

# Title 5, 310 CMR 15.000, Natural Resource Nitrogen Sensitive Area

## Regulatory Amendments and

## Watershed Permit New Regulations, 314 CMR 21.00

### FREQUENTLY ASKED QUESTIONS

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## BACKGROUND

### How has MassDEP informed and engaged the public and stakeholders in the development of these regulations?

In 2017, MassDEP created and began engaging with a Title 5/Groundwater Discharge stakeholder group, representing a diverse range of interests, to review comments received on the Title 5 regulations and consider potential revisions, including discussion of a solution to address excessive nitrogen in embayments and estuaries.

The group included representation from the following entities:

<b>Massachusetts Association of Conservation Commissions</b>	<b>Westford Board of Health</b>
<b>Town of Falmouth Water Quality Committee</b>	<b>Home Builders and Remodelers Association of MA</b>
<b>MA Association of Health Boards</b>	<b>MA Municipal Association</b>
<b>MA Association of Onsite Wastewater Professionals</b>	<b>MA Association of Realtors</b>
<b>MassDCR</b>	<b>ADS Ventures, Inc.</b>
<b>MA Camping Association</b>	<b>Horsley Witten</b>
<b>Town of Holliston</b>	<b>Rackemann Strategic Consulting, Inc.</b>
<b>NAIOP Commercial Real Estate Development Association</b>	<b>DiPlacido Development Corporation</b>
<b>Cape Cod Commission</b>	<b>NEIWPCC</b>
<b>Association to Preserve Cape Cod</b>	<b>Buzzards Bay Coalition</b>
<b>Northeast Builders and Remodelers Association</b>	<b>Caputo and Wick</b>
<b>DF Clark Inc.</b>	<b>Onsite Engineering</b>
<b>MA Audobon Society</b>	<b>Meisner Brem Engineering</b>

MassDEP subsequently invited members of this stakeholder group to participate on a subcommittee to consult on a potential regulatory approach to addressing nitrogen impacts. The subcommittee met on September 3, 2020, February 23, 2021, and June 3, 2022, to discuss potential changes to the nitrogen sensitive area provisions of Title 5 regulations and the development of a Watershed Permit approach. Members of the subcommittee included CDM, Home Builders and Remodelers Association of Massachusetts, Massachusetts Association of Realtors, Horsley Witten, Rackemann Strategic Consulting, Inc., NAIOP Commercial Real Estate Development Association, Cape Cod Commission, Association to Preserve Cape Cod, Buzzards Bay Coalition, DF Clark Inc., Onsite Engineering, Massachusetts Audubon Society, Meisner Brem Engineering, Cape Cod Chamber of Commerce, Pleasant Bay Alliance, and Senator Cyr's Office.

MassDEP has maintained a publicly available webpage concerning this process: [310 CMR 15.000: Septic Systems \("Title 5"\) | Mass.gov](#)

At the beginning of June 2022, MassDEP proposed and widely publicized a regulatory framework for these draft regulatory proposals, with the goal of obtaining community and public feedback prior to issuing draft regulations for formal public comment.

Throughout the summer and early fall of 2022, MassDEP actively sought and received feedback and input from affected communities, conducting extensive public, municipal, and legislative outreach:

- Over 45 public meetings took place in communities across Cape Cod and southeastern MA over the summer of 2022.
- Three briefings were held for legislators: (1) Cape and Islands Delegation; (2) Southeast Coast Delegation; and (3) jointly for both Delegations upon filing of the draft regulations.
- MassDEP reached out to 34 municipalities (met with 32, and for some communities met on multiple occasions at their request) to provide a one-on-one briefing for local officials on the proposed changes to these regulations.
- In addition to meeting with the municipalities, MassDEP engaged with and obtained feedback from several stakeholders and organizations, including: the Cape Cod Commission, Cape Cod Board of Health Coalition, Cape Cod Municipal Managers Association, One Cape Summit, Islands Local Health Coalition, Massachusetts Health Officers Association, and the Cape Cod Realtors Association.

