and I am using info from previous concessioners.
100	one	roughly 13,000 gals per day	about 6-8%	the system is managed by Water and Wastewater Services
105	200	Holding tanks Gravity systems	Our office has 4000 gallons holding tank.	Once very 4-5 months 4000 gallons
106	1			
109	1	4200 gal/day	25%	Once every 2 years
110	80 LOSS and 2000 additional properties	they range from 360 GPD to 15,000	most sites under 1000 gpd are operating at 30 to 50 percent and larger commercials are operating at 75-90 percent	The most frequent pumping would be annually for a few heavy users with the majority of residences at 3-4 years and the majority of commercial at 2 years---- The produced volume from the investory is somethinglike---- 3.5 million gallons per year

Response ID	Which septage hauling providers do you utilize? Please provide a list of these and any available contact information.	Which septage disposal facilities do you or your hauling providers utilize? Please provide a list of these and any available contact information.	How far are hauling providers traveling to dispose of septage?	Do you have any concerns regarding the disposal of septage generated by your facility?
82	San Juan Septic	Sepatage from San Juan Island must be transported off island for disposal and either goes to Anacortes or Mt Vernon.	10 Miles /- plus ferry rid	Yes, it would be much f\more convenient and less costly for it to be disposed at the Friday Harbor wastewater treatment facility. The sewage is totally residential so no concern about hazardous or toxic materials.
84	Bishop Sanitation		40 miles	No
85				
88	A Advanced Septic	Unknown	30 miles	No
93	Arrow Septic	City of Port Angeles WWTP	Max distance is 200 miles RT; min distance is 40 miles RT	No, but it's a necessity for all of our LOSS tankage
99	Basin Septic, Moses Lake, Wa	Tricities, Wa. municipality I believe.	60 miles one way	none
100	The answers to items 5 thru 9 are more a Water and Wastewater issue.			
105	Allcounty Septic Service	Ace Acme septic TENELCO	Between 45 to an hou	No
106				
109	South Island Pumping - Whidbey Island	?	?	No
110	Varied---	Most go to King co metro---	No very---	There are no concerns

Response ID	Are you able to provide any additional data or information that would be helpful in assessing the capacity of your facility to manage septage, now and in the future? If so, please provide.
82	None at this time. Thanks for the opportunity to complete the survey.
84	
86	
88	All on file
93	No
99	As I gain more data on the system I am familiarizing with I am willing to provide that if requested.
100	
105	
106	
109	Our community is unlikely to see any significant increase in the average daily flow.
110	The facillities manage---Thats why we have been operators for 30 years

Technical Lead	Response
Shane Cooper	I can't think of a reason why the operators in this region would not be fully honest with you.
Casey Mullins	The survey is understandable and depending on response will likely give you fairly accurate data to get a snapshot of facilities acceptance policies and capacities. To add context from my perspective, important factors will be what wastewater treatment process is being utilized (as some processes are intolerant of strong septic wastewater influx) and the rated influent flow of the facility. These conditions dictate how much of a shock load a given system can absorb (process, dilution and plant size). Even if a facility was willing to accept greater septage volume, their particular process might not do well with it, potentially creating permit compliance issues. Many of our facilities discharge to Puget Sound. Some facilities have holding tanks to slowly feed high strength side streams into the process over the course of the day, minimizing impact on the plant chemistry and biology. In my experience it may not be cost effective for some of these facilities to increase treatment capacity with septage as the prime driver, as it makes up such a small percentage of actual plant flow from day to day. Hope this helps.

Appendix E: WSALPHO Member Survey

SCJ ALLIANCE
CONSULTING SERVICES

January 20, 2025

The following spreadsheets are a compilation of the data from the WSALPHO septage study, a survey sent to all WSALPHO members. At the bottom of this sheet is a copy of the original survey questions. The second sheet is intended for GIS use and only includes the relevant, abbreviated data. The sheets following are the responses we have collected and have been separated and alphabetized by counties or health districts. Each sheet as the full county response and an additional column for notes, links, or updated responses. Currently, some of these links reference files within the SCJ file system and will not function for anyone outside of SCJ. These files are typically the GIS or reporting data provided by counties.

As of this date, we have not received all the expected responses, but this document does provide all the data we have collected so far.

WSALPHO - Septage Capacity Assessment

Member Survey

December 2024

Introduction:

The Washington State Association of Local Public Health Officials, in coordination with the Washington State Department of Ecology, has been tasked by the State Legislature with completing an assessment of the capacity for managing septage statewide. The results of this survey represent a critical component of this assessment. The information received is necessary for determining the status of septage production and handling so that future growth can be accommodated through policy, funding and planning to ensure that adequate infrastructure is in place. Please answer these questions and provide the requested information to the best of your ability or provide us with the contact information for others in your organization that might be better able to respond to this survey. We would appreciate a response to the survey by Friday, December 20, 2024. Should you have any questions, please contact the project manager for WSALPHO's project consultant, SCJ Alliance: Randy Sackett, PE, randy.sackett@scjalliance.com or (360) 352-1465, ext. 319.

Questions/Requests for Information:

1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?
2. How many OSS are there that serve businesses in your jurisdiction?
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer.
    a. Point layer showing the location of any septic system on a parcel of land, or
    b. A parcel layer that indicates which parcels have an existing septic system, or
    c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.

County	Lat	Long	Residential OSS Systems	Non-Residential OSS Systems
Adams County	46.969692	-118.565738	6,300	203
Asotin Health District	46.208187	-117.17136	6,000	30
Benton-Franklin Health District	46.223076	-119.216549		
Clark County	45.772272	-122.488034		
Columbia County	46.3322563	-117.9636702	800	2
Grant County Health District	47.252718	-119.460033		
Grays Harbor County	47.21326519	-123.8667736	13,085	276
Jefferson County	47.739403	-123.715663	12,299	456
King County	47.483915	-121.769991		
Kittitas County Health Department	47.00855	-120.591452	6,667	100
Kitsap Public Health District	47.571232	-122.647941	47,800	9,500
Klickitat County	45.835586	-120.802344		100
Lincoln County	47.605709	-118.392755	5,000	40
NE Tri-County Health District	48.17936544	-117.0453243		
Pacific County	46.532308	-123.731037	10,500	1000
Skamania County	46.01159	-121.907206		29
Skagit County	48.484243	-121.697812	14,427	625
Snohomish County	48.059649	-121.698134		
Spokane County Regional Health District	47.648477	-117.402901		
Thurston County	46.911544	-122.835127	55,575	517
Whatcom County	48.83258	-122.083835		
Whitman County	46.958356	-117.500229	3,000	100

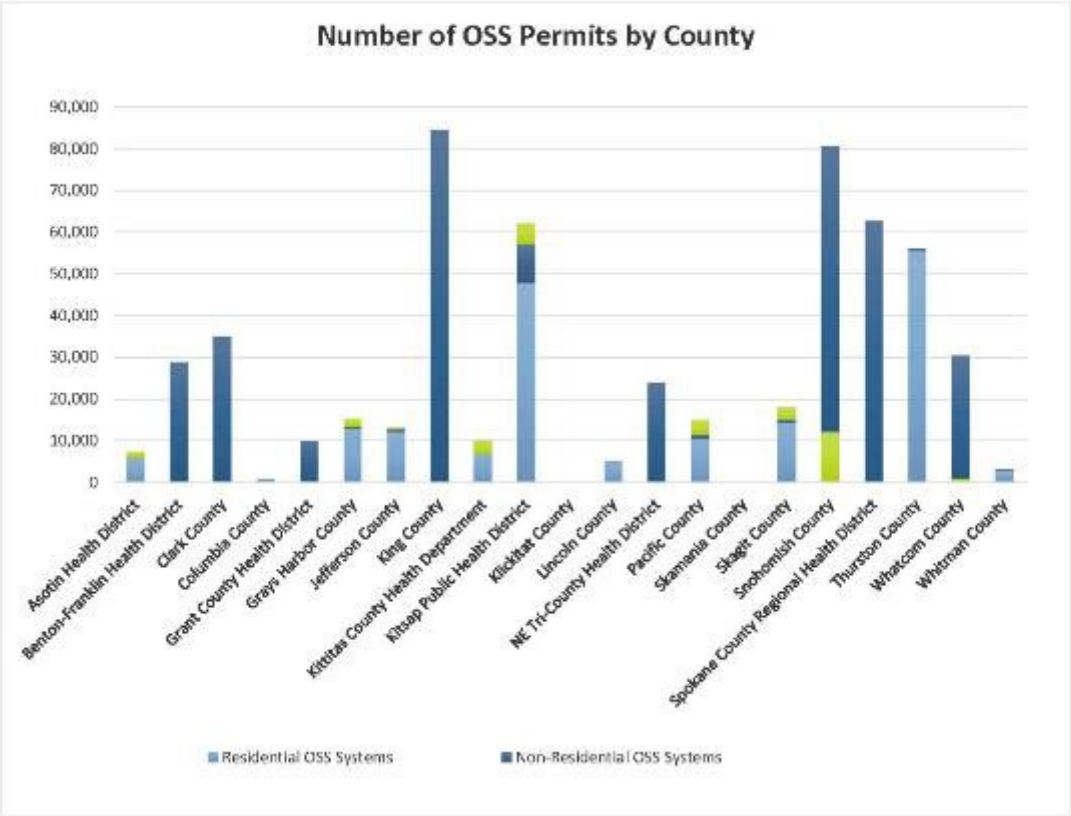
County	Known Unpermitted/No Record OSS	Uncategorized OSS Systems	Estimated Pump Cost 1,000 gallon ($)
Adams County			350
Asotin Health District	1,400		475
Benton-Franklin Health District		28,877	535
Clark County		35,000	525
Columbia County			500
Grant County Health District		10,000	500
Grays Harbor County	2,000		495
Jefferson County	379		540
King County		84,519	650
Kittitas County Health Department	3,333		300
Kitsap Public Health District	4,800		500
Klickitat County			1200
Lincoln County			300
NE Tri-County Health District		24,000	750
Pacific County	3,500		1000
Skamania County			850
Skagit County	2,976		610
Snohomish County	12,378	68,339	650
Spokane County Regional Health District		62,652	800
Thurston County			550
Whatcom County	1051	29,375	750
Whitman County			500

County	Requirements and Recommendations for OSS Maintenance	Regulates Septage Hauling or Disposal
Adams County		Yes
Asotin Health District	ACHD Operational Permit, Local OSS Code	Yes
Benton-Franklin Health District	Recommendation, pump every 3-5 years	Yes
Clark County	County Code 24.17, WAC 246-272A, Class B Waiver,	Yes
Columbia County	Soon	Yes
Grant County Health District	WAC	Yes
Grays Harbor County	County Code	Yes
Jefferson County	County Code, JCC 8.15.150	Yes
King County	County Code	Yes
Kittitas County Health Department	WAC	Yes
Kitsap Public Health District	https://www.kitsappublichealth.org/ehdocs/kcboho2008a-01	Yes
Klickitat County	OSS 101, WAC	Yes
Lincoln County	Soon	Some
NE Tri-County Health District	Site Recommendations	Yes
Pacific County	O&M, Inspector's findings	Yes
Skamania County	County Code, Skamania County OSS Permit	Yes
Skagit County	WAC	Yes
Snohomish County	DOH Recommended Standards and Guidance	No
Spokane County Regional Health District	WAC	Yes
Thurston County	Many. See Survey Response	Yes
Whatcom County	County Code, WCC 24.05	Yes
Whitman County		No

County	Reporting Data	Reporting Note
Adams County		
Asotin Health District	No reporting data	
Benton-Franklin Health District	Might have reporting data	
Clark County	Has reporting data	
Columbia County	No reporting data	
Grant County Health District	Has reporting data	Reports are paper copies
Grays Harbor County	Has reporting data	Example report given
Jefferson County	Has reporting data	Has pump receipts but does not enter data
King County	No reporting data	
Kittitas County Health Department	Has reporting data	Not tallying or totalling or entering data
Kitsap Public Health District	Provided reporting data	
Klickitat County	No reporting data	
Lincoln County	No reporting data	
NE Tri-County Health District	Has reporting data	Has pump receipts but does not enter data
Pacific County	Provided reporting data	Incomplete record of the year
Skamania County	Provided reporting data	
Skagit County	Provided reporting data	
Snohomish County		
Spokane County Regional Health District	Provided reporting data	
Thurston County	Provided reporting data	
Whatcom County	Provided reporting data	
Whitman County		

