



# **Report: Resolve, To Facilitate the Protection of Public Health Through Increased Subsurface Wastewater Inspections**

Prepared for the Joint Standing Committee  
on Environment and Natural Resources  
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## Executive Summary

The report that follows has been completed to address the questions the Joint Standing Committee on the Environment and Natural Resources outlined in LD 543, a Resolve to Facilitate the Protection of Public Health Through Increased Subsurface Wastewater Inspections (copy attached). The Committee seeks information regarding the status of the Department's efforts to draft regulations creating minimum standards for septic system inspections and revising the process for inspector certification. The resolve also asked the Department to estimate the number of inspectors currently available and the number of inspections performed in a calendar year. Finally, the resolve asked the Department to assess the septic system inspection industry's ability to meet an increased demand for inspections should the Legislature amend existing statute to require all properties transferred that include a septic system be required to have an inspection of the system at the time of transfer and the Department's requirements for resources or funding to implement the revised certification program and new standards for inspections.

This report demonstrates that the inspection industry as currently configured can meet the existing demand for inspections of septic systems located in the Shoreland Zone. The Department's revisions of the certification process will likely result in a period of time with fewer inspectors but should not result in a significant disruption of the industry as it responds to the new certification requirements. The report also shows that increasing the requirement for septic system inspections to all properties transferred in Maine that utilize septic systems before the industry has an opportunity to adjust to the revised certification process could result in an insufficient number of inspectors being available to complete the number of inspections required, which would result in delaying the sales of some homes. Finally, the report describes the Department's anticipated requirement for additional staff and funding for training should the Committee recommend that all properties transferred in Maine with septic systems as their means of waste disposal be inspected each time a property is sold. The Department concludes that the new minimum standards for inspections to be promulgated in 2020 as rules and the oversight required as they are implemented will likely result in the need for an additional staff position.

A malfunctioning septic system



## Introduction and History of Septic System Inspections in Maine

Since July 1, 1974, the State of Maine has required that septic systems must be designed by a licensed Site Evaluator and a permit must be granted by a Local Plumbing Inspector (LPI) prior to installation of a septic system. Maine was one of the first states to replace traditional “perc tests,” which simply measure how long water takes to infiltrate the ground, with a rigorous evaluation of the soils and their ability to transmit and treat effluent. The goal of site evaluations is to ensure that septic systems are located in soils that will provide treatment adequate to protect groundwater and surface waters from contamination. Septic systems are designed to handle the expected load, referred to as the “design flow,” from a residence or other structure that will generate wastewater. Current regulations require that the LPI inspect each system being installed twice during construction as verification that the system has been installed as designed by the Site Evaluator.

Since 2007, the State has required an inspection of any septic system located in the Coastal Shoreland Zone (within 250 of the upland edge of a coastal wetland) by a person certified by the Department of Health and Human Services (Department) during property transfers with exceptions for systems less than three years old or which have been inspected by a certified inspector within the prior three years (M.R.S. 30-A §4216). In 2019, M.R.S. 30-A §4216 was amended to require inspections of septic systems located in all Shoreland Zones (the land area located within two hundred and fifty (250) feet, horizontal distance, of the normal high-water line of any great pond or river; within 250 feet, horizontal distance, of the upland edge of a coastal wetland, including all areas affected by tidal action; within 250 feet of the upland edge of a freshwater wetland; or within seventy-five (75) feet, horizontal distance, of the normal high-water line of a stream) during property transfers commencing on January 1, 2020. The purpose of this requirement to inspect all septic systems within the Shoreland Zone is the identification of *malfunctioning* septic systems. The Subsurface Wastewater Disposal Rules, 10-144 CMR 241 (Subsurface Rules), define a malfunctioning septic system as:

*A system that is not operating or is not functioning properly, based on the following indicators: ponding or outbreak of wastewater or septic tank effluent onto the surface of the ground; seepage of wastewater or septic tank effluent into parts of buildings below ground; back-up of wastewater into the building being served that is not caused by a physical blockage of the internal plumbing; and contamination of nearby water wells and waterbodies/courses.*

Malfunctioning septic systems do not include systems that may exhibit signs of aging, conditions that require maintenance, or other minor deficiencies.