### **Why is MassDEP proposing new regulations that will affect some coastal areas?**

In some coastal areas, particularly on Cape Cod, the Islands, and Southeastern Massachusetts, there is a problem with too much nitrogen pollution in estuaries and embayments. Septic systems contribute significantly to this nitrogen load. For example, on Cape Cod 85% of the wastewater disposal is through septic systems. In Buzzards Bay the single largest source of nitrogen is septic systems. Other sources include lawn and garden fertilizers, agricultural runoff, and stormwater runoff. This excess nitrogen pollution in coastal waters, like estuaries and embayments, causes a problem known as eutrophication.

### **Why is MassDEP proposing to address the problem through its Title 5 system regulations? Isn't there another way this can be regulated?**

MassDEP is obligated by 310 CMR 15.000, often referred to as Title 5, to establish minimum standards for the proper siting, construction, upgrade, and maintenance of on-site sewage disposal systems and the appropriate means for the transport and disposal of septage in order to protect public health, safety, welfare and the environment. These on-site sewage disposal systems are often referred to as septic systems or Title 5 systems.

MassDEP already regulates nitrogen effluent from Title 5 systems by making sure that septic systems that are close to drinking water wells are designed and operated in a manner so that pollutants, like nitrogen, do not jeopardize reliable safe, drinking water sources. This is done under the existing Title 5 regulations, 310 CMR 15.000, specifically 310 CMR 15.214 and 15.215. There are, however, currently no state regulatory requirements to reduce nitrogen that enters coastal bays and estuaries from sources like septic systems. The proposed regulations would amend the existing Title 5 regulations to control nitrogen from Title 5 systems. The amended regulations are intended to reduce nitrogen loads that impact coastal waters.

### **What is eutrophication and why is it a problem?**

Eutrophication results from excess nitrogen causing accelerated growth of algae and invasive plants and weeds. The invasive aquatic plants thrive on the excess nitrogen; they grow, die and decay rapidly, depriving the existing plants and animals of the diverse and healthy environment they need to survive. This overgrowth deprives many aquatic plants and animals of oxygen and the sunlight they need to live—their environment is essentially smothered by the accelerated and dominant growth of nuisance and invasive plants, weeds, and algae.

Fish and shellfish populations have declined significantly, along with aquatic plants in their ecosystems, like eelgrass. The eutrophication also causes some coastal waters to become cloudy and murky and smell bad, including some harmful algal blooms which can be toxic when inhaled. Eelgrass and bay scallops are gone from many parts of Buzzards Bay because of nitrogen pollution.

Nitrogen is one type of nutrient that causes eutrophication. Another kind is phosphorus, which is mostly associated with causing eutrophication in freshwater.

### **How else can we gauge the seriousness of the problem and what is a TMDL?**

Today, many of the bays and estuaries violate state water quality standards, making them unsuitable for their intended uses of recreation and supporting aquatic life. Scientists have reached that conclusion by determining the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that pollutant – here, it is nitrogen. This determination is presented as a Total Maximum Daily Load, or TMDL. There are at least 30 TMDLs that have been approved by the U.S. Environmental Protection Agency showing excessive amounts of nitrogen in waterbodies throughout Southeastern Massachusetts, the Cape, and the Islands; other studies are currently under way.

### **Why is this environmental problem also an economic problem?**

The water quality in bays and estuaries may have far-reaching impacts on peoples' daily lives. A poll of residents by the Cape Cod Commission "reiterated the importance of water-based recreation and revealed up to one-fifth of the population might consider stopping water-based recreation all together or leaving the Cape if local waters were to become too polluted due to high levels of nitrogen." Water Quality and Cape Cod's Economic Future: Nitrogen Pollution's Economic Impact on Homes and Communities (Mahesh Ramachandran, Ph.D., [capecodcommission.org](http://capecodcommission.org)). According to the Cape Cod Area Wide Water Quality Management Plan Update (page S-i), "[n]itrogen is impacting coastal water quality. About 80% of the nitrogen that enters Cape Cod's watersheds is from septic systems. The conditions it creates destroy animal habitat and result in frequent violations of water quality standards indicated in part by fish kills and diminished shellfisheries. The Cape Cod seasonal economy relies on the water that surrounds the region and the degraded water quality is negatively impacting important economic drivers including coastal property values. Restored coastal water quality is an environmental and economic imperative."

