

# Oysters as a Potential Nutrient Removal BMP

Presentation to STAC  
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Matt Johnston  
University of Maryland  
CBP Non-point Source Data Analyst

**Evaluation of the Use of Shellfish as a Method of Nutrient  
Reduction in the Chesapeake Bay**



**A response to the request from the Management Board of the  
Chesapeake Bay Program**

**STAC Review Report  
September 2013**



**STAC Publication 13-005**

# Estimating Nutrient Removal by Oysters

- 8.2% dry weight soft tissue is TN; 0.21% dry weight shell is TN
- 1.07% of dry weight soft tissue is TP; 0.06% dry weight shell is TP
  - Source: STAC report
- **Equation 1. Oyster Tissue Dry Weight**
- Oyster Tissue Dry Weight (g) =  $0.0381(\text{Shell Size (mm)}) - 1.5742$
- **Equation 2. Oyster Shell Dry Weight**
- Oyster Shell Dry Weight (g) =  $0.89(\text{Shell Size (mm)}) - 34.704$ 
  - Source: Equations developed based on Newell and Mann, 2012
- Average market-sized oyster is 76 mm.
  - Source: Newell and Mann, 2012
- This yields **0.177 g of TN** and **0.034 g TP/oyster harvested**
  - Or, for every **1,000,000 aquaculture oysters harvested**,  
**approximately 389 lbs of TN and 75 lbs of TP will be removed.**

# CBP Response, September 8, 2014

“...Based on the established BMP approval procedures, the partnership has decided not to implement this BMP within the CBP modeling suite at this time. However, the WQGIT supported the WTWG’s recommendation that crediting oyster aquaculture as a BMP should be address through the expert panel process. The Oyster Recovery Partnership has expressed interest in coordinating such a panel and they are currently developing a proposal to be reviewed by the partnership...”

# Where do We Stand?

- Oyster Recovery Partnership is working with the Water Quality GIT and Habitat GIT to determine if a BMP expert panel should be convened. Their current tasks include:
  - Summarize information/scientific gaps that were identified by the STAC report and other efforts;
  - Review scientific literature related to oysters, nutrient and sediment reduction, and habitat to identify any other information/scientific gaps that may not have been considered by other efforts;
  - Identify and summarize policy and management implications; and
  - Determine if an expert BMP panel is warranted.