

CLALLAM POLLUTION IDENTIFICATION AND CORRECTION (PIC) April 2021: A Focus on On-site Septic Systems

What's new?

Spring has sprung! Signs of renewal are all around.

Work continues in the Pollution Identification and Correction (PIC) area, although slowly due to the impacts of COVID-19. Water quality monitoring continues, but investigative work is currently delayed. As the County moves into Phase 3 of the state's "Roadmap to Recovery Plan," parcel-level investigative work will resume. Investigative work helps pinpoint sources of pollution.

On-site septic systems have been a major contributor to poor water quality in the Lower Dungeness watershed. Clallam County Environmental Health's (CCEH) On-site Septic Operation and Maintenance (O&M) Program enforces state and county regulations for inspection requirements. CCEH tabled enforcement early on in the pandemic, but enforcement resumed in March 2021. CCEH believes resuming enforcement is beneficial for homeowners because inspections help prevent costly failures. You will find more on septic inspection compliance and the benefits of this maintenance below.



Image: Ariel view of the Dungeness Delta

Septic Inspection Compliance

Washington State law (WAC 246-272A-0270) and Clallam County Code (CCC 41.20.170) require homeowners have regular inspections. Clallam County has more than 20,000 septic systems countywide, and over 12,000 of those in the Clean Water District/Marine Recovery Area.

Inspectors often find small issues that would result in failures if left unchecked. Regular septic system maintenance can prevent costly repairs and prolong the life of your system, similar to auto maintenance. If you never look under the hood to see how things are operating, you are at risk of an expensive system failure. A regularly maintained septic system not only protects water quality and safeguards the public against exposure to infectious pathogens, but it also protects your investment!



Image: Failing drainfield

April 2021: A Focus on On-site Septic Systems

Many homeowners pump their systems more often than necessary and forego inspections. While important, pumping does not have the same benefits of an inspection. The frequency in which a septic tank requires pumping can vary dramatically depending on how the system is used. Pumping is more expensive than an inspection. In addition, it will not catch small issues that can cause a septic system to fail if not corrected. Conventional gravity systems require inspections every 3 years, and all other system types require annual inspections. Measuring the levels within the septic tank is one of the checks the inspector will make, and they will let you know when it needs pumping. So, save yourself money and protect your system by opting for the inspection (as required) first!

Local providers can tell countless stories about systems with small issues that, left unchecked, would have resulted in a costly failure. By requiring maintenance, our hope is that we can spare homeowners of this experience. The financial burden of replacing a septic system is great. A failure can cost \$10,000-30,000, depending on system type. However, a septic inspection costs, on average, \$175 (financial assistance is available, see p.6). A new system that never gets an inspection can have a 10-year lifespan. A well-maintained system likely has a 30-year or longer lifespan. Ultimately, whether on sewer or septic, wastewater treatment costs homeowners money.

Clallam County provides a list of licensed inspectors you can hire, or you can perform the inspection yourself upon certification through our free do-it-yourself (DIY) certification program (restrictions apply). Please visit our website at www.clallam.net/septic for more information.