County	Septage Disposal Facilities	Growth Projections	GIS Data	GIS note
Adams County			No	
Asotin Health District	Municipal sewer		No	Has other data
Benton-Franklin Health District	Overlook Farms, Finley		No	Has other data
Clark County	City of Vancouver Wastewater Treatment Plant		Yes	Not provided
Columbia County			No	
Grant County Health District	A land applied facility and sewage company ponds		No	
Grays Harbor County	City of Aberdeen's Wastewater Treatment Plant		Yes	Not developed
Jefferson County	City of Port Townsend, Bio-Solids/Compost Facility, Membrane Bio-Reactor	0.63% annually	Yes	Provided a .gbd
King County	See Survey response 8 or spreadsheet		Yes	Not provided
Kittitas County Health Department	Ryegrass Solid Waste		Yes	Provided a link
Kitsap Public Health District	Kitsap County Public Works Wastewater Treatment Plant (CKTP)	0.5% annually	No	Has other data
Klickitat County	RV Dump Stations, Bishop Sanitation		No	
Lincoln County	RV Dump Stations		No	Not yet
NE Tri-County Health District	Many. See Survey Response		No	
Pacific County	Wrrenton OR, Rainier OR, Longview WA, Chehalis WA		No	
Skamania County			No	
Skagit County	Anacortes WW Treatment Plant, Burlington Sewage Treatment Plant, La Conner WW Treatment Plant		Yes	Has other data
Snohomish County			Not yet	Working on GIS
Spokane County Regional Health District	Many. See Survey Response		Yes	Partial data, Not provided
Thurston County	LOTT WWTP		Yes	Not provided
Whatcom County	Many. See Survey Response		Yes	Not provided
Whitman County			Yes	Unmaintained

Septic Facility	Lat	Long	Type
Asotin Municipal Sewer	46.34278	-117.0564	Municipal
Overlook Farms	46.10419	-119.0409	Land Application
City of Vancouver Wastewater Treatment Plant	45.64175	-122.6916	Municipal
Three Rivers Regional Wastewater	45.68039	-122.6199	
Patriot Enviromental Services	45.55727	-122.7308	
Port Townsend Wastewater Treatment	48.13909	-122.7819	Municipal
King County South Treatment Plant	47.46954	-122.2419	Municipal
Baker Commodities Inc	48.8178	-122.5636	
Baker Commodities Inc	47.48283	-122.2587	
Lakehaven Water District	47.31785	-122.3354	
Tenelco Inc	48.02381	-122.0554	
La Conner Sewer Treatment	48.39164	-122.4849	Municipal
Central Wastewater Treatment Plant	47.24353	-122.4084	Municipal
Drain-pro	47.21022	-122.3161	Pumping
Sedron Technologies	48.50294	-122.2419	Biosolids
Kitsap County Public Works Wastewater Treatment Plant	47.67427	-122.6313	Municipal
Bishop Sanitation	45.59455	-121.1788	(Private) Septage
Anacortes Wastewater Treatment	48.51817	-122.6068	Municipal
Burlington Sewage Treatment Plant	48.46697	-122.313	Municipal
LOTT WWTP	47.0478	-122.898	Wastewater Treatment
Diablo WWTP	48.71357	-121.1413	Municipal
Everson WWTP	48.91996	-122.3501	Municipal
Ferndale WWTP	48.83816	-122.593	Municipal
Lisecc Inc WTP	48.68657	-122.6475	Municipal
Lynden WTP	48.93844	-122.4519	Municipal
Post Point (Bellingham) WWTP	48.71816	-122.5139	Municipal
Whatcom County PUD 1 Trigg Road	48.87882	-122.5683	Biosolids
Whatcom County Water District 13 STP	48.93029	-122.1516	Biosolids
Lil John Sanitray Services	48.83273	-122.4574	Intermediate Septage Holding
Potty Wagon	49.00174	-123.0736	Intermediate Septage Holding
Mt Baker Septic Pumping Historic	48.82835	-122.5554	Intermediate Septage Holding
Bio-Recycling	46.74049	-122.9937	
Spokane County Regional Water Reclamation Facility	47.66772	-117.3564	Municipal
Riverside Park Water Reclamation Facility (City of Spokane)	47.6975	-117.477	Municipal
Wastewater treatment facility (Liberty Lake)	47.67692	-117.1091	
Cheney Wastewater Treatment and Reclamation Facility	47.49345	-117.5632	Municipal
Deer Park Wastewater Treatment Lagoon	47.95394	-117.4715	Municipal
Town of Rockford Wastewater Treatment Facility	47.4565	-117.1461	
Medical Lake Wastewater Plant	47.58311	-117.6815	Municipal
City of Aberdeen's Wastewater Treatment plant	46.96616	-123.8302	Municipal
Concrete Treatment Plant Septage Disposal, Concrete	48.53792	-121.7518	Municipal
Ryegrass Landfill	46.96698	-120.2143	Landfill
Stevens County Public Utility District	48.06009	-117.627	Municipal
Johnson Pumping	33.51832	-101.8138	
City of Ione	38.35164	-120.9572	Municipal
City of Springdale	36.21131	-94.16239	Municipal
Kettle Falls Wastewater Treatment Plant	48.60379	-118.0668	Municipal
Republic Water Department	48.64961	-118.7387	Municipal


Number of OSS Permits by County
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Asotin Health District
Benton-Franklin Health District
Clark County
Columbia County
Grant County Health District
Grays Harbor County
Jefferson County
King County
Kittitas County Health Department
Kitsap Public Health District
Klickitat County
Lincoln County
NE Tri-County Health District
Pacific County
Skamania County
Skagit County
Snohomish County
Spokane County Regional Health District
Thurston County
Whatcom County
Whitman County
Residential OSS Systems
Non-Residential OSS Systems

[County] Member Survey		
Question	County Response	Notes / Links
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?		
2. How many OSS are there that serve businesses in your jurisdiction?		
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.		
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?		
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.		
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.		
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.		
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.		
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.		
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.		

[County] Member Survey		
Question	County Response	Notes / Links
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.		

Adams Member Survey	12/23/2024
Question	County Response
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	The number I estimate for residential OSS is 6300.
2. How many OSS are there that serve businesses in your jurisdiction?	I estimate 203 businesses have OSS.
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	Ther is no records available which gives any idea of how many Homes have a permitted OSS and which have OSS which does not have a permit.
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	$350 is typical cost to have 1000 gallon tank pumped.
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	I do not understand the question. He may be asking for cost of installation of the OSS components listed.
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	Our office recommends the septic tank be pumped at 5-yer intervals. There is no requirement for pumping or other maintenance unless there is a problem resulting in failure of the system.
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	The only septage hauling is from septic tanks. The septage goes to disposal sites in Grant or Franklin county. Adams county Environmental Health would be responsible land application of septage if applied for.
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	ADAMS County has no septage disposal facilities. We do permit land application of potato soil from Simplot.
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	There has been no measurable increase in either septage disposal needs or OSS installation. 31 residential were issued in 2019 and 28 in 2023. Current pattern is 1% population growth in Othello area, but most new homes people have municipal sewage service

Adams Member Survey	12/23/2024
Question	County Response
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	GIS described is not available to our office.
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	Adams County Integrated Health Care Services is authorized by WA DOH and to issue permits for land application of septage if applied for.

Asotin County Health District	12/18/2024
Question	County Response
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	Our estimates show that we have ~6000 housing units that are served by OSS
2. How many OSS are there that serve businesses in your jurisdiction?	We estimate that there are 25-35 Businesses that are served by OSS.
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	Record keeping for OSS Permitting in Asotin County began in 1970. We estimate that there are ~1400 unknown OSS that were installed prior to permitting requirements or otherwise unaccounted for.
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	~ $425 – $500.
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	Our Permitting System does have specifications on system type/components, but this is only on an individual basis when locating permits that are tied to specific addresses.
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	ACHD's operational permit and Local OSS Code have recommendations for pumping septic tanks every 3-5 years.
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	We do regulate waste pumpers via yearly licensure to provide the service.
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	We have no permitted septage disposal facilities that are on On-Site Sewage. The only ones we have are connected to municipal Sewer.
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	Our jurisdiction has not made any growth projections.

Asotin County Health District	12/18/2024
Question	County Response
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	ACHD does not have GIS capabilities to track this. However, our permitting software does have the ability to link OSS Permits to addresses that are manually entered into our system. We began using this electronic permitting system in 2014.
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	ACHD lacks the time/human resources to acquire more quantifiable data regarding OSS in our County. If we had more resources, we would be able to get a better understanding of growth projections to account for the OSS needs in Asotin County.

Benton-Franklin Health District			12/20/2024
Question	County Response	Notes / Links	
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	Approximately 28,877		
2. How many OSS are there that serve businesses in your jurisdiction?	Unable to determine. In the data base where this information is kept, there is nothing to distinguish between a residence and a business besides name.		
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	The requirement for a septic system permit began in July 1, 1975 and it was at this time that records were consistently kept.		
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	5535		
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	No. However, each permit lists the number of residential bedrooms the system is designed for.		
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	Recommendation of pumping every 3-5 years.		
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Pumpers are required to submit monthly reports of systems pumped and volume of system.		
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	Pumpers take sewage to Overlook Farms in Finley for land application.		
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	No		
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	c. Data is available.		
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	Not without knowing more of what is being asked for.		

Clark County	12/17/2024
Question	County Response
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	First, Clark County has a total of around 35,000 operational on-site sewage systems. Clark County Public Health's (CCPH) data is incomplete to provide exact numbers. However, based on the information we are able to pull from our database, it is reasonable to estimate that 95% of OSSs are connected to residential structures.
2. How many OSS are there that serve businesses in your jurisdiction?	Based on available data, it is reasonable to estimate that 5% of the 35,000 operation on-site sewage systems serve non-residential structures.
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	Unknown. Clark County captured many OSS during a 2012-14 era reconciliation project. At this time we estimate that there are still some unknown OSS, but that it is likely a relatively low number.
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	Roughly $500 - $550
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	We would have this information, but it is incomplete. Systems installed in the last 20 years (when we started using Envision Connect) may have this information but older OSS do not contain those details. [NOTE: Does it make sense to just complete a data dump from EC for all active OSS and fields for bedrooms, size, etc. captured, even if the information is blank. This would satisfy the data request.]
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	We only require inspections per the frequency dictated in WAC 246-272A, except for Pressure Distribution systems. Clark County has a Class B waiver which allows Pressure Distribution systems to be inspected every 2 years instead of annual. Regarding pumping, Clark County Code 24.17 notes that the property owner should access the services of a pumper to remove septage from the tank when the level of solids and scum indicates that removal is necessary.

Clark County	12/17/2024
Question	County Response
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Clark County Code 24.17.220 requires that any individual shall be approved by the health officer as a qualified pumper before removing septage from an OSS. Septage must be discharged at a licensed facility. Discharge location and volume is recorded on pumping logs submitted to Clark County Public Health (CCPH). CCPH does not actively monitor volumes of septage being pumped and discharged but has the capability to pull that data when necessary.
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	City of Vancouver Wastewater treatment plant is the only facility accepting septage from on-site sewage systems. The treatment plant itself is not under CCPH regulatory authority, but is subject to requirements of their Dept. of Ecology permit. There are two other wastewater treatment plants outside of Clark County. Three Rivers in Cowlitz County, and Patriot wastewater treatment plant in Portland OR.
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	No
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	Our GIS mapping system can indicate which properties have active on-site sewage systems. CCPH staff can assist with obtaining GIS information.
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	CCPH can provide septic inspection compliance data for the past 8 years, as well as a description of implemented program initiatives and policies to increase OSS inspection compliance.

Columbia Member Survey	12/5/2024
Question	County Response
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	Approximately 800, though there is an unknown number of systems that were put in prior to permit requirements.
2. How many OSS are there that serve businesses in your jurisdiction?	Two. There are several RV parks of OSS.
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	Unfortunately, no.
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	$4-600.
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	No.
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	I have been requesting new installations get inspections every two years. Our revised ordinance will codify that.
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Hauled. No data.
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	No.
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	Columbia County has not experienced any appreciable growth in decades. We do have unbuilt parcels which will require OSS. Als, large parcels occasionally get subdivided. Neither of these activities is substantial.