Home buyers typically seek septic system inspections to identify potential issues that may require them to pay for system repairs or replacement in the future, not specifically the identification of malfunctions. Because of this, the inspector’s focus is not identification of a malfunctioning system but gathering enough information about a system to allow an evaluation of its current condition and functionality.

Septic system inspections in the Shoreland Zone must be performed by a person certified by the Department. The statute adopted in 2007, M.R.S. 30-A §4216, does not provide guidance to the Department regarding the minimum education, training or experience that should be required for certification. Lacking any statutory guidance or minimum criteria, the Department created a voluntary certification program subsequent to passage. Training is provided by Department staff at several locations around the state each year. Attendance at one of these classes every five years is required for initial certification and renewal. There are no minimum qualifications required for consideration for certification. There are no exams to demonstrate competency. There is no charge for certification or renewal. This loosely structured voluntary certification process has resulted in the certification of individuals with a wide range of expertise which often results in inconsistent inspections. Inspectors may fail to identify significant issues important for home buyers as they evaluate a property. In other instances, inspections result in septic systems being labeled as “failing” for conditions that are not malfunctions. Buyers, sellers and the realtors representing them require and expect accurate and consistent inspections.

This distribution box is clogged and not level. It represents deficiencies that should be identified during an inspection and may indicate additional problems exist in the system, but this is not a malfunction. The current lack of standards to guide inspectors results in deficiencies like this being used to identify septic systems as “failing”.



Responses to questions asked by the Joint Standing Committee on Environment and Natural Resources

## **1. Time Frame for Adoption of Rules Regarding Septic System Inspection Standards and Revised Inspector Certification Requirements**

### Inspection Standards

The Department has worked with stakeholders for over two years to develop proposed standards for the inspection of septic systems during property transfers. These minimum standards for system inspections will be included along with other proposed changes to the Subsurface Wastewater Rules. Rulemaking for these Rules is scheduled for the summer or fall of 2020. The new inspection standards focus on understanding, locating and evaluating each component of a septic system, and their functions. Inspectors will record the condition and functionality of each component and report those findings in writing to the person requesting the inspection, usually a property buyer. Inspectors will provide home buyers with an objective evaluation of the current condition of the septic system. A primary goal of the new standards is to teach inspectors how to discriminate between typical system deficiencies and true system failures or malfunctions. Inspectors will identify any malfunctioning system using appropriate regulatory criteria. Standards drafted by the Department must give clear guidance to the inspector to identify malfunctions to be compliant with statute while also ensuring that the results of each inspection yields accurate and consistent descriptions of the system's current status satisfying their clients' needs during the purchase process. The new standards are intended to reduce the number of systems mistakenly identified as "failing" even when they do not meet the definition in rule for a malfunction. Many issues identified during inspections that result in a system being labeled as "failing" may be normal fluctuations of system use, a lack of knowledge by the inspector regarding specific system designs or minor issues that can be remedied without replacing the system.

### Inspector Certification Requirements

The proposed rule includes new inspector certification requirements to address the lack of consistency that results from the current voluntary certification process. Applicants for certification would be required to hold a valid and current inspection certification from either a national organization which trains and certifies septic system inspectors, an equivalent state or county certification, or another type of licensure approved by the Department. The Department will collaborate with the Joint Environmental Training Coordination Committee (JETCC) to develop an in-state training and certification program to provide a local option for applicants. New Hampshire has a comprehensive training and evaluation program for septic system inspectors and there are various on-line opportunities for certification. The Department will maintain a list of approved certifications and review other programs as they become available. The requirement that applicants demonstrate competency by obtaining Department approved training and certification is modeled after the process used successfully in Maine to license closed-loop geothermal well drillers. In addition to an approved certification, applicants must pass an exam consisting of 25 questions taken directly from the Subsurface Wastewater Rules.