### **What will happen if nothing is done to address the problem?**

If nothing is done, the nitrogen in coastal waters will continue to be a problem and the water quality will likely continue to deteriorate in some areas. Animal life that usually thrives on the ocean floor, such as scallops and mussels will probably continue to die off in certain locations. Ecosystems that decline in this manner, may eventually collapse. The water quality is becoming increasingly degraded, disrupting the ecosystem and, at times, making it unusable for humans. According to the Cape Cod Area Wide Water Quality Management Plan Update (page S-ii), persistent water quality problems will have far-reaching impacts: “Cape Cod’s water resources drive the regional economy. They attract visitors in the summer months and make the Cape a desirable place to live for year-round and seasonal residents. Continuing and increasing nitrogen loading of Cape Cod’s embayment watersheds will further degrade coastal water quality, adversely impacting environmental, economic, and societal norms. The economic impact of doing nothing to restore coastal water quality will be significant, affecting every homeowner in the region.”

### **What are sources of nitrogen?**

Fertilizers, stormwater runoff, and septic systems all contribute nitrogen to watersheds. The majority of Cape Cod’s nitrogen pollution is from septic systems, which make up 85% of the Cape’s wastewater disposal.

### **What fraction of the nitrogen that leaches from the land into the oceans or estuaries comes from septic systems and what fraction comes from the tons of nitrogen-laden fertilizer that so many of the residents put on their lawns to keep their grass a lush green?**

Reports known as Total Maximum Daily Loads (TMDLs) and Massachusetts Estuary Project reports (MEP) provide estimate for each watershed the nitrogen load and percentage of the load that originate from all the identified sources, including septic systems, agriculture, stormwater runoff, and fertilizer usage. These loads and percentages will vary by watershed based on population density, sewer availability, and other nitrogen sources that exist in that watershed. A townwide comprehensive plan enables a town to identify its sources of nitrogen and design its solutions to best address those contributing sources.

## **MORE ABOUT THE DRAFT REGULATIONS**

### **What coastal areas would be affected by the new septic system requirements?**

MassDEP’s initiative would automatically designate 30 watersheds on Cape Cod that have a nitrogen TMDL as Nitrogen Sensitive Areas when the initiative becomes effective, which will likely be in early 2023. All septic system owners in those areas will have to upgrade their systems with the Best Available Nitrogen Reducing Technology within 5 years from designation, **unless** the community applies for and obtains a Watershed Permit or files a Notice of Intent within 18 months of designation to obtain a Watershed Permit. A map of currently possible Nitrogen Sensitive Areas can be found here: [310 CMR 15.000: Septic Systems \(Title 5\)](#)

Watersheds on Cape Cod without a TMDL will be evaluated in the future to determine if they should be designated as Nitrogen Sensitive Areas. Likewise, for watersheds not on Cape Cod,

MassDEP will decide in the future after further study whether they should also be designated as Nitrogen Sensitive Areas. If these watersheds are ultimately designated as NSAs, septic system owners in watersheds with excess nitrogen levels would have to upgrade their septic systems with Best Available Nitrogen Reducing Technology, unless the community applies for and obtains Watershed Permit or within 18 months of designation files a Notice of Intent to obtain a Watershed Permit.

**Are the proposed regulations flexible enough to account for differences among watersheds, including topography, drainage, soils, nitrogen sources, and development (e.g., agricultural, commercial, residential, etc.)?**

Yes, there are several ways that variations among watersheds can be considered. First, the draft regulations provide communities with an opportunity to obtain a Watershed Permit, which exempts the watershed from the mandatory Title 5 five-year upgrade. The Watershed Permit provides communities with the opportunity to employ several different flexible approaches and adaptive management to focus on the most effective and efficient way to reduce nitrogen in the watershed. For example, if the predominant source of nitrogen is from agricultural sources or large composting facilities, the community can adopt measures to address that specific source. Likewise, if the predominant sources are septic systems, the community can, if appropriate, utilize sewerage or implement measures to upgrade those septic systems to Best Available Nitrogen Reducing Technology.

Second, for watersheds that would not be automatically designated Nitrogen Sensitive Areas upon promulgation of the final regulations (because they are not on Cape Cod with a nitrogen TMDL), the draft regulations require MassDEP to engage in a public process where it would consider input from the community and variations in watersheds, among other factors, before the watershed can be designated as a Nitrogen Sensitive Area. The timing of that process would be based upon an evaluation of the watershed and the status of any applicable Comprehensive Wastewater Management Plans.