Columbia Member Survey	12/5/2024
Question	County Response
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	While the county does have a GIS, no septic information is part of the database.
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	Not at this time.

Grant Member Survey Follow Up	1/16/2025
Question	County Response
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	10,000+ uncategorized
2. How many OSS are there that serve businesses in your jurisdiction?	Unknown
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	No
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	$500
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	No
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	Yes, WAC 1-yr pressure 3-yr gravity. Shared systems require O&M, usually yearly inspection.
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Certifies papers, pumper reports are paper, no database. Working on changing that.
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	Yes, Land Applied managed by Ecology. One sewage company with their own ponds, regulated by ecology.
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	No

Grant Member Survey Follow Up		1/16/2025
Question	County Response	
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	No	
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	Good luck!	

This survey was performed over the phone after the initial deadline of the survey. Responses were written by Freedom T and are a summary of the response.

Grays Harbor Member Survey	12/20/2024
Question	County Response
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	o 13,085 (With Permitting Records)
2. How many OSS are there that serve businesses in your jurisdiction?	o 276 (Estimated) Excludes Home Occupation Businesses
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	While some permit records date back further, consistent record-keeping began in 1950. We frequently receive information requests for homes built 10–20 years before that, and occasionally for even older homes. Estimates suggest that up to 2,000 systems may remain unaccounted for.
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	$495.00 + Tax (Based on Recent Pumper Invoices for 1,100 gallons)
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	There is no tabulation readily available. All residential systems must be designed for a minimum of two bedrooms.
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	https://library.municode.com/wa/grays_harbor_county/codes/code_of_ordinances?nodeId=TIT8HESA_CH8.16TESESY_8.16.160OPMOMAWNRE
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Yes, pumpers licensed through our office must submit monthly reports on their activities, an example report is attached
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	Locally, septage disposal is accepted at the City of Aberdeen's Wastewater Treatment plant which maintains two truck-hauled waste receiving stations.
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	Not at the County level. Growth projections can be found in the City of Aberdeen's Regional General Sewer-Wastewater Facility Plan August 2020. https://www.aberdeenwa.gov/390/Regional-Wastewater-Facilities-Plan-SEPA

Grays Harbor Member Survey	12/20/2024
Question	County Response
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	We have generated this type layer/lists for specific projects in defined areas, but do not currently have an updated single County-wide data set.
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	In the City of Aberdeen's 2020 Regional General Sewer-Wastewater Facility Plan (referenced above with hyperlink) they have outlined the capacity improvements required to accommodate Wastewater flows from a densely populated area located in unincorporated Grays Harbor County commonly referred to as Central Park. If the entirety of Central Park were to connect to sanitary sewer, it would eliminate approximately 1,050 residential on-site sewage systems (and a handful of commercial systems). This does not seem to be financially feasible anytime in the near term, however.

Jefferson County		
Question	County Response	Notes / Links
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	12,299	
2. How many OSS are there that serve businesses in your jurisdiction?	456	
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	~ 379 these are pre-permit and/or bootlegged systems that didn't have a permit or an O&M inspection, but we created a monitoring case/SOM Case.	
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	~$540.00	
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	We can provide everything but occupancy level and grease interceptor. See attached spread sheets.	Note that data has a database quirk where every 20th line will be off-set, this was mentioned in a separate email in the same folder.
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	Yes, inspection 1 or 3 years depending on the system. It's in JCC 8.15.150. Pumping as needed when it's 1/3 full of solids or 18 inches or greater.	
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	We certify pumpers, inspectors, and installers. The pumpers submit an On-line RME report for systems for porta potties and non-systems we receive pump receipts but we do not enter the data.	
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	City of Port Townsend, Bio-Solids/Compost Facility. Membrane Bio-Reactor.	
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	Yes, we contracted with RH2 Engineering to do a capacity analysis. They used a growth projection of .63% annual growth rates based on Commerce projections. Our current septage capacity is 3,700 gallons a day.	
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	A. No, only that one exists on the parcel. B. Yes	
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.		

King County		
Question	County Response	Notes / Links
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	Currently, we only track the number of OSS parcels active in King County. There are multiple systems on many parcels but we do not know how many parcels have multiple OSS nor how many OSS are on parcels with multiple systems. Also, we do not have the data to know which are residences versus businesses. The current count of active OSS parcels in King County is 84,519 of these about 39,000 are located on parcels zoned as Urban and over 70% of those are older than 30 years.	
2. How many OSS are there that serve businesses in your jurisdiction?	We do not have this information.	
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	No, we are not able to determine the degree of "known" with our current information. As far as when permitting started in King County, we don't have an actual date for that. My understanding is that we permitted septic systems in some manner since the early 1900s (like 1920 or maybe sooner). The permits were on note cards and kept in a notecard file system that I believe is now in archives. The date, address, Installer, Designer, owner name, etc. was on the front of the card and then the As-Built drawings were penciled in on the back of the card. At around 1956 the permits were switched to paper. These early papers were in folders on wall files. Sometime in early 1990s we had the paper copies scanned into microfiche files. We still have the microfiches at the office in Bellevue and use them everyday. All of these microfiche files were scanned and uploaded to an image management system (iLinx). However, some of the files did not have good location data, thus we still refer to the microfiche for many sites. We are still working on getting all the scanned and uploaded iLinx records updated with correct Addresses and Parcel numbers as well as identifying the file type and adding the dates. Just for the record we have 170,265 records for OSS in iLinx and 13,359 don't have a parcel number. There can be multiple records for a single parcel. So, we have about 92% of the records with parcel numbers. It is still a work in progress and this last 8 percent will likely require each record to be opened and corrected manually.	
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	We are not sure of the cost but estimate it's about $500 - $800. This estimate does not include the cost of pumping a tank that is located on Vashon Island. That cost is MUCH higher.	
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	This information is not readily available.	

King County		
Question	County Response	Notes / Links
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	Here is the text from our "About septic systems" web page: When to pump your septic tank: Septic tanks usually need to be pumped every 3 to 5 years, depending on the amount of water use. Generally, septic tanks fill faster as more people use the septic system. This means more frequent pumping will be needed with larger households. During your maintenance inspection, the maintainer can measure the scum and sludge layer in your tank to determine how often you need to pump your tank. The septic tank should be pumped when the bottom of the scum layer is within 3 inches of the bottom of the outlet baffle or the top of the sludge layer is within 12 inches of the bottom of the outlet fitting.	
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	King County code requires pumpers to use an approved disposal facility. That has been interpreted to mean that the facility must have a Water Quality permit in good standing from WA Dept. of Ecology. Please see the list of approved facilities in King County. We also inspect pump trucks for health and safety concerns.	
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	See enclosed Excel spreadsheet.	ResponseKing County 24-12-23
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	Not to our knowledge.	
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	C. This information is available. Please contact Peter Isaksen at peter.isaksen@kingcounty.gov or (206) 263-8479.	
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.		

King County		
Question	County Response	Notes / Links
Vashon Island is particularly challenging because the property owner pays for the pump truck to travel back and forth on a ferry. The cost for Vashon Island property owners to pump their septic tank is outrageously high! There are many shoreline properties that do not have room for a septic system. Ideally, these sites could use a holding tank and pump system, if the cost was not prohibitive. We dream of a wastewater/septage option for Vashon Island that supports proper maintenance of septic systems by providing affordable septage options.		
Our partners at the King County treatment plant where most of the septage in King County is disposed have had some challenges with decreasing revenue over the past 2 years and had some questions about how rates are determined across the state. I'm not sure what the status of the septage study is, but if possible, to include these questions, we think that it would help provide an additional perspective on the disposal challenges.		
Septage rate per gallon at facilities that treat septage How much septage is treated annually? Does the facility charge the full cost of service, or is the rate calculated differently? If based on a cost of service approach, is the septage tested for strength of BOD and TSS, or is it based on an assumed strength? When was the rate last updated? Is there a process for updating the rate, or is it done on a more ad hoc basis?		

Kittitas Member Survey Follow Up			1/16/2025
Question	County Response	Notes / Links	
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	10,000+		
2. How many OSS are there that serve businesses in your jurisdiction?	100		
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	1/3 of the 10,000		
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	$300		
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	Yes, has all that data.		
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	Yes, WAC and working on greater outreach.		
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Yes, pumpers must be licensed. They double check pump slips matches what was unloaded. Has not been tallying or totalling gallons.	[illegible]	
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	Ryegrass solid waste, lagoons.		
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	No, going to work on it this year. Know it is an inevitbility.		
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	a. no b. does have data c. does have data terrascan, kittitas county	[illegible]	

Kittitas Member Survey Follow Up			1/16/2025
Question	County Response	Notes / Links	
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	Barebones operation as far as septic		

This survey was performed over the phone after the initial deadline of the survey. Responses were written by Freedom T and are a summary of the response.

Kitsap Public Health District		
Question	**County Response**	**Notes / Links**
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	47,800 residential	
2. How many OSS are there that serve businesses in your jurisdiction?	9,500 non-residential	
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	We have 4,800 systems that have no permit, our permit records are considered pretty solid from the late 1960s, so these are primarily systems that predate that time frame.	
4. What is the estimated cost of pumping a 1,000 gallon septic tank in your jurisdiction?	$500	
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	1. The Septic Inventory Kitsap spreadsheet provided for item 5. shows gallon figures in the OtherInfo column - is this a daily design flow, perhaps based upon 120gals./bedroom/day for residential systems and other basis for the business systems? Also what are the figures shown in the ORMEID column? • The capacity rating is from the approved design / permit for the system. All residential systems are based on 120 gpd / bedroom, commercial sizing is dependent on the water use of the facility and can vary. Please see attached spreadsheet with system type and capacity if the system has a permit. • The ORME ID is something you can ignore, it is a unique system identifier in our database. Also, the spreadsheet is not perfect, you will see the numbers do not match the overall number counts I gave you in the other answers (too many reasons to explain why).	Responses\Kitsap County 24-12-12
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	Local code requires pumping / inspection of gravity systems every 3 years and inspection of non-gravity systems at least annually, consistent with WAC requirements. Link to our local ordinance: Kitsap County Board of Health Ordinance 2008A-01 | Kitsap Public Health	
7. Does your jurisdiction regulate septage hauling or dispos... If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	2. It appears that the Total Gallons Pumped in the item 7 pumping summary consists of a sub-total of gallons disposed of at the CKTP and a sub-total of gallons disposed of outside of Kitsap County. Does the CKTP also accept septage from outside of the County? Yes, summary for pumping disposal: • CKTP does not accept septage generated outside Kitsap County	
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	Yes, the Kitsap County Public Works Wastewater Treatment Plant (CKTP)	

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	2024	2023	2022
Number of Tanks Pumped	8,794	9,408	9,999
Total Gallons Pumped	8,790,706	9,474,514	9,588,250
Gallons disposed CKTP	7,229,100	5,716,927	4,867,963
Gallons outside Kitsap	1,561,606	3,757,587	4,720,287
Gallons to Webb Hill	1,287,983	3,515,484	4,362,237
Gallons to elsewhere	273,623	242,103	358,050

Kitsap Public Health District			12/10/2024
Question	County Response	Notes / Links	
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	Our septic inventory is currently growing at 0.5% annually, it is very limited by buildable lands and our local zoning (UGAs, etc.)		
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	The attached spreadsheet which also answers question 5 includes a field title "RP_ACCT_ID" this is the real property location in accordance with Kitsap County parcel information, which you can find here:	https://kitsap-od-kitcowa.hub.arcgis.com/	Responses \Kitsap County 24-12-12
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	Our wastewater treatment plant is currently working through planning and designing a rebuild due to its age (1970s). Rebuilding the septage receiving station is part of that plan, however, due to expected costs and the likely rate that would have to be established for septage dumping if the septage receiving station is rebuilt, it may be economically infeasible to build and/or operate at a cost where pumpers would not take their septage out of county. This is currently being studied.		

