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

Regulatory Amendments and

314 CMR 21.00, Watershed Permit New Regulations

FREQUENTLY ASKED QUESTIONS

Table of Contents

BACKGROUND

How has MassDEP (or "the Department") 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:

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

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 Smith, 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

In early June 2022, MassDEP proposed and widely publicized a regulatory framework for the 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.
- Reached out to 34 municipalities and met with 32, some on multiple occasions at the municipalities' 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.

After publication of the draft regulations in October 2022, MassDEP held five public hearings, which were attended by several hundred people, eliciting hundreds of public comments. The last public hearing was on January 25, 2023. The public comment period lasted approximately three months, closing on January 31, 2023. Over 1,000 written and oral comments have been received. MassDEP has since published "Responses to Comments" on its website (310 CMR 15.000: Septic Systems ("Title 5") | Mass.gov), responding to comments and explaining how it addressed many of them.

MassDEP also held four public information sessions, which were attended by several hundred individuals representing a diverse array of interests. During those sessions attendees were provided an opportunity to ask questions of MassDEP panelists to gain a better understanding of the regulatory initiative.

In addition, MassDEP offered state and local public officials and community leaders several opportunities to engage directly with MassDEP and ask questions about the regulations in virtual "office hours." Seven different office hour meetings were held and they were well attended. Finally, MassDEP also convened a Title 5 Advisory Committee meeting on May 18, 2023.

Why is MassDEP issuing new regulations that will only affect Cape Cod?

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.

The newly issued regulations will focus only on Cape Cod. The prior draft provision in 310 CMR 15.214(1)(b)2. that provided authority for the Department to designate watersheds off Cape Cod as Nitrogen Sensitive Areas has been changed to focus on watersheds to embayments and estuaries that are subject to the Cape 208 Plan (Section 208 Area Wide Water Quality Management Plan | Cape Cod Commission). That provision no longer includes the communities off Cape Cod, several of whom expressed concerns that they have not had as much time to investigate and plan to address nutrient pollution. MassDEP expects, however, that some communities off Cape Cod will apply for a Watershed Permit in order to address waterbodies with a TMDL or other Scientific Evaluation showing nitrogen impacts or impairment. MassDEP intends to facilitate more nutrient wastewater planning for communities off Cape Cod, enabling them to be better prepared in the near future to address nitrogen pollution reduction to embayments and estuaries.

Why is MassDEP addressing 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 those systems 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. Until now, however, there were no state regulatory requirements to reduce nitrogen that enters coastal bays and estuaries from sources like septic systems. The new regulations amend the existing Title 5 regulations to control nitrogen from Title 5 systems in Natural Resource Nitrogen Sensitive Areas. 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). 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, but not limited to, 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 REGULATIONS

What coastal areas will be affected by the new septic system requirements and how will they be affected?

MassDEP's initiative would automatically designate 30 watersheds on Cape Cod that have a nitrogen TMDL as Nitrogen Sensitive Areas when the regulations become effective on July 7, 2023. At that time, a two-year Notice of Intent and Application Period commences for communities with designated Nitrogen Sensitive Areas. Those communities will have up to two years to choose whether to file a Notice of Intent to apply for a Watershed Permit or apply for a Watershed Permit or a De Minimis Nitrogen Load Exemption. The filing of a Notice of Intent or an application for a Watershed Permit or De Minimis Nitrogen Load Exemption prevents the five-year upgrade period for existing systems from commencing at the expiration of the Notice of Intent and Application Period. 310 CMR 15.002 (Notice of Intent and Application Period definition); 310 CMR 15.215(2)(a) through (c); 314 CMR 21.03(1). The Title 5 upgrade requirements for New Construction will commence six months after the Nitrogen Sensitive Area designation unless the community files a Notice of Intent or an application for a Watershed Permit or a De Minimis Nitrogen Load Exemption.

It is important to remember that only those watersheds on Cape Cod with a nitrogen TMDL will automatically become Nitrogen Sensitive Areas when the regulations become effective on July 7, 2023. A map of designated Nitrogen Sensitive Areas and a web-based tool to find a particular

address relative to those areas can be found here: MassDEP Nitrogen Sensitive Area Online Viewer with Address Lookup

For Cape Cod watersheds that receive a TMDL after July 7, 2023, a Nitrogen Sensitive Area designation will automatically become effective on the date EPA approves the TMDL. MassDEP may designate watersheds on Cape Cod that do not have a TMDL but have nitrogen impacts demonstrated in a Massachusetts Estuary Project Report or other Scientific Evaluation accepted by the Department through a public process under 310 CMR 15.214(1)(b).

