Nitrogen Smart Communities Program Overview

Nitrogen is the leading cause of water quality deterioration in Long Island's estuaries. Excess nitrogen can cause toxic algal blooms that lead to low oxygen conditions, fish kills, and degraded wetlands and marine habitats. Nitrogen also contaminates the groundwater which is the sole source of Long Island's drinking water.

Nitrogen Smart Communities (NSC) is a voluntary program administered by the NYS Department of Environmental Conservation (DEC)'s Long Island Watershed Program (LIWP) in conjunction with the Long Island Regional Planning Council (LIRPC).

Funding for the pilot phase of the program has been provided by the United States Environmental Protection Agency (EPA)'s Long Island Sound Partnership (LIS Partnership). Nitrogen Smart Communities Program Overview.

Nitrogen Smart Communities (NSC) is a voluntary program created to promote local action and awareness to reduce and/or eliminate nitrogen from all sources within municipalities on Long Island.

This can be achieved by better understanding a community's unique sources of nitrogen and committing to implementing reduction activities associated with those priorities. By participating in the Nitrogen Smart Communities program, a community can reduce nitrogen pollution in degraded waterbodies and protect areas before impairments occur. Municipalities participating in the program will follow a series of 5 steps and submit completed worksheets to earn tiered levels of Nitrogen Smart Communities status certification (Bronze, Silver, Gold).

Benefits of Becoming a Nitrogen Smart Community

Not only can each small step lead to significant changes in reducing nitrogen in our waterways, but participation in the Nitrogen Smart Communities program will also benefit communities in the following ways:

- Acknowledgement of being a foremost leader on Long Island for clean water
- Invest in economic growth which will benefit tourism, fishing, boating, and property values
- Improve community public health and safety
- Networking and sharing best practices with peers
- Greater engagement with residents who care about the future of their community

Step 1: Getting Started – Nitrogen Smart Communities Program Commitment

The first step in the Nitrogen Smart Communities program is for a municipality to demonstrate commitment to the program by adopting the Nitrogen Smart Communities Pledge. To be eligible, a municipality must be a municipality within Nassau or Suffolk County and in compliance with all applicable NYSDEC permits. The municipality then appoints a Nitrogen Smart Communities coordinator to oversee the program.

Action 1.1 Adopt the Nitrogen Smart Communities Pledge

Passing the Nitrogen Smart Communities Pledge as a municipal resolution will express commitment from the community to act on eliminating, reducing, or preventing nitrogen pollution. The NSC Model Resolution can be used as a guide for the municipality when adopting the pledge.

Action 1.2 Appointing a Nitrogen Smart Communities Coordinator

After adopting the pledge, the municipality will select and appoint an individual to the Nitrogen Smart Communities coordinator position. This individual will serve as a point of contact for the program, facilitate project implementation, and will be a crucial part of the program for the municipality.

Refer to Step 1 in the NSC Program Guide for more information and guidance on how to complete Step 1 and the associated Worksheet.

Nitrogen Smart Communities Registration

Submission of the Step 1 Worksheet and the municipal resolution register a municipality as a Nitrogen Smart Communities program participant, based on approval by DEC and LIRPC.

Step 2: Nitrogen Smart Communities Outreach

To make a successful effort in reducing nitrogen at the local level, a municipality will need to form an Advisory Taskforce that will help guide the program, along with the leadership of the coordinator. The Advisory Taskforce and coordinator will then work to create a community outreach plan.

Action 2.1 Nitrogen Smart Communities Advisory Taskforce

The Nitrogen Smart Communities coordinator will lead the formation of an Advisory Taskforce to ensure success at the local level by relying on a team of local officials, professionals, and the public. The Advisory Taskforce will include individuals that are interested in mitigating nitrogen pollution in their community, knowledgeable about the local decision-making process, and can promote and support the plans, policies, and activities that are part of the Nitrogen Smart Communities Program.

Action 2.2 Develop a Community Outreach Plan

Outreach and education are crucial parts of a municipality-wide initiative. It is important to get the community involved, supportive, and actively engaged in the Nitrogen Smart Communities program.

Refer to Step 2 in the NSC Program Guide for more information and guidance on how to complete Step 2 and the associated Worksheet.

Nitrogen Smart Communities Bronze Certification

Completing Steps 1 – 2 qualifies a municipality for Bronze Status Certification. This certification validates that the municipality is committed to the program and enlisting the community's long-term support and participation of the NSC program.

Step 3: Inventory of Nitrogen Sources

The primary objective of the nitrogen load data provided through the NSC Program is to estimate the components of nitrogen to groundwater originating from wastewater, fertilizer, pet waste, and atmospheric deposition. This information is extracted from the nitrogen load models developed for the DEC approved Nine Element Plans in Nassau and Suffolk County. The focus is on groundwater data, with the understanding that Long Island's groundwater and surface water are part of an intricately connected, single system. The activities implemented by the community will reduce nitrogen pollution and improve water quality in both the groundwater and surface water.