Third, the draft regulations include several provisions that are designed to account for variations among watersheds. For example, 314 CMR 21.04(1) allows MassDEP flexibility in issuing Watershed Permits based upon “financial costs,” “environmental impacts,” and “watershed-specific issues.” Another example is the provision at 314 CMR 21.02 (Watershed Management Plan), which enables communities that have already obtained a Comprehensive Wastewater Management Plan or a Targeted Watershed Management Plan to rely on those plans when applying for a Watershed Permit and supplement any additional necessary information to apply for a Watershed Permit.

**What is a Nitrogen Sensitive Area?**

Nitrogen Sensitive Areas are areas where the discharge of nitrogen through a septic system would be detrimental to the environment or public health. The Title 5 regulations already designate Nitrogen Sensitive Areas to protect drinking water under 310 CMR 15.214 and 15.215. Those Nitrogen Sensitive Areas are certain public and private drinking water supply protection areas where the current Title 5 regulations set certain limitations on the amount of nitrogen that a Title 5 system can discharge in those areas.

The proposed amendments to Title 5 will not change those drinking water designations. They will, however, regulate a new type of Nitrogen Sensitive Area, known as a Natural Resource Nitrogen Sensitive Areas. MassDEP would designate a Nitrogen Sensitive Area pursuant to Title 5, 310 CMR 15.214, when a rigorous scientific study has demonstrated that the watershed is adversely impacted by nitrogen. Examples of those types of studies include TMDLs approved by EPA, Massachusetts Estuary Project reports accepted by MassDEP, and other Scientific Evaluations that meet the criteria set forth in the regulations at 310 CMR 15.002 and 15.214. It should be noted, however, that even if an area has a TMDL, an MEP report, or another Scientific Evaluation demonstrating nitrogen impacts, the area would not be a Nitrogen Sensitive Area until MassDEP makes that designation which includes a public process pursuant to the proposed amended regulations. As discussed above, that designation will happen automatically for watersheds on Cape Cod with a TMDL when the draft regulations become effective.

### **How can I find out if my property is in a Natural Resource Area NSA?**

Please use the following link and map to determine if your property is in a potential Natural Resource Area NSA: [MassDEP Nitrogen Sensitive Area Online Viewer with Address Lookup](#)

### **What is Best Available Nitrogen Reducing Technology and what kind of nitrogen removal technology would I have to upgrade to if I am required to obtain an upgrade?**

Systems that must be upgraded will have to incorporate Best Available Nitrogen Removal Technology. The proposed regulations define that technology as: “(1) An alternative system certified by the Department for general use pursuant to 310 CMR 15.288 which has the lowest effluent Total Nitrogen performance value when the Disposal System Construction Permit application is filed; (2) an alternative system granted provisional approval by the Department pursuant to 310 CMR 15.286; or (3) an alternative system approved by the Department for piloting pursuant to 310 CMR 15.285, provided that for an alternative system granted provisional approval or an alternative system approved for piloting such system has a Total Nitrogen performance value less than or equal to the lowest alternative system certified by the Department for general use pursuant to 310 CMR 15.288 when the Disposal System Construction Permit application is filed for either system.”

### **What is an innovative/alternative (IA) septic system and will it work in a home that is only used seasonally?**

An IA system is a system that differs from a conventional septic system (one that meets Title 5 specifications) in design (either whole or in part) or materials and provides at least equivalent performance or enhanced performance. Alternative nitrogen removal systems are enhanced alternative treatment units, which may qualify as Best Available Nitrogen Reducing Technology. These systems go through a rigorous performance evaluation prior to achieving General Use approval in Massachusetts. The performance evaluation includes installations at homes, some of which are seasonal. Many technologies have the ability to “seed” or startup a system for proper treatment at seasonal facilities.

### **What is an “Alternative” system and how is it approved for use?**

MassDEP regulates septic systems under Title 5, 310 CMR 15.000. Title 5 specifies the standard requirements for the design, construction and installation of a “conventional” septic system. An innovative/alternative system, or IA system, can be a system that provides on-site sewage disposal but is designed differently than a conventional septic system, or can be a system that is designed to provide enhanced treatment for onsite sewage disposal. The IA systems may not contain all the components of a conventional Title 5 system; they may be constructed of different materials or may contain components in addition to those in a conventional system. Units that provide additional treatment such as enhanced nitrogen removal are a type of alternative system.