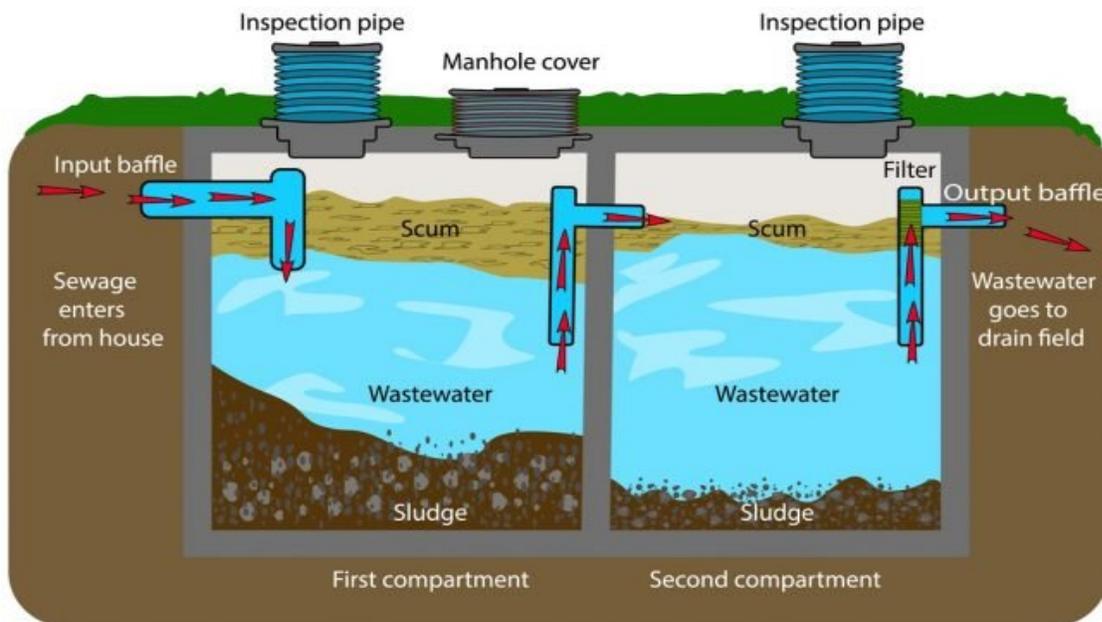
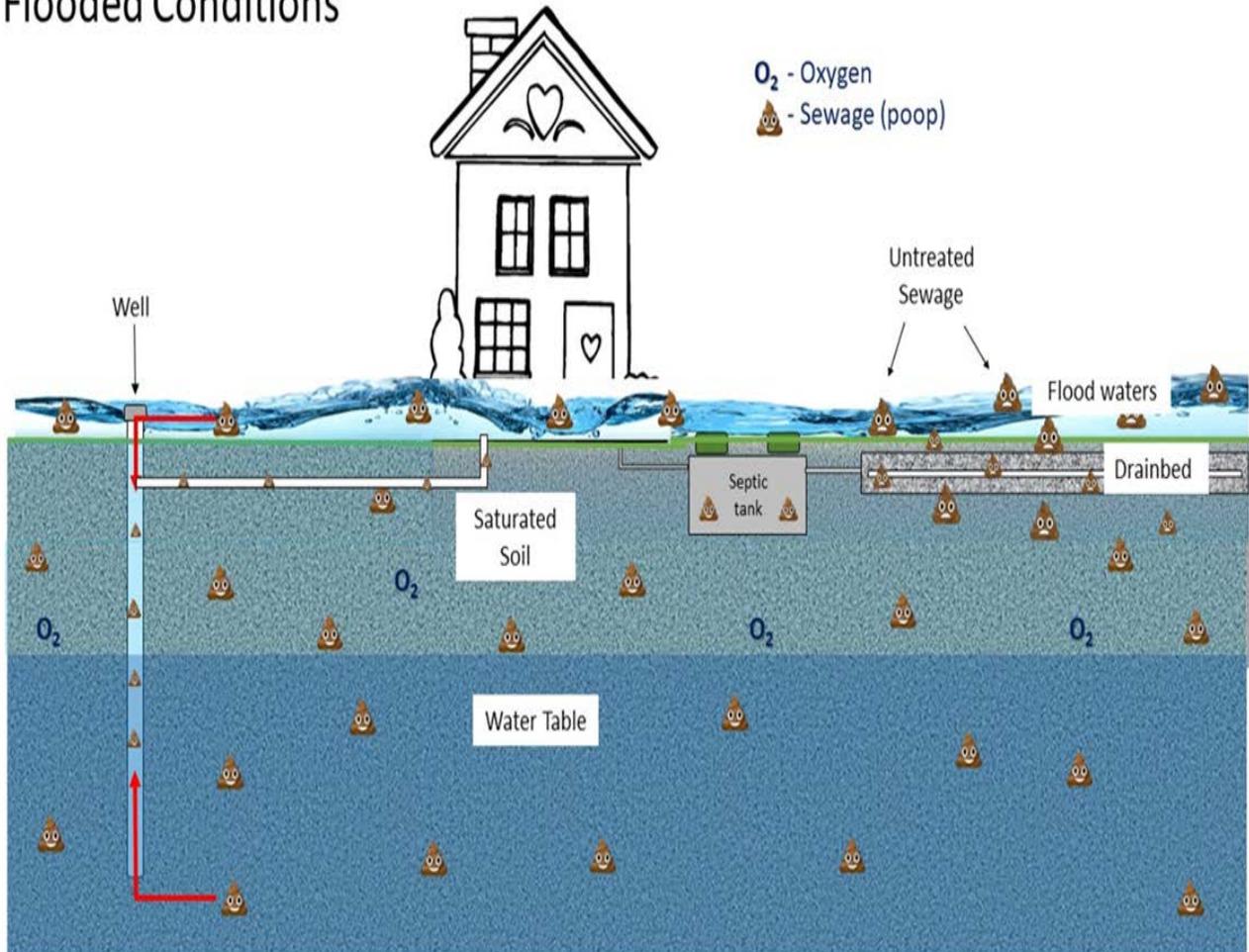