After completing Step 2, LIRPC and DEC will provide each participating municipality with estimated nitrogen contributions based on the respective county subwatershed plans.

It is also important to investigate these sources on a local level to form strategic community-specific nitrogen reduction activities.

Action 3.1 Wastewater Source Analysis

Wastewater as a source of nitrogen comes from sewered areas (those connected to a wastewater treatment facility or private sewage treatment plant), parcels that have septic systems, and marine pumpout stations. Wastewater is considered the largest source of nitrogen to waters in both counties and should be investigated at the municipal level.

Action 3.2 Fertilizer Source Analysis

Fertilizer as a nitrogen source can come from applications to lawns, golf courses, or farms. Lawns are part of most properties including residential, parks, athletic fields, and schools. If applicable, the three different categories of fertilizer use (lawn, golf courses and agriculture) should be analyzed as separate sources of nitrogen, as fertilizer is used and applied in different ways.

Action 3.3 Stormwater Source Analysis

Stormwater is water from rain or melting snow that does not soak into the ground but instead runs off into waterways. This can include water flowing across paved areas, bare soils, or sloped lawns. As stormwater flows, it can collect and transport contaminants, including nitrogen. Contaminants carried by stormwater often end up in the surface waters. Stormwater will need to be evaluated as a source of nitrogen within the municipality. Although nitrogen

contributions from stormwater can't be estimated, it is an important source of pollution and should be considered for reduction activities.

Action 3.4 Pets Source Analysis

Pets are an integral part of society and can be found in all communities. Urine and excrement from domestic pets, such as dogs and cats, can be a source of nitrogen in the urban/suburban environment. Most nitrogen is excreted as urine, which renders its management impractical, however, understanding where this source is prevalent can curb potential hot spots.

Action 3.5 Atmospheric Deposition Analysis

Nitrogen deposition is a result of global, regional, and local nitrogen oxide (NOx) emissions from fossil fuel combustion (electric power generation and transportation), industry, agricultural fertilizer applications and livestock waste. Generally, atmospheric deposition is not a community driven pollutant, however, it is important to include this source of nitrogen in any type of analysis.

Refer to Step 3 in the NSC Program Guide for more information and guidance on how to complete Step 3 and the associated Worksheet.

Nitrogen Smart Communities Silver Certification

Completing Steps 1 – 3 qualifies a municipality for Silver Status Certification. This certification validates that the municipality committed to understanding its sources of excess nitrogen and is ready to take meaningful action in reducing, eliminating, and preventing nitrogen pollution.

Step 4: Develop an Implementation Plan

An implementation plan outlines the steps the community will take to execute nitrogen reduction activities. Based on a municipality's location, economic abilities, and community make up, each will be able to craft a unique plan that meets their needs, as well as the broader needs of the waterbodies shared with neighboring communities. During the planning process, local governments should work with the Advisory Taskforce to establish a shared vision of improved water quality.

The nitrogen source inventory prepared in Step 3 provided an overview of areas where the municipality should focus on nitrogen reduction. From the information gathered, priorities for nitrogen reduction should be identified, goals set defining what the municipality hopes to accomplish, and strategies that can be employed to achieve those goals.

Action 4.1 Selecting Activities

Based on the nitrogen source analysis, and municipalities' goals and strategies, create a list of activities that will reduce nitrogen pollution within the municipality.

Action 4.2 Resources and Other Considerations

Municipalities will need to explore the resources and other considerations that will be required to complete each activity selected.

Action 4.3 Plan and Schedule Activities

Set a final Plan and Schedule for the municipality. Some activities can be completed now, some may be long-term activities, and some may be on-going. A five-year (or longer) schedule should be developed.

Refer to Step 4 in the NSC Program Guide for more information and guidance on how to complete Step 4 and the associated Worksheet.

Step 5: Plan Execution

The previous steps set the stage for executing the municipality's plan for nitrogen reduction in the waters of Long Island.

To qualify for Gold Status Certification, a municipality must execute projects outlined in their Plan and Schedule and submit Self-Certification forms documenting completion. The activities completed must add up to a minimum of **5 points** (refer to the Activity List for point values).

Refer to Step 5 in the NSC Program Guide for more information and guidance on how to complete Step 5 and the associated Worksheet.

Nitrogen Smart Communities Gold Certification

Completing Steps 1 – 5 qualifies a municipality for Gold Status Certification. This certification validates that a municipality has prepared a strategic plan and has executed activities based on analysis of its sources.

Note: To retain Nitrogen Smart Communities Gold Status Certification, a municipality must bi-annually demonstrate a continued commitment to nitrogen reduction activities by submitting an updated Plan and Schedule.