MassDEP is responsible for reviewing and approving these systems for use in Massachusetts. This is done through a 3-tiered approval process:

- Piloting – the initial testing phase of the technology to determine if it can function in the physical and climatological conditions; up to 15 systems must be installed and must show that 75% meet the performance standard for 18 months.
- Provisional Use – the in-depth performance evaluation of the technology; must test a minimum of 50 systems and must show that 90% of the systems meet the performance standard with 3 years of operation.
- General Use – the technology has demonstrated its performance and is approved for use in MA.

The IA approvals contain monitoring and inspection requirements necessary to evaluate the performance of systems in the piloting and provisional approval stage and check system performance for those with General Use Certification. In order to better track and maintain this information, MassDEP has contracted with Barnstable County for the use of Barnstable’s IA Data System. All IA technologies with Piloting approval now report to the Barnstable database, and soon all technologies approved under Provisional Use will submit their reports to Barnstable’s data system. This will not only make data from these systems readily available to MassDEP but it will also make it available to communities and residents. The ability to see how these systems are performing is important for all alternative technologies and is especially important for those that may be utilized to address nitrogen impairments.

### **What is a Watershed Permit?**

A Watershed Permit is a new, innovative approach to provide communities the opportunity to develop and implement solutions for addressing water quality challenges. The permit would enable the community to employ a greater range of solutions to address its water quality needs, including alternative or innovative approaches to reduce the amount of nitrogen and other nutrients that are discharged in the watershed. The Watershed Permit is typically based on a community’s “Watershed Management Plan,” which is a long-term plan to address an existing water quality impairment to restore and protect water quality. The Watershed Permit would utilize an adaptive management approach, requiring permittees to monitor, evaluate and report results, and to adjust and modify the strategies and practices as needed to address community-based causes of the water quality impairments. The Watershed Permit is a 20-year permit.

As an example of a Watershed Permit, the towns of Brewster, Chatham, Harwich, and Orleans entered a joint Pleasant Bay Watershed Permit over 5 years ago. In their first five years they were able to achieve approximately 80% of the projected nitrogen reduction goals.

## **SPECIFIC TITLE 5 UPGRADE QUESTIONS**

### **Will I have to upgrade my existing Title 5 septic system?**

If your system is on Cape Cod and it is in a watershed with a nitrogen TMDL you will need to add nitrogen removal to your Title 5 system within 5 years from when the regulations become effective—that is when the watersheds on Cape Cod with TMDLs will be automatically designated as Nitrogen Sensitive Areas. **However, your system will generally be exempt from this mandatory 5-year upgrade if your community seeks and ultimately obtains a Watershed Permit for that watershed.** Other Cape watersheds without a TMDL and off-Cape coastal watersheds may, after further evaluation, be designated in the future as Nitrogen Sensitive Areas. Within 5 years of that designation, existing septic systems would have to comply with the mandatory upgrade requirement.

### **How much time do I have to upgrade my septic system?**

If you have an existing system on Cape Cod in a watershed with a Nitrogen TMDL, you will have 5 years from the date the amendments to the Title 5 regulations become effective (promulgated/enacted as law) to upgrade your Title 5 system, unless your community seeks and ultimately obtains a Watershed Permit. Your community will also be able to temporarily pause the 5-year upgrade requirement by filing a Notice of Intent to obtain a Watershed Permit within 18 months of the Nitrogen Sensitive Area designation. It is not necessary to file a Notice of Intent. Instead, the community's application for and receipt of a Watershed Permit within 5 years will also alleviate Title 5 system owners of the mandatory five-year upgrade. If your community files a Notice of Intent, the pause in the 5-year upgrade requirement will last either until the community withdraws its Notice of Intent or is removed by MassDEP from the permitting process because the community fails to demonstrate reasonable progress towards receiving a Watershed Permit. If the community obtains a Watershed Permit for the watershed the 5-year requirement no longer applies, unless the community withdraws from the permit or it is revoked. Upon withdrawal or revocation, the upgrade requirement would be revived, requiring septic system upgrades within 5 years from the date of the Nitrogen Sensitive Area designation or two years from the date of withdrawal or revocation, whichever is longer.

