Appendix X

Technical Requirements for Reporting and Simulating Oyster Aquaculture BMPs in the Phase 6 Watershed Model

Background: In June, 2013 the Water Quality Goal Implementation Team (WQGIT) agreed that each BMP expert panel would work with CBPO staff and the Watershed Technical Workgroup (WTWG) to develop a technical appendix for each expert report. The purpose of the technical appendix is to describe how the expert panel's recommendations will be integrated into the modeling tools including NEIEN, Scenario Builder and the Watershed Model.

Q1: What types of oyster aquaculture practices will be available for credit for nutrient reductions in the Phase 6 Model?

A1: The expert panel approved pound reduction credits for nutrients assimilated in harvested oyster tissue for the following types of aquaculture operations:

- Off-Bottom Propogated Oyster Aquaculture
- Bottom Propogated Oyster Planting Aquaculture
- Bottom Wild Seed Oyster Planting Aquaculture
- Bottom Oyster Substrate Planting Aquaculture

The reduction credits may be applied for any of these types of operations based upon the size and type of oyster harvested.

Q2: What are the reduction credits for these oyster aquaculture practices?

A2: All four types of oyster aquaculture practices will receive the same pound reduction credits, which will vary based upon the average size and type of oyster harvested at an operation. The table below provides the new BMP names and lbs of nutrient reduction related to maximum size and type of oysters harvested.

Table 1. Nutrient Reductions Per 1,000,000 Oysters Harvested by BMP

BMP Name	Lbs N Reduced/1,000,000 Oysters Harvested	Lbs P Reduced/1,000,000 Oysters Harvested
Diploid Oyster Aquaculture 2.25 Inches	110	22
Diploid Oyster Aquaculture 3.0 Inches	198	22
Diploid Oyster Aquaculture 4.0 Inches	331	44
Diploid Oyster Aquaculture 5.0 Inches	485	44
Diploid Oyster Aquaculture Greater 6.0 Inches	683	66
Triploid Oyster Aquaculture 2.25 Inches	132	22
Triploid Oyster Aquaculture 3.0 Inches	287	22
Triploid Oyster Aquaculture 4.0 Inches	573	66
Triploid Oyster Aquaculture 5.0 Inches	970	110
Triploid Oyster Aquaculture Greater than 6.0 Inches	1,477	154

Site-Specific Monitored Oyster Aquaculture	NA	NA

Q3: What credit may be given if an operation or state does not know the average size or type of oyster harvested?

A3: If the average size or type is not known, then the state should submit this for credit under the "Diploid Oyster Aquaculture 2.25 inches" BMP.

Q4: How would an operation or state receive credit for the "Site-specific Monitored Oyster Aquaculture" practice?

A4: An operator will need to provide the state with the average tissue dry weight of subsample of 50 oysters per oyster size class category within two seasons that are at least six months apart. These dry tissue estimates can then be multiplied by a default nitrogen content of 8.2% and a default phosphorus content of 0.9%, and aggregated to determine the total nutrients reduced by the harvested oysters.

Q5: What should a state report to NEIEN to receive credit for the diploid or triploid oyster practices?

A5: States should report the following parameters to NEIEN:

- *BMP Name:* Select from list in Table 1 above.
- *Measurement Name:* Oysters Harvested
- *Land Use:* NA
- *Geographic Location:* Approved NEIEN geographies: Latitude, Longitude; County; County (CBWS Only); Hydrologic Unit Code (HUC12, HUC10, HUC8, HUC6, HUC4); State (CBWS Only)
- *Date of Implementation:* Year oysters were harvested.

Q6: What should a state report to NEIEN to receive credit for the sit-specific monitored practice?

A6: States should report the following parameters to NEIEN:

- *BMP Name:* Direct Monitored Oyster Aquaculture.
- *Measurement Name(s):* Oysters Harvested; Lbs TN; Lbs TP
- *Land Use:* NA
- *Geographic Location:* Approved NEIEN geographies: Latitude, Longitude; County; County (CBWS Only); Hydrologic Unit Code (HUC12, HUC10, HUC8, HUC6, HUC4); State (CBWS Only)
- *Date of Implementation:* Year oysters were harvested.

Q7: How will the practice be credited in the Phase 6 Watershed Model?

A7: The pounds of nutrients reduced by this practice will be credited as a reduction to the edge-of-stream loads in the land-river segments adjacent to the practice location. If latitude and longitude is not submitted, then the practice benefits will be distributed amongst all land-river segments in the geography submitted.

Q8: Can this practice be submitted in areas not adjacent to non-tidal waters?

A8: No. This practice is only eligible in areas adjacent to tidal waters.

Q9: Is this an annual practice?

A9: Yes. States must report the number of oysters harvested or pounds reduced annually.