Kitsap Public Health District		
Question	County Response	Notes / Links
In a follow up email: Do you have any contact information for the Webb Hill facility?	Webb Hill is operated by Biorecycling, you can find their information here: Biorecycling Home Page. The "North Ranch" site is the one located near Shelton in Mason County. They are permitted by Ecology.	http://biorecycle.com/

12/10/2024

Klickitat County			12/17/2024
Question	County Response	Notes / Links	
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	No idea. We only recently (3-4 years ago) got a digital system to track installations. We'd have to take some time to review existing paper files & newer digital files to get a ballpark number.		
2. How many OSS are there that serve businesses in your jurisdiction?	+100, ballpark. It would also matter how "business" is defined. Are we talking commercial waste strength, or residential strength with a commercial business – like a B&B	When "business" was clarified to mean the businesses that are referred to may generate commercial or residential waste strength", they responded "I don't think it would change the over 100+ ballpark range"	
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	Nope		
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	Around $1200		
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	Yes, but only on the newer permits in our digital permitting system.		
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	We refer people to OSS 101 on DOH's website and language in the WAC		
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Yes, we do. But don't have that information.		
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	Most of our city's allow septage dumping. Some state parks allow RV dumping. There is one private company that handles their own septage & biosolid applications – Bishop Sanitation.		

Klickitat County			12/17/2024
Question	County Response	Notes / Links	
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	No		
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	No		
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	Not really. If we were to increase capacity or data gathering abilities, we'd likely need to increase fees to cover additional time/cost of staff or implementing systems.		

Lincoln County			12/12/2024
Question	County Response	Notes / Links	
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	I have no way to exactly count how many OSS there are but I could guess a rough estimate of 5000 +		
2. How many OSS are there that serve businesses in your jurisdiction?	40 +/-		
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	No way to track. I do know permitting started in 1970 but our records only go back to 1977 when individuals starting getting permit.		
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	$300		
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	I don't understand the question. No, we currently do not have a way to track the type of system however we are working with Accela and hope to be able to track by system by early part of next year.	[illegible]	
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	In the past we recommend that gravity systems be inspected every 3 years and pressure distribution every 1 year. Starting in 2025, the OSS code will require operation and maintenance.		
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	We have 5 licensed pumpers in Lincoln County and they haul to Spokane county		
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	We only have RV dump stations and I think there are about 5 in the county,.		
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	No.		

Lincoln County			12/12/2024
Question	County Response	Notes / Links	
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	No not yet. We are currently trying to convert to Accela which will have these options available.		
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.			

NE Tri-County Health District Member Survey			1/17/2025
Question	County Response	Notes / Links	
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	24000, uncategorized		
2. How many OSS are there that serve businesses in your jurisdiction?	Don't know		
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	Do not. Unknown.		
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	$750		
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	Can only export up to 5,000 systems at a time. Hopefully the new database has the capability for it.		
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	Has reccomendations on their webpage.		
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Regulates hauling and licenses septic pumpers. Paper copies of reporting data.		
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	Stevens county PUD, Johnson Pumping, City of Ione, City of Springdale, City of Kettlefalls, City of Republic. All are small facilities, limited disposal.		
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	Have not, but Stevens county might have.	509-220-8704, director's number	
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	Do not have GIS. Can export up to 5,000 systems at a time.		

NE Tri-County Health District Member Survey			1/17/2025
Question	County Response	Notes / Links	
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	During the pandemic, PUD has met capacity and has met ever since. Pumpers have to drive further and costs are going up.		

This survey was performed over the phone after the initial deadline of the survey. Responses were written by Freedom T and are a summary of the response.

Pacific County		12/23/2024
Question	County Response	Notes / Links
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	Approximately 10,000 to 11,000.	
2. How many OSS are there that serve businesses in your jurisdiction?	Approximately 1,000.	
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	I would say around 3,000 to 4,000. In Pacific County, Environmental Health and septic permitting was covered by Grays Harbor County for a time and the latest permit that I have come across was from the late 1970's which was around the time our office began the permitting process, but I am unaware of the date that our office officially took over.	
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	Obviously dependent on the pumper and the overall work that the job requires, but I have seen pump receipts in the $800 to $1,200 over the past year. The cost to pump has increased over recent years, presumably due to the price of fuel as pumpers have to transfer septage outside of the county for disposal.	
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	We do not have a tabulation available at this time.	
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	Through O&M, we will recommend pumping based on inspectors' findings.	
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Yes, we do. Disposal locations they go to are in Warrenton, OR, Longview, WA, and Chehalis, WA. We currently have 9 licensed septic pumpers in the county with 2 of them receiving the majority of the work. We have not received complete pumper logs for the year, but I will attach the records we do have so far in my response email.	[illegible]
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	Our county does not have any septage disposal facilities. Most of our pumpers dispose in the Warrenton, OR, Rainier, OR, Longview, WA, and Chehalis, WA areas.	
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	We do not have any growth projections.	

Pacific County			12/23/2024
Question	County Response	Notes / Links	
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	We do not have GIS of our jurisdiction that has that information.		
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	No additional data at this time.		

Skagit County			12/18/2024
Question	County Response	Notes / Links	
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	Skagit County has 20,764 septic system records in our O&M database with 14,427 having a residential occupancy type. There are 5,712 without an occupancy type marked.		
2. How many OSS are there that serve businesses in your jurisdiction?	Approximately 625 OSS serve non-residential establishments.		
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	Approximately 2,976 OSSs from our O&M database do not have any permit number associated. Another 3,492 OSS have only after-the-fact documentation.		
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	Based on low-income vouchers, the average pumping cost in 2024 has been $610.		
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	Not easily... The data in RME is not complete and/or the field is not exportable. Merging RME with EPL (permitting) export gets us closer but full of flaws.		
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	State WAC requires inspection of all septic systems. Conventional gravity systems are every three years, and all others are annually. Pumping recommendations are based on solids accumulation in the tank. The general recommendation is when the sludge and scum solids make up 33% or more of the septic tank volume, to have the tank pumped. Distance to from the layer to the outlet baffle bottom can also be used.		
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Yes and no. They report with each pumping report submitted.	Provided data at bottom of response sheet.	
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	•Anacortes WW Treatment Plant •Burlington Sewage Treatment Plant •La Conner WW Treatment Plant		
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	Not that I'm aware of.		

Skagit County		
Question	**County Response**	**Notes / Links**
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	A parcel layer that indicates which parcels have an existing septic system	
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.		

12/18/2024

Dump Location (in gallons)	2023	2024
Ace Acme Septic Services	16,750	98,224
*Anacortes WW Treatment Plant	100,404	225,027
BioRecycling - Pacific	1,200	
*Burlington Sewage Treatment Plant	465,375	556,253
Central Kitsap WW Treatment Plant	1,000	
Farm Power-Lynden	7,300	
*La Conner WW Treatment Plant	946,735	1,017,895
[illegible]	1,000	
[illegible]	297,396	297,875
(blank)	255,062	394,213
Grand Total	1,995,268	2,402,968

Skamania County			12/19/2024
Question	County Response	Notes / Links	
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	Unknown		
2. How many OSS are there that serve businesses in your jurisdiction?	29		
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	No		
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	$850.00		
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	No		
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	OSS maintenance for gravity systems: every 3 years. OSS maintenance for advanced systems: annually. Skamania County OSS permit states the maintenance schedule. See attached. Skamania County Code Title 8 HEALTH AND SAFETY Chapter 8.84 ON-SITE SEWAGE SYSTEMS. See attached.		
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Pumper logs for 2024 show 584,948 gallons of septage pumped from local septic tanks. This number was calculated by the following method: Skamania County charges $0.045 per gallon of septage collected by all septic pumpers. Total dollar amount was: $26,322.66 $26,322.66 / 0.045 = 584,938 gallons of septage See attached 2024 aggregate pumpers' logs.	Documents/Skamania County 26	
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	No		
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	Unknown		

Skamania County			12/19/2024
Question	County Response	Notes / Links	
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	No OSS GIS data for our jurisdiction.		
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	Not at this time.		

Snohomish Member Survey		12/20/2024
Question	County Response	Notes / Links
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	As of this month we have 68,339 "known" systems.	
2. How many OSS are there that serve businesses in your jurisdiction?	N/A. We don't track businesses vs. residential.	
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	Total suspected unknown systems ~12,378. Permitting began around the 70's/80's, however, we have records that date back to the 50's.	
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	~$650. This includes taxes, reporting fees, pumping, waste disposal, and sometimes a filter cleaning fee or digging fee.	
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	We can export the following data: permit type (full size, reduced system, alteration vs. repair), application approval date, permit issue date, and final approval date. In addition, we can export the number of gravity, LPD, and alternative systems installed after 2018, when we moved to our digital database system.	
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	We don't have pumping frequency requirements. For alternative system installations, we require monitoring and maintenance (M&M) documents prior to permit issuance. The M&M docs include a recorded covenant and service agreement. We recommend the maintenance frequencies outlined in the DOH Recommended Standards and Guidance Documents. See web link: Solo Handout - Monitoring & Maintenance Frequencies	[illegible]
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	N/A	
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	N/A	
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	N/A. We leave that to the municipalities.	

Snohomish Member Survey			12/20/2024
Question	County Response	Notes / Links	
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	Currently OSS information is tracked at the parcel/address level in our digital database. However, we are working on a septic inventory project that will result in a GIS tool for septic records where the public can access all historical and maintenance records for a property. The project is expected to be completed by spring 2025.		
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	There are concerns with wastewater treatment plants (WWTPs) not allowing septage disposal. From my understanding it is not a capacity issue, but rather a quality issue. Septage can come from residential/businesses/food service establishments and certain WWTPs will not accept it due to unknown sources.		

Spokane County Regional Health District Member Survey	12/23/2024
Question	County Response
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	Based on our records, there are an estimated 52,652 systems.
2. How many OSS are there that serve businesses in your jurisdiction?	Unknown
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	No
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	Approximately $600-1000
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	This information has not consistently been collected or entered into our records, so the data is incomplete.
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	Spokane Regional Health District adopted 246-272A by reference. For those permitted OSS on record, reminders to maintain and report maintenance of the OSS are sent out every year or three-years depending on the type of OSS. See attached OSS evaluation form.
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	We permit the septage pumper trucks. Attached is the spreadsheet showing volumes reported for each permitted business for 2024.
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	Spokane County Regional Water Reclamation Facility*
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	No

Spokane County Regional Health District Member Survey	12/23/2024
Question	County Response
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	We have a document retention system that is not linked to the county GIS system. The parcel numbers and addresses are not always correct since we do not receive notice of changes. SRHD has not consistently been sent notice of connection to sewer. Lastly, files may not be clear if more than OSS is on the parcel. We could potentially provide an Excel spreadsheet from our permitting system. This too is incomplete, records prior to 1985 are not in this system and there are records between 1985 and 2016 that may not be in the system. If you still feel this information could be used, please contact me at 509.324.1585 and I will check on the best way to convey the information.
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	No

Thurston County	11/20/2024
Question	County Response
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	•55,575 OSS – County Wide •11,503 OSS in the marine recovery areas
2. How many OSS are there that serve businesses in your jurisdiction?	•517 'Commercial' establishments with renewable OPC. We can get the data for non-renewable OPC but will need IT to run the query. •99 Food Establishments with OSS •4 Schools with OSS •This data may exclude commercial facilities using systems "designed" for single family residence
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	•No, we do not have an estimate of "unknown" OSS and not a great way to tabulate them in our data system. 1979 permit requirements began.
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	•Approximately $550 (based on average cost of pumping rebates submitted to the County)
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	•We collect installation date, septic tank sizes, grease trap/interceptor components, pre-treatment devices, all the treatment components of the OSS. This data is managed and maintained in a third-party database www.onlineRME.com and Thurston County's permitting database. I can share the exports with the data from RME but this would only include systems that have been inspected or pumped. We could get tabular data for different OSS components from RME i.e. ATUs. We can get tabular data for more OSS components from Thurston County's permitting database but would need IT to run the query. •We do not collect occupancy information or have a tabular way to pull design flow information. I also would not trust installation date information for older systems and those pre-permits.
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	oWe base the need for pumping on solid levels in tank and not frequency. oRecommendations: https://www.thurstoncountywa.gov/departments/public-health-and-social-services/environmental-health/septic-systems/homeowner-maintenance-requirements oRecommendations: https://www.thurstoncountywa.gov/departments/public-health-and-social-services/environmental-health/septic-systems/care-maintenance-your-septic-system oRecommendations: Physical Brochures – we can mail or photocopy oRecommendations: https://s3.us-west-2.amazonaws.com/thurstoncountywa.gov.if-us-west-2/s3fs-public/2023-05/PHSS_EH_SEPTIC_1.10_StickTestBro_ENG.pdf oMinimum OPC Requirements in MRA - ONST.12.POL.837 oOSS-Effluent-Monitoring-ONST.17.POL.606.pdf (see note on page two) Revised 11/16/2017 oOwner Inspections of OSS in MRA's - ONST.13.POL.834 oContract Requirements for Third Party Maintenance - ONST.20.POL.830 oSewage Systems Requiring Operational Certificates - ONST.13.POL.808 oSection 16 of Article IV Article IV (Thurston County)