The final regulations do not include a provision for designating watersheds off Cape Cod as Nitrogen Sensitive Areas. The Department intends to facilitate more nutrient wastewater planning for communities off Cape Cod, enabling them to be better prepared in the near future to address nitrogen pollution to coastal embayments and estuaries. Many of those off-Cape communities expressed concerns that they have not had as much time to investigate and plan to address nutrient pollution. The Department expects, however, that some communities off Cape Cod will apply for a Watershed Permit in order to address waterbodies with a TMDL or other Scientific Evaluation showing nitrogen impacts or impairment.

Are the 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 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 sewering or implement measures to upgrade those septic systems to Best Available Nitrogen Reducing Technology.

Second, the 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." Other examples are the provisions at 314 CMR 21.02 (Watershed Management Plan) and 314 CMR 21.03(2), which enable 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 Natural Resource 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 revisions 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. In addition to the automatic Nitrogen Sensitive Area designations discussed above and provided in 310 CMR 15.214(1)(b)1. MassDEP may designate a Nitrogen Sensitive Area on Cape Cod pursuant to Title 5, 310 CMR 15.214(1)(b)2., 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.

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 Reducing Technology ("BANRT"). The regulations define that technology as:

> (1) An alternative system(s) which has a Total Nitrogen effluent performance value of 10 mg/L or less and is certified by the Department for general use pursuant to 310 CMR 15.288 when the Disposal System Construction Permit application is filed and has been approved for the type and design flow of the facility where it is to be used; or
>
> (2) If no such alternative system(s) meeting 10 mg/L or less has received general use approval at the time the Disposal System Construction Permit application is filed, then an alternative system(s) with the lowest Total Nitrogen effluent performance value certified by the Department for general use when the Disposal System Construction Permit application is filed and has been approved for the type and design flow of the facility where it is to be used; or
>
> (3) An alternative system(s) granted provisional approval by the Department pursuant to 310 CMR 15.286 or an alternative system(s) approved by the Department for piloting pursuant to 310 CMR 15.285; provided that for an alternative system(s) granted provisional approval or an alternative system(s) approved for piloting such system(s) is approved for the type and design flow of the facility and has a Total Nitrogen performance value less than or equal to 10 mg/L; or, if no system(s) with a Total Nitrogen performance value less than or equal to 10 mg/L has received general use approval, then a system(s) with a Total Nitrogen effluent performance value less than or equal to the lowest alternative system(s) certified by the Department for general use

pursuant to 310 CMR 15.288 when the Disposal System Construction Permit application is filed.

The regulations include a provision which requires the Department to maintain and publish a list on its website of BANRT and nitrogen reducing technologies that have received general, provisional, or piloting approval pursuant to 310 CMR 15.285 through 15.288. The Department may allow the use of technologies that do not meet the BANRT definition in the event of significant technology availability limitations. The Department may also prohibit the use of a technology as BANRT based on a technology's noncompliance with the performance standards established in the technology's approval. 310 CMR 15.215(2)(g).

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

An IA system is one type of Title 5 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. The new Nitrogen Sensitive Area amendments to Title 5 require upgrades from a conventional system to an innovative/alternative system, or IA system, under certain circumstances. An IA system can be one 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. Together, these communities are working to reduce nitrogen pollution entering Pleasant Bay.

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 7 years from when the regulations become effective—all watersheds on Cape Cod with a nitrogen TMDL approved by EPA were automatically designated as Nitrogen Sensitive Areas upon promulgation of the regulations on July 7, 2023. The requirement that existing septic systems be upgraded within five years does not starting running until two years after the Nitrogen Sensitive Area designation.

However, a system will be exempt from this mandatory upgrade <u>if</u> the community in which it is located files a Notice of Intent or an application for a Watershed Permit or a De Minimis Nitrogen Load Exemption during the two year Notice of Intent and Application Period. The Notice of Intent and Application Period is the two-year period that begins upon designation of an NSA. During that two-year period the mandatory upgrade requirement is suspended, but will

begin running at the end of the period unless the community files a Notice of Intent or an application for a Watershed Permit or a De Minimis Nitrogen Load Exemption during the Notice of Intent and Application Period. Watersheds on Cape Cod that receive a TMDL in the future will automatically be designated as Nitrogen Sensitive Areas upon EPA's approval of the TMDL, resulting in the same mandatory upgrade scenario discussed above. Other Cape Cod watersheds without a TMDL may, after further evaluation, be designated in the future as Nitrogen Sensitive Areas.