An exam will be available on-line and may be completed at home. The exam is essentially “open-book,” intended to ensure applicants work from the Subsurface Wastewater Rules, have read them and are familiar enough with them to find answers to questions and issues they encounter during inspections. Inspecting septic systems in Maine does not require extensive knowledge of the Subsurface Wastewater Rules but does require a basic understanding of the site evaluation, design and permitting processes. The proposed rules also allow licensed Site Evaluators to become certified inspectors upon request.

The Department anticipates completing the updates to the Subsurface Wastewater Rules, including new sections regarding system inspections and inspector certification in the summer or early fall of 2020. The Department will also work with stakeholders to draft a companion guidance document to provide additional detail for inspectors as they work in the field.

## **2. Evaluation of the Current Septic System Inspection Industry**

The Department currently certifies 114 individuals as septic system inspectors and licenses 208 as Site Evaluators. The proposed changes for certification will likely result in some currently certified inspectors choosing to forgo certification, the exact number is unknown. Many of the currently certified inspectors are home inspectors by trade and offer septic system inspections as part of their service.

The leading national certification organization for home inspectors is InterNACHI, the International Association of Certified Home Inspectors. InterNACHI currently has approximately 100 individuals certified as home inspectors in Maine, of whom 21 also list septic system inspections under their services provided. InterNACHI provides training and certification opportunities for septic system inspections to members free of charge (their training opportunities are included with annual membership).

All 208 currently licensed Site Evaluators are qualified to perform septic system inspections. The Department proposes to certify Site Evaluators as certified inspectors on request. It is unknown how many Site Evaluators will choose to also provide inspection services.

The Department anticipates that given adoption of the proposed changes for inspector certification the combination of individuals currently certified by other state or national organizations and a small number of Site Evaluators wishing to perform septic system inspections will number approximately 50 individuals, with additional individuals being added to the total as more seek certification from other sources and Maine develops a local training and certification option through JETCC.

## **3. Department Estimates of the Ability of the Existing Septic System Inspection Industry to Meet Increased Demands for Inspections Should Statutory Changes Require all Systems in Maine be Inspected Upon Transfer of a Property**

Data presented below, provided by the Maine Association of Realtors, shows how many residential properties were sold in Maine for the recent most three years data are available. These represent very strong sales and can be considered as the upper end of the anticipated need for septic system inspections annually in Maine.

- Total number of residential properties sold between 1/1/18 – 12/31/18: 17,864  
Total number with septic systems on site: 7,020 (40% of all home sales)

Of those 7,020 home sales, the number in the Shoreland Zone was:

- pond, brook, lake, river, stream waterfront: 1,752 (25%)
  - bay, cove, harbor, ocean waterfront (Coastal Shoreland Zone): 553 (8%)
- Total number of residential properties sold between 1/1/17 – 12/31/17: 17,633  
Total number with septic systems on site: 6,980 (40% of all home sales)

Of those 6,980 home sales, the number in the Shoreland Zone was:

- pond, brook, lake, river, stream waterfront: 1,730 (25%)
  - bay, cove, harbor, ocean waterfront (Coastal Shoreland Zone): 585 (8%)
- Total number of residential properties sold between 1/1/16 – 12/31/16: 17,507  
Total number with septic systems on site: 6,710 (38% of all home sales)

Of those 6,710 home sales, the number in the Shoreland Zone was:

- pond, brook, lake, river, stream waterfront: 1,558 (23%)
- bay, cove, harbor, ocean waterfront (Coastal Shoreland Zone): 447 (7%)

For each of the years 2016, 2017 and 2018 between 17,500 and 18,000 residential properties were sold in Maine. Of those, approximately 7,000, or 40%, were homes served by an on-site septic system, with a maximum of about 2,300 with septic systems located in the Shoreland Zone. The prior statutory requirement that homes with septic systems located in the Coastal Shoreland Zone resulted in approximately 3% of properties sold each year needing an inspection completed by a Department certified inspector. The latest change to that statute has increased the number of required septic system inspections to approximately 13% of the 17,500 properties transferred in Maine each year. Under the current statute, which beginning on January 1, 2020 requires all 2,300 properties transferred with septic systems located in the Shoreland Zone be inspected by an individual certified by the Department, 50 certified inspectors would be required to complete approximately 1 inspection per week (about 46 per year per inspector) to meet demand. If the only individuals certified by the Department after certification criteria is revised through rulemaking were the 21 currently certified by InterNACHI (a very conservative “worst case” estimate) they would be required to complete about 2 inspections per week (about 110 per inspector per year) to meet current demand.