Image: How your system works (source: https://s3-production.bobvila.com/articles/wp-content/uploads/2020/02/How_Does_a_Septic_System_Work_at_Home-650x396.jpg)

Benefits of Septic System Inspections

Septic inspections prolong the life of a system by preventing premature failures. Failures have the potential to expose humans and wildlife to dangerous pathogens, pollute the environment, and they are expensive to repair. Do yourself, our community, and our spectacular environment a favor – get your system inspected.

Flooded Conditions

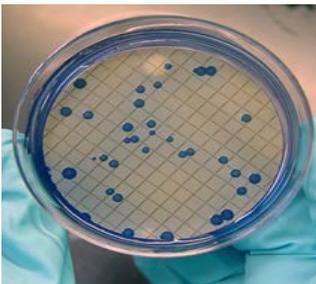


Imagine this scenario as you view the image above: A homeowner has not had an inspection since ... well; they have no idea when their last inspection was (but they could find out at https://nv3068.cc.local/maps/OSS_Inspection_Status/). It has been raining a lot the past few months. Their yard is getting soppy and sloppy. They think it is just the rain as they admire their children jumping gleefully in the puddles...

April 2021: A Focus on On-site Septic Systems

Just because your system seems to be functioning, properly (i.e. because sewage is not back flowing into the house) does not mean it is functioning properly. Failures can occur at different points in the system. The above image is a drainfield failure. Nobody would knowingly expose their children to these conditions, but many may not know they are. The only way to know if your system is functioning properly is through a formal inspection.

The image below is of a fecal coliform plate after lab analysis. Water samples are collected at a site of interest (what we do as part of the PIC project!). An accredited lab analyzes the samples to determine if fecal coliform is present, and if so, in what concentration. Each blue dot is one colony forming unit, or CFU, and total concentration is measured per 100 milliliter (mL).



Fecal coliforms live in the digestive tracts of warm-blooded animals, including humans, and are present in their excretion. They indicate the presence of harmful pathogens, such as those found in the table below. Testing for each of pathogens individually is not practical – concentrations are low and variability is great. Fecal coliform is water quality’s canary in the coalmine. The canary will not hurt you, but when you find it dead, you know something harmful lurks in the environment.