### **The requirement for Nitrogen Sensitive Areas to upgrade all Title 5 systems unless the watershed obtains a Watershed Permit would be expensive for homeowners. Instead of using that approach, why not require watersheds that are designated Nitrogen Sensitive Areas to obtain a Watershed Permit and not use the Mandatory Title 5 upgrade?**

MassDEP does not have legal authority to require municipalities to obtain Watershed Permits. Instead, MassDEP is proposing to exercise its existing regulatory authority over septic systems, which can be a significant source of nitrogen. Currently, there are no state regulatory requirements to reduce nitrogen from septic systems except near drinking water wells. The proposed regulations would amend the existing Title 5 regulations to reduce nitrogen from Title

5 systems in newly designated Nitrogen Sensitive Areas unless the community is exempt from that requirement because it obtains a Watershed Permit.

**How can I find out if I'm located in a Nitrogen Sensitive Area or a nitrogen impacted watershed that has not been designated as a Nitrogen Sensitive Area?**

MassDEP will identify those areas on its website: [310 CMR 15.000: Septic Systems \("Title 5"\) | Mass.gov](#). It is important to remember that only those watersheds on Cape Cod with a nitrogen TMDL will automatically become Nitrogen Sensitive Areas when the proposed regulations become effective. For any other area to become a Nitrogen Sensitive Area, MassDEP must formally make that designation in the future. Please use the following link and map to determine if your property is in a potential Natural Resource Area NSA: [MassDEP Nitrogen Sensitive Area Online Viewer with Address Lookup](#)

**I live in a Nitrogen Sensitive Area, but it is unclear if I have to upgrade my Title 5 system because my community has not yet decided whether to pursue a Watershed Permit, what should I do?**

You remain obligated to upgrade your Title 5 system within 5 years from when MassDEP designated the area as Nitrogen Sensitive, unless your community files a Notice of Intent to pursue a Watershed Permit for the watershed within 18 months from the designation date or applies for and obtains a Watershed Permit.

**Please clarify the new regulations related to septic tanks and drinking water wells being on the same property. Will previously approved wells on septic serviced property be reevaluated?**

The proposed amendments to Title 5 do not change the existing requirements for onsite septic systems in areas with non-public water supply wells. The current Title 5 regulations require that for new construction, facilities with on-site septic in areas with non-public drinking water supply wells must meet the 440 gallons per day per acre loading requirement, have a nitrogen aggregation plan, or provide nitrogen removal treatment. This requirement does not apply to existing facilities.

**What involvement does the town have with Title 5 septic systems?**

Local town boards of health have the primary obligation to enforce regulations related to Title 5 septic systems. MassDEP is obligated to provide oversight and assistance as needed. Also, the town can help to secure financing for individual systems and provide loans for these upgrades. More information about this financial assistance can be found at this website [310 CMR 15.000: Septic Systems \("Title 5"\) | Mass.gov](#).

**What if I'm building a new Title 5 septic system?**

After the effective date of the regulations, if you are building a new septic system on Cape Cod in a watershed with a nitrogen TMDL and the community does not have a Watershed Permit that waives the requirement to upgrade the system to Best Available Nitrogen Removal Technology, you will have to incorporate approved nitrogen removal technology into the Title 5 septic system during construction. This requirement will also apply to other watersheds if they are designated Nitrogen Sensitive Areas.

**Could you please tell me how these new proposed Title 5 changes will affect homeowners on the Cape who are currently in the process of implementing a new septic system or upgrades? Will they be required to redo the technology again in another couple of years?**

The proposed regulations currently exempt upgrades with Department approved nitrogen reduction technology that were installed in the year before the effective date of these draft regulations. Also, facility owners that upgrade pursuant to 310 CMR 15.215(2) will not be required to upgrade to subsequently better technology unless the system has failed and is required to be upgraded; there is an alteration to or change in use of the facility that is determined to be New Construction; or the system is failing to protect the public health, safety, and the environment. are exempt from the upgrade requirement. The supporting draft regulatory provisions are 310 CMR 15.215(2) (f) and (g):

(f) Facility owners that install Best Available Nitrogen Reducing Technology pursuant to 310 CMR 15.215(2) shall not be required to upgrade to subsequent Best Available Nitrogen Reducing Technology unless the Approving Authority determines that: the system has failed and is required to be upgraded; there is an alteration to or change in use of the facility that is determined to be New Construction; or the system is failing to protect the public health, safety, and the environment.