Amending M.R.S. 30-A §4216 to require all 7,000 residential properties that utilized septic systems in Maine be inspected as part of a property transfer would increase the number of required inspections to 40% of the properties sold each year, a significant increase from the 13% required under existing statute. The result would be approximately 135 required inspections each week, or 3 per week for an anticipated workforce of 50 individuals and 7 per week if the workforce is limited to the 21 current InterNACHI certified inspectors which again is the worst-case scenario.

The math:

Demand currently required by statute:

2,300 homes/50 inspectors = 46 inspections per year per inspector (<1/week/inspector)

2,300 homes/21 inspectors = 110 inspections per year per inspector (>2/week/inspector)

Demand if the requirement be expanded to all property transfers with septic systems:

7,000 homes/50 inspectors = 140 inspections per year per inspector (<3/week/inspector)

7,000 homes/21 inspectors = 334 inspections per year per inspector (<7/week/inspector)

Deriving these estimates requires making some significant assumptions. First, the same number of properties are not sold each week or month of each year. Home sales in Maine fluctuate seasonally, with more home being sold in the warmer months than in the colder months of winter, and spring being the busiest time of the year. The number of required inspections per week and per inspector must be adjusted for these seasonal fluctuations by making additional reasonable assumptions. If the number of annual home sales in the seven warmer months of the year, April through October, are 70% of the annual home sales, the number of inspections required each week during these months increases as follows:

For current requirement for homes sold with septic systems in the Shoreland Zone:

70% of 2,300 homes sold = 1,600 homes/28 weeks = 57 required inspections each week, or approximately 1 inspection per week for a workforce of 50 inspectors and 3 inspections per week for a workforce of 21.

If the requirement for inspections were increased to all home sales with septic systems:

70% of 7,000 homes sold = 4,900 homes/28 weeks = 175 required inspections per week, or approximately 4 inspections per week per inspector for a workforce of 50 inspectors and 8 inspections per week per inspector for a workforce of 21 (the industry is likely starting to be stressed).

It is likely that there will be weeks busier than the estimates above, especially in the spring of each year. It is also likely that the estimate of a low of 21 inspectors certified after adoption of revised standards for certification is less than the number that will likely be available. The Department has inquired with two current inspectors and both indicated that they normally can

complete two inspections per day when weather, travel times between sites and site complexities permit. A workforce of at least 50 inspectors would be ideal during very busy periods should all 7,000 annual property transfers in Maine on sites that utilize septic systems for waste disposal be required to have an inspection completed by someone certified by the Department. Given the assumptions made above, it's possible that busy periods could result in some inspections being delayed during busy sales periods should the requirement for inspections be increased to all properties with septic systems prior to the industry being afforded time to respond to the Department's proposed revised requirements for certification with a workforce of at least 50 certified inspectors.

Another assumption made above is that there are inspectors evenly distributed geographically around the state available to perform inspections on request. It's likely that there are fewer inspectors in the less populated areas of Maine, and the home sales that take place in those areas are separated by greater distances than they are in more heavily populated regions of the state. If every home sold should require an inspection by a person certified by the Department, the smaller number of available inspectors and the significant distances to home sites in these less populated locations in Maine could result in delays for home buyers and sellers in those areas.

Finally, the analysis above cannot predict the variations in inspector availability due to illness, adverse weather conditions, difficulties uncovered, or complexities encountered at sites that may require more time for the completion of an inspection than anticipated. There are several potential scenarios that would likely reduce the number of inspections that could be completed each week, particularly during the busy periods of home sales. Requiring all properties in Maine that utilize septic systems be inspected by a certified individual may also create a demand for additional inspectors resulting growth for this industry.