Thurston County	12/20/2024
Question	County Response
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposa site location. For example, load manifests from pumper trucks.	•Yes. We certify the pumping companies, ensure their staffed have taken the required exams, manage their CEU's, they have annual renewals. We also inspect their trucks and follow up with enforcement if they don't meet the county expectations. •This data is managed and maintained in a third-party database www.onlineRME.com. I can share the exports with the data. •RME report gives disposal site locations - Data: Dump Zone Data. •Looks like people were making records for facilities which don't exist, probably for testing or training purposes. •RME report gives pumping details – Report: Pumping Statistics
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	•Yes, LOTT WWTP. Currently not accepting septage. •Will accept septage from sewage trucks pumping their STEP System - side sewer tanks
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	•No, Thurston County has not made growth projections specifically for OSS and/or septage hauling or disposal. •Thurston County is in process of updating Comprehensive Plan by 2025. Link to update information and data below. https://www.thurstoncountywa.gov/departments/community-planning-and-economic-development-cped/community-planning/thurston-2045 •Thurston County Population is expected to grow to 383,500 in 2024, 29% more than 2020. •51% will live in cities
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	•Thurston County has Countywide OSS Status by Parcel – this dataset is created biannually for reporting to WA DOH. The last version was completed in July 2024, using OSS (from Amanda Thurston County's Permitting database) and parcel data as of June 30, 2024. The dataset includes parcel number and OSS status—site address, owner names, and other Parcel attributes are not included. We can share this data with a data sharing agreement. •Please contact Sarah Smith at sarah.smith@co.thurston.wa.us or 360-867-2054. She will need the name of the consultant company/external partner receiving the data and the GIS dataset(s) to be provided so that she can create the agreement for them to sign.
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	•Number of certified pumpers: 36 Firms; 169 Individuals •Number of pump trucks certified in Thurston; 112 trucks •A new pump truck can cost $330K. A 20 year old truck can cost $125K •The cost to run a pumping firm is quite high. Trucks needs tires replaced twice a year and their tires costs $500 a piece. I think the truck has 6 tires. The cost of maintaining the hoses, and other small equipment is also costly. This cost is transferred to the client who often feel the cost of pumping is a burden


Thurston County Health Department

Whatcom County		
Question	County Response	Notes / Links
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	There are an estimated 29,375 active onsite sewage systems in Whatcom County as of 12.16.2024.	
2. How many OSS are there that serve businesses in your jurisdiction?	We cannot easily determine this number. At least 120 are food service establishments, 1500 properties with an OSS are owned by an LLC.	
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	Permitting (very rudimentary) in around 1962. We have 1,051 systems considered to be an Unknown subtype. Of those systems, 581 do not have any historical permits or evaluations on file.	
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	It is estimated that the average cost for pumping 1,000 gallon septic tank is $750.	
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	No this is not able to be done due to paper permits and would require extensive file review.	
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	•OSS Ordinance/Code: WCC 24.05 Link •Recommendation for pumping frequency is based on the tank being 33% full with sludge and scum, operating and maintaining a system is required every 1 to three years depending on system type, this does not mean the system must be pumped at this frequency.	https://www.codepublishing.com/WA/WhatcomCounty/html/WhatcomCounty24/WhatcomCounty2405.html
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	Yes; we require pumpers to be licensed and submit monthly pumping reports. From 1/01/2020 to 12/16/2024 an estimated 18,090,219 gallons of sewage have been reported as pumped from active onsite septic systems in Whatcom County. Of all systems that could accept sewage there are a select few who accept pumper sewage below includes the requested break down:	Data added at bottom of this sheet.
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	Technically, disposal sites consist of any wastewater treatment plant in Whatcom County or a biosolids handling facility or an intermediate septage holding facility which would then dispose of the sewage at a wastewater treatment plant or biosolids facilities. These facilities are not required to accept septage from a licensed pumper. The following are wastewater treatment plants in Whatcom County and are regulated by the Department of Ecology, the capacity of these systems is unknown to us as a jurisdiction:	BIRCH BAY WATER & SEWER DISTRICT •BLAINE WWTP •EVERSON WWTP •FERNDALE WWTP •[illegible] WTP •LYNDEN WTP •Post Point (Bellingham) WWTP •WHATCOM CNTY PUD 1 TRIG RD •WHATCOM COUNTY WATER DISTRICT 13 STP Whatcom County has two biosolids handling facilities: •TJOELKER ENTERPRISES BUF •Lil John Sanitary Services Whatcom County has two current intermediate septage holding tank facilities and one historic: •Lil John Sanitary Services •Potty Wagon •Mt Baker Septic Pumping* Historic

12/19/2024

Whatcom County		
Question	County Response	Notes / Links
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	Whatcom County has a comprehensive plan. Currently no mention of septage hauling or disposal is mentioned and wastewater treatment projections not included. Growth is projected.	https://www.whatcomcounty.us/1171/Current-Comprehensive-Plan
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	Please include a clear use of this data and limitations and data sharing limitations for this data. May be possible to get this data depending on data use agreements and limitations. Contact for sharing would be Mike Pelela mpelela@co.whatcom.wa.us .	
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.		

12/19/2024

Over 4 years

Disposal Site	Estimated Gallons Disposed/Received	
Post Point (Bellingham) WWTP	358,892	
Tjoelker Enterprises	15,150,275	majority disposal because their prices are lower and they are their own pumpers. Good paperwork skills.
Lil John Sanitary Services	2,020,140	
The Potty Wagon	194,100	
Mt Baker Septic Pumping ()	20,774	
Outside of whatcom county	457,935	
Total	18,080,218	

data below added on 1/21/2025

Yes we require pumpers to be licensed and submit monthly pumping reports. From 1/01/2020 to 12/16/2024 an estimated 18,079,[illegible] gallons of sewage have been reported as pumped from active and [illegible] septic systems in Whatcom County. Of all systems that could accept sewage there are a select few who accept pumper sewage below includes the requested break down:

Disposal Site	Estimated Gallons Disposed
2020	
Post Point (Bellingham) WWTP	70150
Tjoelker Enterprises*	1642685
Lil John Sanitary Services	287000
The Potty Wagon	0
Outside of Whatcom County	39750
Total	2,219,545.00
2021	
Post Point (Bellingham) WWTP	35401
Tjoelker Enterprises*	2214399
Lil John Sanitary Services	270890
Mt Baker Septic Pumping ()	17224
Outside of Whatcom County	91100
Total	2,584,440.00
2022	
Post Point (Bellingham) WWTP	77550
Tjoelker Enterprises*	3266495
Lil John Sanitary Services	586770
The Potty Wagon	0
Mt Baker Septic Pumping ()	910
Outside of Whatcom County	9690
Total	3,964,475.00
2023	
Post Point (Bellingham) WWTP	9150
Tjoelker Enterprises*	4470199
Lil John Sanitary Services	404280
The Potty Wagon	28400
Mt Baker Septic Pumping ()	6250
Outside of Whatcom County	115006
Total	4,562,521.00
2024	
Post Point (Bellingham) WWTP	72450
Tjoelker Enterprises*	2532625
Lil John Sanitary Services	504590
The Potty Wagon	107750
Mt Baker Septic Pumping ()	3750
Outside of Whatcom County	198819
Total	4,253,788.00

Whatcom County			12/19/2024
Question	County Response	Notes / Links	

*Tjoelker Enterprises consists of an aggregate reporting measure. This measure is actually two different companies that are often reported by pumpers as Tjoelker because the companies are across the street from each other. One company is called Tjoelker Enterprises BUF and the other company is called Shannon Tjoelker BUF. Reported disposal by pumpers can be compared to reception numbers of these companies through the solid waste division based on their standing as a biosolids facility. 2024 biosolids reporting for these companies have not been submitted yet.

Whitman County	12/5/2024
Question	County Response
1. How many individual residential On-Site Systems (OSS) are there in your jurisdiction?	3000
2. How many OSS are there that serve businesses in your jurisdiction?	~100
3. Do you have an estimate of the number of "unknown" OSS that were installed prior to permitting requirements or are otherwise unaccounted for in your jurisdiction? If so, please provide any such information, including the date that permitting began and an estimate of OSS that may have been installed without a required permit.	No
4. What is the estimated cost of pumping a 1,000-gallon septic tank in your jurisdiction?	~500
5. Is there a tabulation available with installation date, design flow rates and/or septic tank sizes, grease trap or interceptor components, pre-treatment devices, and occupancy levels, i.e., full-time vs. part-time residences, for OSS in your jurisdiction? If so, please provide any such information. For example, if an individual OSS is sized to serve a certain number of residential bedrooms only.	No
6. Does your jurisdiction have any requirements or recommendations for OSS maintenance including septic tank pumping frequency? If so, please provide any related documents such as copies of an ordinance or resolution.	No
7. Does your jurisdiction regulate septage hauling or disposal? If so, please provide any reporting data such as volumes and disposal site location. For example, load manifests from pumper trucks.	No
8. Does your jurisdiction include any septage disposal facilities? If so, please provide a list of these.	No
9. Has your jurisdiction made any growth projections for OSS and/or septage hauling or disposal needs? If so, please provide any such information. For example, any estimates of future growth in residential or business uses or densities based upon current trends or areas of growth, or a copy of any long-term plan or County Comprehensive Plan identifying such growth.	No

Whitman County	12/5/2024
Question	County Response
10. Regarding available GIS data for your jurisdiction, is any combination of the following available? If so, please provide the electronic files or contact information for staff that can assist with data transfer. a. Point layer showing the location of any septic system on a parcel of land, or b. A parcel layer that indicates which parcels have an existing septic system, or c. A spreadsheet with address or parcel data that also has a septic permit associated with it. We would need the county to also provide address data. With that, we could then generate a map illustrating that relationship.	We were maintaining a GIS layer with all of our permitted systems but are no longer able to support it due to security concerns from our IT department. We still have the shape files but lack the experienced staff to assemble the GIS layers and permissions to continue using it.
11. Are you able to provide any additional data or information that would be helpful in assessing the capacity of your jurisdiction to manage septage? If so, please provide.	Growth in our county is fairly limited due to the vast amount of agriculture that is going on in our jurisdiction. We have deep excellent soils that provide some of the highest levels of treatment found in Washington State. I am fairly confident that we can continue to absorb more growth and manage the septage that comes along with that.

