

## Appendix II: Optional Non-Point Source and Stormwater Point Source Nitrogen Reduction Pathway

The State of New Hampshire and many of the Great Bay communities expressed a preference to invest in non-point source and stormwater point source reductions before significant additional investments in WWTF upgrades. This permit sets forth an optional pathway to achieve such gross reductions at the scale needed to meet water quality standards and attain designated uses. The target may be achieved through collaboration between EPA, NHDES and numerous public, private and commercial watershed stakeholders. To provide communities with guidance on the level of reductions needed, EPA and NHDES have identified a pathway to achieve this goal through a long-term, adaptive management approach. Communities who choose to adopt this optional approach would achieve the reductions through fulfillment of the following:

1. Upon the effective date of this permit, each Permittee may, at their election, coordinate with NHDES, other Great Bay communities and stakeholders to develop and utilize the Pollution Tracking and Accounting Program (PTAP) or its successor, a comprehensive subwatershed-based tracking/accounting system, for quantifying the nitrogen loading changes to the Great Bay estuary associated with activities within each municipality. These activities include, but are not limited to:
  - a. new/modified septic systems,
  - b. decentralized wastewater treatment facilities,
  - c. changes to the amount of effective impervious cover,
  - d. changes to the amount of disconnected impervious cover,
  - e. conversion of existing landscape to lawns/turf, and
  - f. any new or modified structural or non-structural Best Management Practices.
2. Within 12 months of the effective date of this permit, each Permittee may, at their election, develop, submit to NHDES (with a copy to EPA), and begin to implement a near-term nitrogen non-point source and stormwater point source control plan (“Short-Term Nitrogen Control Plan”), including:
  - a. a schedule of three years for implementing specific short-term (*i.e.*, beginning within one year of submittal) control measures (*e.g.*, fertilizer reduction) to address identified non-point source and stormwater point source nitrogen loadings in each municipality that contribute nitrogen to the Great Bay estuary;
  - b. the identification of specific control measures and suitable locations within the Great Bay watershed for each of these control measures based on nitrogen reduction credits approved by PTAP or its successor at the time of plan submittal, cost, and site characteristics to achieve optimal reduction of nitrogen to the Great Bay estuary;
  - c. the estimated cost of each control measure identified in the schedule shall include a description of appropriate financing and regulatory mechanisms to implement the necessary reductions;
  - d. an operations and maintenance plan for control measures, as necessary; and
  - e. an explanation of any category of non-point source loadings that are not included in the plan.

3. Within 36 months of the effective date of this permit, each Permittee may, at their election, develop, submit to NHDES (with a copy to EPA), and begin to implement a five-year nitrogen non-point source and stormwater point source control plan (“Long-Term Nitrogen Control Plan – 1”), for implementing specific long-term control measures to achieve a reduction of nitrogen delivered to the Great Bay estuary equivalent to 11% of the municipality-specific baseline to address identified non-point source and stormwater point source nitrogen. The plan may include:
  - a. a municipality-specific baseline of non-point source and stormwater point source nitrogen delivered to the Great Bay estuary using data directly from the 2014 Great Bay Non-Point Source Study<sup>1</sup> (GBNPSS) or optionally providing a defensible update, normalized to average rainfall;
  - b. the identification of specific control measures and suitable locations within the Great Bay watershed for each of these control measures based on nitrogen reduction credits approved by PTAP or its successor at the time of plan submittal, cost, and site characteristics to achieve optimal reduction of nitrogen to the Great Bay estuary;
  - c. the estimated cost of each control measure identified in the schedule shall include a description of appropriate financing and regulatory mechanisms to implement the necessary reductions;
  - d. an operations and maintenance plan for control measures, as necessary; and
  - e. an explanation of any category of non-point source loadings that are not included in the plan.
  - f. If the municipality’s WWTF nitrogen loading is below the annual average allocation, the difference between actual annual average loading and the permitted annual average allocation can be applied toward the non-point source and stormwater point source loading reduction target.
4. Within 8 years of the effective date of this permit, each Permittee may, at their election, develop, submit to NHDES (with a copy to EPA), and begin to implement a long-term nitrogen non-point source and stormwater point source control plan (“Long-Term Nitrogen Control Plan – 2”), for implementing specific long-term control measures to address identified non-point source and stormwater point source nitrogen to achieve a cumulative reduction of nitrogen delivered to the Great Bay estuary equivalent to 22% of the original municipality-specific baseline. The plan may include items (b) through (f) listed in Part 3 above.
5. Within 13 years of the effective date of this permit, each Permittee may, at their election, develop, submit to NHDES (with a copy to EPA), and begin to implement a long-term nitrogen non-point source and stormwater point source control plan (“Long-Term Nitrogen Control Plan – 3”), for implementing specific long-term control measures to address identified non-point source and stormwater point source nitrogen to achieve a

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<sup>1</sup> This report uses data from 2009 to 2011. Any update of the municipality-specific baseline shall include all non-point source and stormwater point source changes (*i.e.*, increases and/or reductions) from that municipality since 2011. The report may be found on the NHDES website at:  
<https://www.des.nh.gov/organization/divisions/water/wmb/coastal/great-bay-estuary.htm>

cumulative reduction of nitrogen delivered to the Great Bay estuary equivalent to 33% of the original municipality-specific baseline. The plan may include items (b) through (f) listed in Part 3 above.

6. Within 18 years of the effective date of this permit, each Permittee may, at their election, develop, submit to NHDES (with a copy to EPA), and begin to implement a long-term nitrogen non-point source and stormwater point source control plan (“Long-Term Nitrogen Control Plan – 4”), for implementing specific long-term control measures to address identified non-point source and stormwater point source nitrogen to achieve a cumulative reduction of nitrogen delivered to the Great Bay estuary equivalent to 45% of the original municipality-specific baseline. The plan may include items (b) through (f) listed in Part 3 above.

The optional cumulative reduction targets identified above may be adjusted to account for non-point source and stormwater point source changes that occur outside of the scope of the Permittees’ efforts (e.g., changes in atmospheric deposition of nitrogen to the watershed).

In the event the activities described above are not carried out and water quality standards are not achieved, EPA may reopen the General Permit within the timeframe of the permit (5 years) or reissue the General Permit beyond the timeframe of the permit (5 years) and incorporate any more stringent nitrogen effluent limits for the WWTFs necessary to ensure compliance with water quality standards. Conversely, if water quality standards are achieved before the activities described above are fully carried out, further nitrogen reductions from non-point source and stormwater point sources or from more stringent nitrogen effluent limits for the WWTFs may not be necessary (assuming that nitrogen loads do not increase from that level because of significant changes in land use, weather, atmospheric deposition or other reasons that can affect water quality).