| MAJOR MICROBIAL DISEASES (& PICTURED DISEASE-CAUSING ORGANISMS) IN DOMESTIC WASTEWATER | | | |
|---|---|--------------------------------------|------------|
| ORGANISM | | DISEASE NAME | # OF TYPES |
| Poliovirus |  | Poliomyelitis | 3 |
| Coxsachieviruses A |  | Aseptic Meningitis | 23 |
| Coxsachieviruses B | | " " | 6 |
| Echoviruses | | " " | 31 |
| other enteroviruses | | Conjunctivitis, Encephalitis | >4 |
| Hepatitis A |  | Infectious Hepatitis | 1 |
| Adenoviruses | | respiratory illness, gastroenteritis | >4 |
| Reoviruses | | " " | 3 |
| Salmonella typhi |  | Typhoid Fever | 1 |
| Salmonella paratyphi | | Paratyphoid Fever | 1 |
| other Salmonella | | Gastroenteritis | >2,000 |
| Rotaviruses |  | " " | 4 |
| Norwalk Viruses | | " " | 3 |
| Enteropathogenic E. Coli | | " " | >4 |
| Campylobacter jujuni |  | " " | 1 |
| Yersinia enterocolitica | | " " | 1 |
| Cryptosporidium |  | " " | >2 |
| Trichuris trichiura | | " " | 1 |
| Strongyloide stercoralis | | " " | 1 |
| Shigella |  | Bacillary Dysentery | 4 |
| Vibrio species |  | Cholera, gastroenteritis | >9 |
| Entamoeba histolytica | | Amoebic Dysentery | 1 |
| Giardia lamblia |  | giardiasis | 1 |
| Balantidium coli | | dysentery | 1 |
| Ascaris lumbricoides |  | pneumonitis, gastroenteritis | 1 |
| Anclostoma duodenale | | anemia | 1 |
| Necator americanus |  | " " | 1 |
| Taenia saginata |  | variable symptoms | 1 |

Financial Assistance: Inspection Costs and Repairing Failing Systems

The best thing homeowners can do for themselves is prolong the life of the system through regular inspections. A lack of maintenance as described above can decrease the lifespan of a system by up to 67%. You could find yourself replacing your system every 10 years instead of every 30+ years. We are aware that the cost of an inspection or repair can be a significant financial burden for some in our community. There are resources to help offset the cost.

Grant money our department recently received influenced our decision to resume septic inspection compliance enforcement. We have funding for our septic inspection rebate program, which prioritizes homeowners declaring financial hardship and provides them a grant covering 100% of inspection costs. Other homeowners can apply for a flat \$100 rebate, which are issued as funding allows. Funds expire May 31, 2021, so act quickly! You need to make an appointment and submit your invoice and application (included) by the expiration date. You can find more information at www.clallam.net/septic.

We know that it can be worrisome to get an inspection because it may expose a failure. Clallam County Environmental Health, in partnership with the Clallam Conservation District, also received grant money to help support the Conservation District's septic system cost-share program to repair failures in the greater PIC area. These funds will be a huge relief to homeowners that do not have the means to repair a failing system, but they are also time-sensitive. (Low-interest loans through Craft3 and the USDA are also available to help support system repairs.) To learn more about the cost-share program, visit <https://clallamcd.org/financial-assistance>.

Thank You for the Collaboration

The PIC project inherently requires a partnership with the local community in order for it to be successful. You are stakeholders in this project and all other work conducted in the area. We know how many of you out there value our environment and the economy created by it. An incredible amount of important work has occurred in the Lower Dungeness watershed in the past 20 years. We hope to create greater awareness about the benefits of this work, garner more support, and help to further develop a sense of stewardship in the community. We are happy to answer any questions you may have or address any concerns. Please contact Heather Watts with Clallam County Environmental Health at 360-417-2415.



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Quarterly PIC Trends Data January 2021–March 2021

To be updated soon ... check back at <http://www.clallam.net/HHS/EnvironmentalHealth/PICProject.html> later in the month.

All PIC Trends data currently available can be found at <https://clallam.app.box.com/s/yn2lhebms07cgvs4vvccvj3947hyfqlc>