Appendix F: WSALPHO Wastewater Treatment Facility Survey

WSALPHO WWTF Survey Data	
# of Responses	35
# of Responses Accepting Septage	4
% Limited by Design, Staff, Costs	66%
% Uninterested/No Demand for Septage	26%
% That Feel Septage is/would be a Strain on Operations	71%

Response ID	Address	Lat	Long	Do you accept septage?	Capacity (gal)	Is your facility accepting its maximum spetage handling cpacity?
5	PO BOX 477 MOSSYROCK, WA, 98564	30.31580801	-92.1161228	No		
7	806 WEST MAIN ST MONROE, WA, 98272	47.85174427	-121.981851	No		
11	PO BOX 1007 KALAMA, WA, 98625	46.01120856	-122.845624	No		
15	1054 W HARDER RD WARDEN, WA, 99857	47.05909364	-118.949294	Yes	350000	Yes
17	PO BOX 243 SEKIU, WA, 98381	48.26589409	-124.299896	No		
18	PO BOX 489 ORTING, WA, 98360	47.09682576	-122.204475	No		
20	1100 N TOWER AVE CENTRALIA, WA, 98531	46.72792519	-122.951359	No		
23	874 BURNT RIDGE RD ONALASKA, WA, 98570	46.59278448	-122.589699	Yes		No
25	2415 CANYON RD ELLENSBURG, WA, 98926	46.96873915	-120.541265	No		
28	420 NW LOUISIANA AVE CHEHALIS, WA, 98532	46.66520007	-122.98228	No		
31	7305 HIDDEN COVE RD NE BAINBRIDGE ISLAND, WA, 98110	47.687476	-122.549716	No		
32	PO BOX 98 LEAVENWORTH, WA, 98826	47.59723041	-120.660355	No		
33	22889 RD P.8 SW MATTAWA, WA, 99349	46.75354422	-119.848206	Yes	15000 (gallons per month)	No
35	10372 HWY 31 IONE, WA, 99139-9613	48.8013483	-117.413135	No		
36	10311 CHAMBERS CREEK RD W BONNEY LAKE, WA, 98391	47.19315183	-122.576983	No		
37	PO BOX 64 COWICHE, WA, 98923	46.67133146	-120.713955	No		
38	PO BOX 98 LOON LAKE, WA, 99148	48.06297165	-117.629569	No		
39	PO BOX 752 OKANOGAN, WA, 98840	48.36455807	-119.579466	No		
40	PO BOX 1960 BUCKLEY, WA, 98321	47.16165174	-122.031236	No		
43	12550 SHOREWOOD DR SW BURIEN, WA, 98146-2428	47.49100812	-122.361019	No		
47	111 S 1ST ST DAYTON, WA, 99328	46.31922885	-117.979856	No		
48	5300 KUHN ST PORT TOWNSEND WA, 98368,	48.13843705	-122.781742	Yes	2228 gpd	Yes
50	375 TUCKER AVE FRIDAY HARBOR, WA, 98250	48.53789496	-123.024307	No		
51	692 EASTMONT EAST WENATCHEE, WA, 98802	47.41557441	-120.282401	No		
53	PO BOX 86 LOPEZ ISLAND, WA, 98261	48.52710355	-122.911814	No		
54	PO BOX 236 TOLEDO, WA, 98591	46.43957491	-122.846561	No		
55	PO BOX 369 MEDICAL LAKE, WA, 99022	47.57167103	-117.678997	No		
57	PO BOX 488 CHINOOK, WA, 98614	46.27350929	-123.945874	No		
58	1100 2ND ST N PE ELL, WA, 98572	46.5803709	-123.298604	No		
59	104 HEISE RD S OLYMPIA, WA, 98506	47.01572098	-123.353409	No		
60	ARLINGTON, WA, 98223	48.19802182	-122.126567	No		
61	7110 9TH ST SE LAKE STEVENS, WA, 98258	47.98765371	-122.134917	No		
62	772 E CHESAPEAKE DR SHELTON, WA, 98584	47.29805559	-122.848748	No		
63	9605 TILLEY RD S OLYMPIA, WA, 98502	46.94789308	-122.908871	No		
64	1440 E OCEAN SHORES BLVD OCEAN SHORES, WA, 98569	46.93197607	-124.157785	No		

Response ID	If not, how much capacity do you have to take on additional septage?	What is the limiting factor in your ability to accept septage?	Does accepting septage place additional strain on your daily operation or ability to meet your discharge permit requirements?	What would allow you to accept additional septage?
5		Unnecessary	Yes	Uninterested
7		Cost, Staff, Equipment	Yes	Uninterested
11				
15		Design	No	Uninterested
17		Design, Staff	Yes	New facility/redesign
18		Design, Staff	No	New facility/redesign
20				
23	500kgal	Design	No	Facility redesign
25		Design		Permitting, New treatment facility
28	50,000 -100,000 gallons a day	Cost, Space		Equipment, Permitting
31		Design		
32		Design, Other	Yes	
33	Approx 25%		No	Demand
35				Uninterested
36		Design		Uninterested
37		Design		
38		Design		New facility/redesign
39		Design	Yes	Demand
40		Design, Space	Yes	New facility/redesign
43		Location		
47		Design	Yes	New facility/redesign
48		Permit, Design, Cost	No	
50			Yes	
51		Design		New facility/redesign
53		Design		New treatment facility
54		Cost, Staff	Yes	Money, New facility/redesign
55				
57		Design		
58		Design	Yes	New facility/redesign
59		Unnecessary		
60		Design	Yes	Money, New facility/redesign
61		Design	Yes	Money, New facility/redesign
62		Unnecessary		
63		Design, Location		New facility/redesign
64				

Response ID	In the event that you cannot accept septage on any given day, do you have a contingency or back up plan for pumpers to dispose at another facility?	Has your facility made any growth projections for septage handling needs?
5		
7		
11		
15	Pump to lagoon	
17	Another facility	
18		
20		
23		
25	Another facility	
28		
31		
32		
33	Another facility	Yes
35		
36	Another facility	
37		
38	Another facility	
39		
40		
43		
47		
48	Another facility	
50		
51		Looking into it
53		
54		
55		
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64		

Response ID	Do you accept septage?	Is your facility accepting its maximum septage handling capacity? If not, how much capacity do you have to take on additional septage?
5	No because not permitted or set up	No only have capacity for planned grow
7	No Not Cities main goal	No Unknown
11	Our plant is small and couldn't handle the extra septage	
15	350000 Gal	Yes
17	no This treatment facility is too small. Disposal would be un affordable for a community of this size	We have limited capacity due to inflow and infiltration. Our treatment system could not treat septage.
18	we do not receive any septage, the city of Orting is not a fan of the idea of doing this.	no
20	Our plant was not designed or built to accept septage	
23	yes in very limited quantitys	Ecology has made it dificult to apply septage and biosolids togeather posibly 500gal
25	At currently time we only accept the RV dump located just below our headworks. We are in the process of negotiating with a local company to accept the effluent of septage after screening out all solids	We are not set up to screen and accept septage at this time. Any acceptance of the screened effluent would be metered at night when our loading is down.
28	No, I believe our permit does not cover any outside septage, nor do we have the equipment for it.	Probably around 50,000 -100,000 gallons a day
31	No. Facility was not designed to accept septage	
32	Its against our bylaws and would be very difficult for a small snowbound facility to treat.	We do not accept
33	Yes. 15,000 gallons per month	No. Approx 25%.
35	No. Small package plant at a high school	NA
36	No. We are not set up to receive septage, and we are reluctant to upset our BNR process by slug loading it with low pH, digested and/or partially digested sludge	n/a
37	No. We do not have a septage receiving facility and the addition of septage to our process, if not regulated, could potentially cause adverse treatment conditions.	
38	We only receive waste water from our system to our lagoons. any solids are pumped to trucks and hauled to an other facility.	we do not take septage
39	no were and aerobic digester plant	no we still have capacity for growth on our loadings
40	No, We are not equipped and large enough to accept and treat Septage.	Yes, we cannot treat septage so we are treating the maximum we can which is none.
41	no. Our WWTP's our located in neighborhoods. We have to limit truck traffic in and out of our facilities.	n/a
47	No, the potential slug load isn't something our plant is prepared to handle and has a high likelihood of causing an upset to our facility.	N/A
48	Yes, We treat an average of 2228 gallons per day of septage. 100% of our flow is from septage.	Mostly

Response ID	What is the limiting factor in your ability to accept septage?	Does accepting septage place additional strain on your daily operation or ability to meet your discharge permit requirements?	What would allow you to accept additional septage?
5	Capacity versus growth expected	Yes not set up for it	Nothing
7	staff equipment money	yes daily operations basically staff time	At this time the city isn't interested in accepting septage
11			
15	Lagoon Size	No	Don't need to. We are able to handle our community
17	Our treatment system is not designed to handle such concentrated sewage. We lack capacity and man power to handle septage	Yes This system is not designed to handle septage.	New treatment plant. Ability to dispose of septage. This facility currently hauls to another facility to dispose of bio-solids
18	cost and ability to treat toxic loads	not too much we have the personal to handle it	a processing facility to dump
20			
23	comingling application rule, DOE detirmanation the septage is significact change from biosolids and limiting us to one pumper	no	storage facilitys
25	Aeration basin capacity. Screening of solids.	No septage receiving at this time.	Permitting from DOE as a significant user for our WWTF. The reduction of solids in the stream and a metering of amount and the timing of release, all conditional within the permit. Addition of new aeration system.
28	Equipment and footprint	It would depend on the amount taken in and strength of discharge.	Having the equipment and approval from Ecology
31	design	N/A	N/A
32	We are snowbound much of the year and have limited capacity.	It likely could as we are an MBR plant in a limited footprint building.	We do not accept
33	None so far.	No	More incoming septage.
35	NA	NA	Nothing. Never want to.
36	See question 1.	Yes, see question 1	Nothing.
37	Not having the ability to introduce the septage into our treatment process slowly.		
38	we have no infrastructure to accept septage or treat, and dispose of.		infrastructure to handle septage
39	trying to activate dead sludge and you don't know what your getting from other places	it might when your a small facility like Okanogan	probably just growth within the city limits
40	Sizing and design of the facility.	it would if we were to accept septage.	Total plant redesign and upgrade
43	where the facilities are located. sensitive neighbors	n/a	n/a
47	age to our infrastructure and potential of failed compliance.	See above	adequately sized facility with additional space to intermittently introduce the load at specific rates and proper pretreatment and dilution.
48	Our permit limits our discharge of the treated liquid. Also our equipment and design.	At our septage facility septage is all that we take.	We are in the process of seeking grant funding for an engineering report to figure that out.

Response ID	In the event that you cannot accept septage on any given day, do you have a contingency or back up plan for pumpers to dispose at another facility?	Has your facility made any growth projections for septage handling needs?	Are you able to provide any additional data or information?
5	Do not accept septage regardless	No	No
7	NA	No	
11			
15	We have not needed to. We would pump it into the lagoon	Lagoon is sized to had the max size of our community	
17	Yes. We direct them to another facility	No	We would need a new treatment facility and a way to dispose of the bio-solids
18	N/A	no	n/a
20		No, we do not plan to accept septage	
23	nope park the truck		
25	All local Septage haulers must dispose at the RyeGrass land fill site that is operated by the County	No.	Untill we start handling septage, no growth studies have been done. We are a 3.8 MGD plant, and the introduction of untreated septage that our local companies produce would overwhelm the capacities at this time. That is why we are working with Brown and Jackson on this screening unit proposal.
28	We do not take septage	No, we have not.	Since it has not been looked at or planned for, there is no additional information that would be helpful. Unless there is specific questions. I'd be happy to help at anytime.
31	N/A	no	N/A
32	We do not accept	No. We do not see this as a potential.	
33	Yes.	Yes.	We are significantly under capacity.
35	NA	No	NA
36	We can refer them to Tacoma, Renton, or Sedron in Sumner.	No.	We do not plan to allow septage haulers to dump their loads in our facility. The risk of causing a process upset is too great, plus we do not want to begin allowing the truck traffic in/out of our facility. We consider non-County vehicles security risks, and do not readily admit them within the fence line.
37			
38	our septage goes to a spokane plant or stevens county PUD facility	no	we have the land to expand for septage treatment infrastructure but lack the funding to do so
39	no	no	i don't have any informatio
40	Haulers know that we dont accept septage.	none to my knowledg	Nope.
41	n/a	no	no
47	No	No	If the right funds were made available to scale and add to our facility without cost to our constituents it has POTENTIAL to be feasible. To ask constituents to fund such a project that has no benefit to them but serve outlying community is not only unfair but flat out wrong.
48	Pumpers from our county have been taking septage other than what we can take to a facility in Mason County for over 30 years.	We are in the process of seeking grant funding for an engineering report to figure that out.	With our permit we allowed to discharge 28000 gallons per week from our SBR. We are allowed 4000 daily average but 6000 max. We are usually close to that number on a daily basis 5 days per week which we are open. There are many days that the pumper do not bring us septage and on those days we do not run our dewatering equipment. A portion of our stormwater also goes to our SBR for treatment and that calculates into our discharge numbers.