(g) Facility owners that upgraded their system within the year prior to [effective date of the regulations] with Department-approved nitrogen removing technology are exempt from the individual system upgrade requirements in 310 CMR 15.215(2)(a) unless the Approving Authority determines that: the system has failed and is required to be upgraded; there is an alteration to or change in use of the facility that is determined to be New Construction; or the system is failing to protect the public health, safety, and the environment.

**What is the nature of the replacement IA systems and the level of confidence in them?**

There are currently seven nitrogen removal IA systems with General Use approval, two with Provisional Use approval, and two entering the pilot phase (beginning evaluation). The approvals for the General Use and Provisional Use technologies can be found here:

[Approved Title 5 innovative/alternative technologies | Mass.gov](#)

Information on each technology, its components, and function is available on each technology's website. MassDEP evaluates IA systems in a three-tiered process. Piloting is the beginning stage to test if the system will function in the Massachusetts climate. It involves testing of up to 15 systems and 18 months of operation. If 75% of the piloting systems meet the performance standard, the technology moves into Provisional Use approval, which is the in-depth testing of the system. This requires at least 3 years of sampling and a minimum of 50 systems. If 90% of the systems in Provisional Use meet the performance standard, then the technology achieves General Use Certification. For nitrogen removal systems, this means they have demonstrated enhanced treatment.

**Are composting toilet/greywater systems eligible to be "best available technologies" to fulfill requirements of the new Title 5?**

Composting toilets are considerably less expensive than IA systems. They have General Use certification for use in Massachusetts. In order to be deemed a best available nitrogen removal technology, a determination would need to be made on the amount of nitrogen "removed" using a composting toilet. The same would need to be done for a grey water system.

**Should homeowners at this point wait to upgrade or replace their system if funding or higher tax credits may be available to help them afford the cost of the technology?**

This answer depends on where the facility is located. For example, the replacement or upgrade of a septic system may be required by the local approving authority in a specific timeframe. Some towns have bylaws which require the installation of IA systems. These requirements must be adhered to. There is no requirement for existing systems to install Best Available Nitrogen Reducing Technology in the current Title 5 regulation. Homeowners would generally not be required to do so until the proposed regulations are promulgated, the area is designated as a Natural Resource Area NSA, and the town has not opted to obtain a Watershed Permit. It is uncertain whether there will be tax credits or additional funding, but DEP continues to pursue funding sources.

**Is there funding available to assist individuals with upgrading their Title 5 systems?**

Yes, funding is available for septic system upgrades through the Community Septic Management Loan Program. The purpose of this program is to provide funding in the form of low-cost loans to allow communities to devise a Community Inspection Plan or a Local Septic Management Plan. Both plans must always include the provision of financial assistance to homeowners using betterment agreements. Usually, a homeowner pays off the betterment loan over time, as an additional line item on their property tax bill. If a betterment lien exists against a property, it jumps ahead of any other outstanding debt on the property. Additional information can be found here: [Community Septic Management Loan Program](#)

**Prices quoted related to the new regulations have been \$30-\$35k for compliance. Please clarify if that is merely the incremental cost to a homeowner to add the nitrogen technology into an existing septic versus the cost of a new denitrification septic system. I have been receiving quotes for a whole new denitrification septic system from \$60-\$90k! Please advise.**

Information provided from two nitrogen removal technologies show an installation cost range of \$17,000 - \$36,000, depending on the status and condition of the existing septic system and the constraints of the site. Additionally, there will be operation and maintenance costs for each system. These costs will vary depending on the IA system's level of approval, which dictates the frequency of monitoring and inspections. Provisional Use systems require quarterly monitoring while General Use systems require annual monitoring. The electricity required by the system will add to operational costs. Some technologies are passive and do not require electricity to operate.