#### **4. Department Recommendations Regarding Resources and Funding to Properly Implement and Administer a Statewide Septic System Inspection Program and Revised Certification Program**

The Maine Center for Disease Control and Prevention's (Maine CDC) Drinking Water Program (DWP) has the authority to oversee the proper design, permitting, installation and inspection of septic systems to prevent diseases and illnesses caused by the improper disposal of wastewater. The State Site Evaluator position in the DWP is responsible for oversight of the licensed Site Evaluators that design septic systems and the Local Plumbing Inspectors in each municipality who review designs for compliance with appropriate regulations and issues permits for installation. This position also provides technical assistance to municipal officials and property owners with problematic septic systems. DWP staff currently process license applications for Water Operators, Well Drillers, Pump Installers, Geothermal Well Drillers, Site Evaluators, Certified Installers (septic system installers) and Certified Inspectors. The new requirement for the inspection of septic systems in the entire Shoreland Zone during property transfers and the Department's proposed changes to the minimum qualifications for an individual to become certified to conduct those inspections should not significantly increase the oversight

responsibilities of the DWP. The DWP has existing staff and systems in place to handle these responsibilities.

The Department anticipates that the adoption of rules which include minimum standards for the inspection of septic systems will eventually result in additional oversight responsibilities, particularly should the requirement be expanded to all 7,000 homes sales with septic systems which occur annually. More inspections, increased requirements for inspectors, additional responsibilities for Department staff to help train inspectors and requests from property buyers for technical assistance and dispute resolution are inevitable as the program is administered and matures. The Department anticipates that at least one Environmental Specialist III full time equivalent (FTE) position would be needed to complete the required oversight without impacting the DWP's ability to administer other regulatory requirements.

Funding to subsidize the training required to meet the revised certification program by individual inspectors would help facilitate the industry responding to the revised certification requirements. The Department currently works with and provides funding to JETCC to provide training for licensed water system operators through federal funds available for that purpose. The DWP is working with JETCC to design training opportunities for septic system inspectors that would meet the requirements of the revised certification criteria. Funding dedicated for inspector training would allow the Department to lessen the financial burden that inspectors may experience as they seek to meet the new certification requirements. Funding of \$10,000 over two years would provide a \$200 subsidy for 25 inspectors to be trained and certified each of the two years. The addition of 50 new certified inspectors should ensure that there are enough inspectors for even the busiest periods of home sales in Maine.

### **Summary**

This report summarizes the septic system inspection industry in Maine for the Joint Standing Committee on Environment and Natural Resources. These findings demonstrate that the septic system inspection industry in Maine can adequately accommodate the number of inspections required by current statute even if a reduction in the number of inspectors certified by the Department results after the revision of the certification program. This report also finds that should the Legislature choose to expand the requirement for inspections to include all properties with septic systems statewide, the existing septic inspection industry has the potential to complete all required inspections, but the uneven geographic distribution of properties and inspectors, the seasonal variations in the number of homes sold and other uncontrollable factors would likely stress the industry during peak sales periods until the number of certified inspectors increases through a revised training and certification process.

Changes in the criteria for inspector certification should not result in increased workloads for the Department staff that process license and certification requests as adequate staff and systems are in place to handle additional requests for certification. An additional position would likely be needed in the future to oversee and coordinate the requirements that will result from establishing

statewide minimum standards for septic system inspections for the first time as the general public learns about the rules and begins to evaluate the work completed by certified inspectors.

In addition, funding to subsidize a Maine based training and certification program through JETCC would help the inspection industry respond to the more rigorous certification requirements proposed by the Department.

Proposed fiscal requirements for the Department with changes:

JETCC Training Subsidy:

FY 2021 \$5,000

FY 2022 \$5,000

Environmental Specialist III

Beginning FY 2022 \$90,000-\$110,000/year