Response ID	Do you accept septage?	Is your facility accepting its maximum septage handling capacity? If not, how much capacity do you have to take on additional septage?
50	No. Historically we accepted septage at an RV dump station, but it caused too many treatment issues at the plant so the dump station was removed. Within town limits there are no RV parks.	
51	No, email from ecology "It was recently brought to Ecologys attention that during the 2018 fire season some POTWs accepted septage from the fire camps. Apparently, such septage discharges can contain a large amount of rags and other materials that can interfere with or otherwise degrade the treatment efficiency of a WWTP. At one WWTP rags were caught up in the facility's mechanical aerators which may have been the cause of an exceedance of the permittee's average monthly BOD5 effluent limit. Ecology would like to remind you that the Pretreatment condition S6.B.1 of your permit prohibits the POTW's acceptance of any commercial or industrial discharge that can "be reasonably expected to cause pass through or interference" of the collection system or WWTP. Condition S6.B.2. contains more detailed prohibitions, such as the discharge of solid or viscous materials (B.2.c) or any trucked or hauled materials (B.2.h), that may interfere with the proper operation of the POTW, except where a POTW has made provision for such discharges. Ecology may pursue enforcement action against a POTW that knowingly accepts such discharges or an industrial discharger that discharges materials that can interfere with the operation of a POTW. I have been assured by other Ecology staff that proper septage disposal options are available. Some recipients of this email are not POTWs, but a reminder of these important permit requirements to industrial users of this issue may be timely."	No, not accepting septage.
53	no, no capacity for it. assuming this means accepting from septic hauler's	n/a
54	No, Too small of a system and not enough employees to manage work load	N/A
55	no. we do not have infrastructure available.	N/A
57	No, because this plant is not designed to treat it. It has a 5200 gallon primary tank that gets pumped out every 3 years and taken to another facility for further treatment.The system only treats the liquid. It treats on average 15,000 Gallons per month. Its metered with a 1 gallon dipping tray that is recorded daily.	NA
58	No, We have never set anything up to accept septage, all we do is municipal sewage from the town.	No, we do not accept septage
59	0%	We don't take septage
60	We do not have the infrastructure in place to accept septage.	n/a - we do not accept septage
61	No, the plant was not setup to directly receive raw septage.	N/A
62	We do not accept septage. We are inside a private HOA, where all the lots have sewer connections. We do not receive anything from outside the community.	N/A
63	No, our plant is not set up to accept septage.	
64	No, In the past, many years back we did. But the lagoon we accepted it in only has a bar screen, we were getting to much trash going through.	N/A

Response ID	What is the limiting factor in your ability to accept septage?	Does accepting septage place additional strain on your daily operation or ability to meet your discharge permit requirements?	What would allow you to accept additional septage?
50		Yes that's why the dump station was removed. Quarterly, we would get hit with a large batch of chemicals and BOD that would upset the plant	
51	Not designed for septage, email from ecology - "It was recently brought to Ecologys attention that during the 2018 fire season some POTWs accepted septage from the fire camps. Apparently, such septage discharges can contain a large amount of rags and other materials that can interfere with or otherwise degrade the treatment efficiency of a WwTP. At one WwTP rags were caught up in the facility's mechanical aerators which may have been the cause of an exceedance of the permittee's average monthly BOD5 effluent limit. Ecology would like to remind you that the Pretreatment condition S6.B.1 of your permit prohibits the POTW's acceptance of any commercial or industrial discharge that can "be reasonably expected to cause pass through or interference" of the collection system or WwTP. Condition S6.B.2. contains more detailed prohibitions, such as the discharge of solid or viscous materials [B.2.c] or any trucked or hauled materials [B.2.h], that may interfere with the proper operation of the POTW, except where a POTW has made provision for such discharges. Ecology may pursue enforcement action against a POTW that knowingly accepts such discharges or an industrial discharger that discharges materials that can interfere with the operation of a POTW. I have been assured by other Ecology staff that proper septage disposal options are available. Some recipients of this email are not POTWs, but a reminder of these important permit requirements to industrial users of this issue may be timely."	No, we do not accept septage.	A WWTP designed for septage with a septage receiving station. Considering this as an option for a satellite facility.
53	we are a lagoon system. no seperation. septic tanks in our district are primary treatment.	n/a	new plant with primary treatment.
54	Man power and cost	It could, we are running at 65% capacity right now and have I&I issues during the winter	Financial compensation and man power. plant expansion/additional equipmnt
55	N/A	N/A	N/A
57	The system is not designed for that.	NA	NA
58	we do not have the pre-treatment available for septage to mix in well	During the Summer months we could handle septage if needed, but winter months the I&I is to much to handle any excess.	to have the pre-treatment process set up.
59	Receiving septage has never been on our radar	Does not apply	We don't accept septage
60	Not having infrastructure in place to accept it	It would be an additional TSS and BOD load, in addition to whatever other contaminants might be in it	Funding to put the necessary infrastructure in - meter, vault, etc.
61	Plant Design	It would if we did directly receive it and plus the additional equipment that would be required onsite	Grants from the state to help fund the upgrade for additional equipment, extra space, and plus the extra transportation infrastructure.
62	All the buildings here are connected to the sewer system. We have no septage within the community, and do not accept anything from outside.	N/A	Nothing
63	The facility design. Not a good location for us to intake septage. We make class B liquid biosolids at our facility and we only have 200,000 gallons per day come into our facility. Adding septage would through off our ability to manage our sludge and our permit limits.		Septage receiving station with a screen, garbage bin, and dosing tank. We could not have a hauler bring in 2500 gallons to our facility without a way to remove the solids, fog, and dose into the plant at a controlled rate.
64	Garbage	N/A	N/A

Response ID	In the event that you cannot accept septage on any given day, do you have a contingency or back up plan for pumpers to dispose at another facility?	Has your facility made any growth projections for septage handling needs?	Are you able to provide any additional data or information?
50			
51	No, we do not accept septage.	We're looking into a septage receiving station at a satellite facility.	We're looking into a septage receiving station as part of a satellite facility. We're working with Kennedy Jenks on a master plan, part of that planning will involve looking into at least 1 septage receiving station. For more information contact Darrell Winans District Manager darrell@douglassewer.org - Douglas County Sewer District #1
53	n/a	no.	Septage on Lopez typically is hauled to Anacortes WWTP, and when they are closed, to Laconner. Grease goes to Farm Power in Skagit
54	N/A		
55	N/A	N/A	Our facility is currently around 50% capacity relating to solids and flow. The City that governs and operates this facility has future capital improvement plans that include septage acceptance sites.
57	NA	No	No
58	N/A	no	We currently do not accept septage and likely will not in the foreseeable future.
59	Does not apply	NA	
60	n/a - we do not accept septage	n/a - we do not accept septage	
61	N/A	N/A	N/A
62	N/A	N/A	N/A
63		No	We will be expanding the plant over the next few years as more customers are hooked up. There may be an opportunity to design a septage receiving station and have clear SOP's for allowing septage into the facility as well as daily totals.
64	N/A	N/A	N/A

Status Log

Survey Name:	WSALPHO Septage Capacity Assessment - WWTP Operator Survey		
Survey ID:		8157319	
Campaign Type:	Email		
Campaign Name:	Invite		
Exported on:		1/27/2025 17:29	

Response ID	Email	First Name	Last Name	Response Status	Contact Status	Send Status	Sent On	Reminder 1 Send Status	Reminder 1 Sent On
5	FREEDOMENVIRONMENTALSERVICES@GMAIL.COM	DAMON STEVENS		Complete	Active	Click	1/16/2025 19:13		
6	MAREKB@PUYALLUPWA.GOV	MAREK BARTYZEL		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
7	DSHEPPARD@MONROEWA.GOV	DONOVAN SHEPPARD		Complete	Active	Click	1/16/2025 19:13		
8	JASONB@SSWD.ORG	JASON BRADSHAW		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
9	JCHRISTENSON@SEQUIMWA.GOV	JOHN CHRISTENSON		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
10	RIKKISCHMITT1@GMAIL.COM	RIKKI SCHMITT		Partia	Unsubscribed	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
11	BOWEN@CITYOFKALAMA.COM	BUTCH OWEN		Complete	Active	Click	1/16/2025 19:13		
12	JIMENDUSK@NETSCAPE.NET	JIM ENDUSK		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
13	LIVINGWATERSSERVICES@PROTONMAIL.COM	CHRISTOPHER ROBLIN		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
14	WHITEJASONSTANLEY@GMAIL.COM	JASON WHITE		Complete	Active	Click	1/16/2025 19:13		
15	PKWOLLMAN@GMAIL.COM	PAUL WOLLMAN		Complete	Active	Click	1/16/2025 19:13	Click	1/22/2025 15:42
16	STEVE@CITYOFCASHMERE.ORG	STEVE CROCI		Partia	Active	Click	1/16/2025 19:13	Click	1/22/2025 15:42
17	KIM.MALAKOFF@CLALLAMCOUNTYWA.GOV	KIM MALAKOFF		Complete	Active	Click	1/16/2025 19:13		
18	SDASKAM@CITYOFORTING.ORG	STEVEN DASKAM		Complete	Active	Click	1/16/2025 19:13		
19	SCOTTD@BARR-TECH.NET	SCOTT DEATHERAGE		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
20	KASHMORE@CITYOFCENTRALIA.COM	KIM ASHMORE		Complete	Active	Click	1/16/2025 19:13		
21	PUBLICWORKS@SEELILLOWA.ORG	ROBERT LIGHTFOOT		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
22	MJENKINS@CRWWD.COM	MATT JENKINS		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
23	RYANLHERMINI@GMAIL.COM	RYAN LHOOL		Complete	Active	Click	1/16/2025 19:13		
24	STEVEN.GLATUT@DOCL.WA.GOV	STEVEN GLATUT		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
25	WALKERD@CIELLENSBURG.WA.US	DANIEL WALKER		Complete	Active	Click	1/16/2025 19:13		
26	LACROSSE2@PIONNET.COM	DON KEENEY		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
27	CLERK.WASHTUCNA@GMAIL.COM	TERESA CORRELL		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
28	JPHELPS@CI.CHEHALIS.WA.US	JUSTIN PHELPS		Complete	Active	Click	1/16/2025 19:13		
29	CINDI.CONFERMORRIS@PARKS.WA.GOV	CINDI CONFER MORRIS		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
31	MHORTON@BAINBRIDGEWA.GOV	WALTER "MARK" HORTON		Complete	Active	Click	1/16/2025 19:13		
32	BUSINESS.MGR@STEVENSPASSSD.ORG	TOM MAHER		Complete	Active	Click	1/16/2025 19:13		
33	JEFGALLACCI@GMAIL.COM	JEF GALLACCI		Complete	Active	Click	1/16/2025 19:13		
34	OPERATIONS@HOLDENVILLAGE.ORG	BEN GERHARDT		Partia	Active	Click	1/16/2025 19:13	Sent	1/22/2025 15:42
35	JKINNEY@SELKIRKSCHOOLS.ORG	JOHN KINNEY		Complete	Active	Click	1/16/2025 19:13		
36	LAURIE.PIERCE@PIERCECOUNTYWA.GOV	LAURIE PIERCE		Complete	Active	Click	1/16/2025 19:13		
37	PLANTOPERATOR@COWICHESEWERDIST.ORG	RYAN KING		Complete	Active	Click	1/16/2025 19:13		
38	LEDABL@GMAIL.COM	BROOKE LYONS		Complete	Active	Click	1/16/2025 19:13		
39	OKWWTP@OKANOGANCITY.COM	CLINTON LITTLE		Complete	Active	Click	1/16/2025 19:13		
40	JDOTY@CITYOFBUCKLEY.COM	JAMES DOTY		Complete	Active	Sent	1/16/2025 19:13	Click	1/22/2025 15:42
41	FRANK.DICK@CITYOFVANCOUVER.US	FRANK DICK		Partia	Active	Sent	1/16/2025 19:13	Click	1/22/2025 15:42
42	FRANCISCO.TUERINA@GRANGERWA.ORG	FRANCISCO TUERINA		Partia	Active	Sent	1/16/2025 19:13	Click	1/22/2025 15:42
43	TIM.BERGE@EWSSD.COM	TIM BERGE		Complete	Unsubscribed	Sent	1/16/2025 19:13	Click	1/22/2025 15:42
44	DSJOHNSON64@YAHOO.COM	DARREN JOHNSON		Complete	Active	Click	1/16/2025 19:13	Click	1/22/2025 15:42
45	RLOUCKS22@WA-ICD.COM	RANDY LOUCKS		Partia	Active	Click	1/16/2025 19:13	Click	1/22/2025 15:42
46	MHODGSON@WENATCHEEWA.GOV	MIKE HODGSON		Partia	Active	Sent	1/16/2025 19:13	Click	1/22/2025 15:42
47	RPAULSON@DAYTONWA.COM	RYAN PAULSON		Complete	Active	Sent	1/16/2025 19:13	Click	1/22/2025 15:42
48	LMORRIS@CITYOFPT.US	LAWRENCE "BUSS" MORRIS		Complete	Active	Sent	1/16/2025 19:13	Click	1/22/2025 15:42
49	MBOTELLO@KITTITASWA.US	MARK BOTELLO		Partia	Active	Sent	1/16/2025 19:13	Click	1/22/2025 15:42
50	JOEP@FRIDAYHARBOR.ORG	JOE PASIC		Complete	Active	Click	1/16/2025 19:13	Click	1/22/2025 15:42
51	MICHAEL@DOODSEWER.ORG	MICHAEL BARNETT		Complete	Active	Click	1/16/2025 19:13	Click	1/22/2025 15:42
52	CKEELER@GCPUD.ORG	CARSON KEELER		Partia	Active	Sent	1/16/2025 19:13	Click	1/22/2025 15:42