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

If it is an existing system on Cape Cod in a watershed with a Nitrogen TMDL, then upon the regulations becoming effective on July 7, 2023, a two-year Notice of Intent and Application Period commences. During that period communities have two years to choose whether to file a Notice of Intent to apply for a Watershed Permit or apply for a Watershed Permit or a De Minimis Nitrogen Load Exemption. Upon expiration of the Notice of Intent and Application Period, the five-year upgrade requirement begins running. The filing of a Notice of Intent or an application for a Watershed Permit or De Minimis Nitrogen Load Exemption prevents the five-year upgrade period for existing systems from commencing at the expiration of the Notice of Intent and Application Period. 310 CMR 15.002 (Notice of Intent and Application Period definition); 310 CMR 15.215(2)(a) through (c); 314 CMR 21.03(1).

If a community files a Notice of Intent, failure to comply with deadlines in a Watershed Permit application schedule in a Notice of Intent approved under 310 CMR 15.215(2)(c)2. will commence the New Construction upgrade requirements and five-year time period for mandatory upgrades to existing systems under 310 CMR 15.215(2)(a) and (b) upon issuance of notice from the Department to the noncompliant party. 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 of the date when the Notice of Intent and Application Period would have otherwise ended by its own terms or within two years of the date of termination or revocation of the Watershed Permit or De Minimis Nitrogen Load Exemption (as applicable), whichever is longer.

The requirement for Nitrogen Sensitive Areas to upgrade all Title 5 systems <u>unless</u> the community files a Notice of Intent or an application for a Watershed Permit or De Minimis Nitrogen Load Exemption 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. Until now there were no state regulatory requirements to reduce nitrogen from septic systems except near drinking water wells. The new regulations 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 files a Notice of Intent or an application for a Watershed Permit or De Minimis Nitrogen Load Exemption.

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 requirements for systems that are located solely in Drinking Water Nitrogen Sensitive Areas will remain the same. The requirement of meeting 440 gpd/acre continues to apply only to new construction in Zone IIs, IWPAs and in areas that have both septic systems and onsite wells.

There is one change for new construction in situations where an area is designated as a Nitrogen Sensitive Area for both drinking water supply protection and natural resource area protection under 310 CMR 15.214(1)(a) and (b). In that situation, the natural resource area requirements of 310 CMR 15.215(2) will apply and the system will need to be installed with Best Available Nitrogen Reducing Technology.

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 for New Construction?

Beginning six months after the effective date of a Nitrogen Sensitive Area designation that applies to the property, your New Construction will be required to incorporate Best Available Nitrogen Reducing Technology, unless your community files a Notice of Intent or an application for a Watershed Permit or a De Minimis Nitrogen Load Exemption during the two-year Notice of Intent and Application Period.

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

The regulations currently exempt upgrades with Department approved nitrogen reduction technology that were installed in the ten-year period before the effective date of these regulations. Systems upgraded with such nitrogen reducing technology 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. 310 CMR 15.215(2) (f) and (h).

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 have General Use certification for use in Massachusetts. In order to be deemed a Best Available Nitrogen Reducing 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.

At this point, should homeowners 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. Homeowners will be required to upgrade beginning two years after their watershed area is designated as a Nitrogen Sensitive Area, unless during that two-year period their community files a Notice of Intent or an application for a Watershed Permit or a De Minimis Nitrogen Load Exemption. 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: Communicy Septic Management Loan Program

Prices quoted related to the new regulations have been $30k-$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 $60k-$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 create a Watershed Management Plan to apply for a Watershed Permit?

No. The final regulations are intended to be as flexible and accommodating as possible. They allow communities to rely upon prior wastewater planning documents. As discussed in the definition for Watershed Management Plan ("WMP") in 314 CMR 21.02, a permit applicant must only supplement application information that is required by 314 CMR 21.03(2) but not included in a Comprehensive Wastewater Management Plan ("CWMP"), a Targeted Wastewater Management Plan ("TWMP") or similar planning document. It is not necessary to create a new planning document. Instead, MassDEP has discretion to be flexible and focus on meeting the substantive informational needs in the permitting process.

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 definition of Watershed Management Plan at 314 CMR 21.02 and the provision at 314 CMR 21.03 provide 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 sewering, 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 is necessary to obtain a joint Watershed Permit, but there is no requirement for towns that share watersheds to have a joint permit. There are 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 (communities) 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 intermunicipal agreement. Each co-permittee is not liable for violations related to those activities for which their co-permittees are solely responsible under the intermunicipal agreement, 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 MassDEP 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, a De Minimis Nitrogen Load Exemption, 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