## **SPECIFIC WATERSHED PERMIT QUESTIONS**

### **Is it necessary to have a complete Watershed Management Plan to apply for a Watershed Permit?**

No. If the community has a Comprehensive Wastewater Management Plan, Comprehensive Water Management Plan, or a Targeted Watershed Management Plan, the community can supplement those plans with any information that is necessary to provide all the information that is required as part of a Watershed Management Plan.

### **My town already has a Comprehensive Wastewater Management Plan (CWMP) or a Targeted Watershed Management Plan (TWMP) and it is already taking steps to reduce nitrogen pollution. Because this is a new regulatory initiative, will it slow down my town's ongoing progress?**

No, the Watershed Permit Regulations are intended to be flexible and accommodate ongoing initiatives to the extent practicable and consistent with the regulations. MassDEP will work with communities to help integrate approved CWMPs or TWMPs into the regulatory requirements and help ensure that appropriate credit is received for work already performed under those plans. For example, the draft definition of Watershed Management Plan at 314 CMR 21.02 provides flexibility for a community to supplement a CWMP or TWMP to the extent necessary to meet the criteria for a Watershed Management Plan.

### **What are some of the strategies that a community can implement through a Watershed Permit to reduce nitrogen in embayments and estuaries?**

Watershed Permits incorporate a comprehensive approach to decrease pollutants (like nitrogen). The permit may include several types of strategies that can work together for particular watersheds. Examples include: permeable reactive barriers, natural attenuation enhancement through cranberry bog restoration, natural attenuation enhancement through inlet widening, Innovative Alternative Septic Systems, conventional sewerage, package treatment facilities, fertilizer reduction, stormwater management, and many more strategies.

### **What if we share the watershed with a neighboring town, can we get a joint watershed permit? Is it necessary to get a joint watershed permit and have an intermunicipal agreement?**

Towns that share a watershed could enter into an intermunicipal agreement and submit a joint application for a Watershed Permit. An intermunicipal agreement would be necessary to obtain a joint Watershed Permit, but there is no requirement for towns that share watersheds to do have a joint permit. There would be advantages to collaboration on a shared watershed such as cost sharing; shared compliance, monitoring, and sampling; improved ability to apply for funding due to the potential wider impact of funds; cost savings from economies of scale (depending on the implementation strategies); and increased efficiency of information sharing.

**What if communities enter a joint watershed permit but one of the co-permittees does not satisfy its obligations under the joint permit?**

Each co-permittee would be responsible for its share of the pollution load, unless the parties agree otherwise. The consequences of a co-permittee failing to satisfy its obligations under the joint Watershed Permit would generally be determined by the terms of the intermunicipal agreement, the joint Watershed Permit, and the applicable law. Also, unless the parties agreed otherwise, they would not be responsible for enforcing the terms of the joint Watershed Permit against each other. For example, the joint Watershed Permit that is presently applicable to the Pleasant Bay Watershed includes the following provision that relates to this issue: “Each co-permittee is severally liable for those activities they agree to carry out under the IMA. Each co-permittee is not liable for violations related to those activities for which their co-permittees are solely responsible under the IMA, provided they do not own or operate the treatment system or control technique or are otherwise contractually responsible for the activity that resulted in the violation. Furthermore, each co-permittee who has coverage under another permit or approval issued by the Department which is incorporated herein by reference shall not be deemed in violation of that other permit or approval for the sole reason that one or more of the other co-permittees is in violation of this Permit.”

**How can I find out if my municipality is applying for a Watershed Permit?**

You should contact your municipal government to find out if it plans to apply for the Watershed Permit or file a Notice of Intent for a Watershed Permit.

**How will the new regulations address other pollutants, like phosphorus or emerging contaminants of concern?**

Communities that obtain a Watershed Permit to address nitrogen pollution may also seek MassDEP approval to address other pollutants in the Watershed Permit, like phosphorus and emerging contaminants of concern.

**My town has a problem with pollution causing excessive algal growth in freshwater ponds. Does this regulatory initiative address that problem?**

The eutrophication in freshwater ponds is primarily caused by another type of nutrient called phosphorus. Communities that obtain a Watershed Permit have the ability to address phosphorus pollution in freshwater bodies with that permit.

**Is there funding available to assist communities with obtaining and implementing a Watershed Permit?**

Yes, information can be found here: [310 CMR 15.000: Septic Systems \("Title 5"\) | Mass.gov](#)