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Response ID	Customer I	Phone (Mobile)	
5	1.01E+08	12533831901	PO BOX 477 MOSSYROCK, WA, 98564
6	1.01E+08	12538415467	1602 18TH ST NW PUYALLUP, WA, 98371
7	1.01E+08	13607946508	806 WEST MAIN ST MONROE, WA, 98272
8	1.01E+08	13704414006	PO BOX 640 EASTSOUND, WA, 98280
9	1.01E+08	13606827260	152 W CEDAR ST SEQUIM, WA, 98382
10	1.01E+08	15099251564	107 N MAIN ST ELLENSBURG, WA, 98926
11	1.01E+08	13606734570	PO BOX 1007 KALAMA, WA, 98625
12	1.01E+08	13607491580	PO BOX 801 LONGVIEW, WA, 98632
13	1.01E+08	15095598888	3 CAMPUS ST CURLEW, WA, 99118
14	1.01E+08	13604378340	781 WALKER WAY PORT LUDLOW, WA, 98365
15	1.01E+08	15093498403	1054 W HARDER RD WARDEN, WA, 98857
16	1.01E+08	15097823513	101 WOODRING ST CASHMERE, WA, 98815
17	1.01E+08	13609632387	PO BOX 245 SEKIU, WA, 98381
18	1.01E+08	12532683203	PO BOX 489 ORTING, WA, 98360
19	1.01E+08	15099600487	PO BOX 19365 SPRAGUE, WA, 99032
20	1.01E+08	13606231401	1100 N TOWER AVE CENTRALIA, WA, 98531
21	1.01E+08	15097752409	PO BOX 331 REPUBLIC, WA, 99166
22	1.01E+08	13609457584	15100 NW MCCANN RD VANCOUVER, WA, 98685-1147
23	1.01E+08	13602650565	874 BURN RIDGE RD ONALASKA, WA, 98570
24	1.01E+08	13606873730	15314 NE COLE VALLEY RD YACOLT, WA, 98675
25	1.01E+08	15099627277	2415 CANYON RD ELLENSBURG, WA, 98926
26	1.01E+08	15095493318	PO BOX 228 LACROSSE, WA, 99143
27	1.01E+08	15096468253	165 S MAIN ST WASHTUCNA, WA, 99371
28	1.01E+08	13607407486	420 NW LOUISIANA AVE CHEHALIS, WA, 98532
29	1.01E+08	15099962614	561 BEAR CREEK RD WINTHROP, WA, 98862
31	1.01E+08	12067809392	7505 HIDDEN COVE RD NE BAINBRIDGE ISLAND, WA, 98110
32	1.01E+08	12068124610	PO BOX 96 LEAVENWORTH, WA, 98826
33	1.01E+08	15098404304	22889 RD P.8 SW MATTAWA, WA, 99349
34	1.01E+08	19062312213	CHELAN, WA, 98816
35	1.01E+08	15094453503	10172 HWY 31 IONE, WA, 99139-9613
36	1.01E+08	12537089019	19031 CHAMBERS CREEK RD W BONNEY LAKE, WA, 98391
37	1.01E+08	15095785877	PO BOX 64 COWICHE, WA, 98923
38	1.01E+08	15092358532	PO BOX 98 LOON LAKE, WA, 99148
39	1.01E+08	15098223296	PO BOX 752 OKANOGAN, WA, 98840
40	1.01E+08	13607617881	PO BOX 1950 BUCKLEY, WA, 98321
41	1.01E+08	13604877179	PO BOX 1995 VANCOUVER, WA, 98660
42	1.01E+08		PO BOX 1100 GRANGER, WA, 98932
43	1.01E+08	12064323518	12550 SHOREWOOD DR SW BURIEN, WA, 98146-2428
44	1.01E+08	15094227432	PO BOX 487 TONASKET, WA, 98855
45	1.01E+08	15097331573	PO BOX 1515 BREWSTER, WA, 98812
46	1.01E+08	15098880238	PO BOX 519 WENATCHEE, WA, 98801
47	1.01E+08	15093850873	111 S 1ST ST DAYTON, WA, 99328
48	1.01E+08	13603853000	5500 KUHN ST PORT TOWNSEND WA, 98368,
49	1.01E+08	15097841500	14000 KINZEL ST ENTIAT, WA, 98822
50	1.01E+08	13603786400	375 TUCKER AVE FRIDAY HARBOR, WA, 98250
51	1.01E+08	15098841283	692 EASTMONT EAST WENATCHEE, WA, 98802
52	1.01E+08	15097545088	PO BOX 878 QUINCY, WA, 98848

Appendix G: Wastewater Facility Calls

All Permitted Facilities Accepting Septage

Average Gallons of Septage Accepted in 2024	5,702,578
Minimum Plant Capacity	12,000
Maximum Plant Capacity	23,747,025
% Facilities not Expanding	69%
Total Gallons of Septage Accounted for	136,884,675

Facility Name	Lat	Long	Treatment Type	Gallons of Septage Accepted in 2024	Any plans for expansion?
ABERDEEN WWTP	46.90924117	-76.14863352		500,000	
ACE ACME SEPTIC	48.1503016	-122.1409779			
ALKY BLUE CREEK SEWER SYSTEM	48.3395027	117.8824125		1,593,828	No
ANACORTES WWTP	48.51818554	-122.6086946		5,900,000	
AW IBEM SOLO POINT WWTP	47.1334699	-122.6398249			
B AND B SEPTIC SMF	47.43756213	-118.3021161			
BACKLAND TEE PEE SEPTIC SERVICES SMF	46.80707201	-119.1786048			
BELLINGHAM POST POINT WWTP	48.7101593	-122.513911			
BIORECYCLING LSP CENTRALIA	46.7408683	-122.9936837		15,000,000	
BIORECYCLING LSP NORTH RANCH	47.29887097	-122.8918977		15,000,000	
BISHOP SANITATION SMF	47.09046543	-119.6173043			
BOULDER PARK BUF	47.8762591	-119.000813			
BURLINGTON WWTP	47.16747128	117.0537433		2,000,000	No
BUSY B'S FARM	47.67918681	117.6191543			
CAMAS STP	45.57811936	-122.3922967			Yes
CAMAS WWTP	45.57810616	-122.3923314	Activated Sludge		
CHENEY SEPTIC SERVICES SMF	47.50024121	-117.5785207			
CHEYNE LANDFILL SEPTAGE LAG	48.27317209	122.8918927			
CLEARWATER TECH SMF	46.42607455	117.0597066			
CONCONULLY WWTP	48.55825081	119.7502271		7,058,089	
EVERETT WPCF	47.99307161	-122.1778591			No
EXPRESS SEPTIC SMF	47.14609311	-119.2748714			
FIRE MOUNTAIN FARMS BUF	46.59278206	-122.5096578			No
HERRIMAN SPEEDY TANK SERVICE SMF	48.42906761	119.5586206			
HOQUIAM STP	46.97225665	-123.8197903	Oxidation ditch	12,000	
IONE WWTP	48.94649214	-122.8918977		2,500,000	No
ISLAND CO WWTP	48.20777635	-122.6190639	Aeration digestors, Lagoo	937,000	Yes
J AND L FARMING SMF	45.66974776	-122.7697462			
JIMS PUMPING SERVICES SMF	47.8770846	119.9321709			
JOHNSON SEPTIC SMF	48.37510167	-118.1160398			
KETTLE FALLS WWTP	47.94982517	-122.8918977			
KING CO SOUTH WWTP	46.00568892	-121.4655727		75,500,000	No
KITSAP CO CENTRAL KITSAP WWTP	47.6620836	122.5015992		7,970,562	
KITTITAS CO BYDGRASS LAG SMF	46.96703316	120.2142247			
LA CENTER STP	45.86130739	122.6713951	STEP		No
LA CENTER WWTP	45.86180886	-121.1759745			
LA CONNER STP	48.39163218	-122.4849029			
LIL JOHN SANITARY SERVICE SMF	46.83270906	-122.4574424			
MESA WWTP	47.6620836	122.8398663			
METHOW VALLEY SEPTIC SMF	48.3633416	120.1222565			
MORGAN AND SON SMF	48.32013046	-119.6188484			
NACHES WWTP	46.72635129	-120.6917035			
NATURAL SELECTION FARMS BUF	46.30172042	-120.0724926			
NORTHWEST CASCADE PACIFIC FACILITY SMF	47.25636871	-122.2542034		8,108,024	
OKANOGAN WWTP	48.35872595	-119.5862065			
OVERLOOK FARMS SMF	46.11681617	-119.0113277			
PIERCE CO CHAMBERS CREEK REG WWTP	47.2848167	-122.5019997		8,000,000	
PORT ANGELES STP	48.11159335	-123.4621068		2,957,200	
PORT ANGELES WWTP	47.48992028	119.5513023		2,957,200	
REPUBLIC WWTP	47.48992028	122.6578538			
SCOTT SEPTIC AND RENTALS SMF	48.93315988	-119.4451984			
SEDRON SERVICES SUMNER SMF	47.48992028	-122.6618296			
SEQUIM WRF	48.08410697	-123.064827			
SHELTON WWTP	47.20564663	123.0777905			
SHORT SEPTIC SERVICE SMF	47.7702079	118.907079			
SPOKANE RIVERSIDE PARK WRF	47.66776002	117.4266656		3,780,000	
SPRINGDALE WWTP	36.21129055	-94.16743987			

STEVENS CO WAITTS LAKE VALLEY STP SMF	47.7744312 5	-117.0899614			
STEVIE SEPTIC SERVICES SMF	48.3640516	-120.1216811			
TACOMA CENTRAL WWTP NO 1	47.24345047	122.4082635		438,000	
TACOMA CENTRAL WWTP NO 1	47.24843398	122.4147847	Dual digestion	5,200,000	No
TACOMA NORTH NO 3	47.24440576	122.4110969	Activated Sludge		
TENINO WRF	46.84658073	-122.8728179			
THE SHEEP CAMP SMF	46.12861907	-117.8902936			
THREE RIVERS REG WWTP	46.10610852	-122.9146409		3,000,000	Yes
THREE RIVERS REGIONAL WASTEWATER	46.10812789	122.9147232	Secondary Treatment	3,000,000	No
UFO CORP NW WW PUMPING SERVICE SMF	47.40646133	-120.2981453			
VANCOUVER WESTSIDE STP	45.63621197	-122.6946458	Activated Sludge		Yes
VANCOUVER WESTSIDE WWTF	45.63513059	-122.691512	Activated Sludge		
WA SP BROOKS MEMORIAL WWTP	45.95024801	-120.6662609			
WA SP PEARRYGIN LAKE LAG	48.45965354	-120.1220655		404,000	
WAITTS LAKE SEWER SYSTEM	48.17248851	-117.7477045		1,893,928	
WALLA WALLA WWTP	46.06896609	-118.3750564			
WEST LINCOLN PROJECT BUF	47.59899709	-122.3312767		23,747,026	