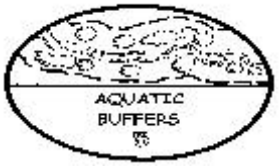
Subwatershed Category: Coastal/Estuarine Waters

Description:	Subwatershed drains to estuary or near-shore ocean.
Goal:	1. Maintain designated uses in the estuary or along the coast. 2. Enhance biological community and species diversity.
Subwatershed Planning Objectives:	• Reduce nitrogen inputs. • Decrease inputs of metals, toxins, and hydrocarbons. • Maintain or enhance anadramous fish passages and spawning habitat. • Protect shellfish beds from bacterial contamination. • Minimize stormwater impacts on tidal/non-tidal wetlands.
Special Watershed Analyses:	• Computing nitrogen budgets. • Mapping of sensitive areas. • Identification of permeable soils.
Indicators of Success:	• Shellfish beds remain open (or re-open quickly). • Positive trends in nitrogen or algal indicators. • Fisheries improvements- increases in catch sizes, species diversity.
Unique Stakeholders and Institutions:	EPA National Estuary Programs, Shellfish restoration districts, Coastal zone management areas, 6217(g) management measures.
Key Issues to Consider:	• Have nutrient reduction goals or targets been set for the receiving waters? • Do coastal areas have strong development pressures? • While sewers result in less nutrient discharge than septic systems, will they induce secondary growth?

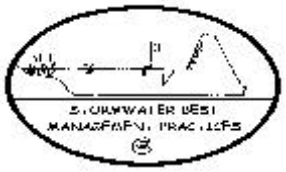
Subwatershed Plan Criteria: Coastal/Estuarine Waters

- Create overlay zones that designate growth areas, limit development areas and diagram resource protection areas.
- Limit development in proximity to shellfish beds.
- Evaluate impact from non-urban land uses (e.g. agriculture).
- Compare site impervious cover limits with septic failure potential.

- Protect dunes, maritime forests, shellfish beds, seagrass beds, tidal wetlands, non-tidal wetlands, and nursery areas.
- Avoid direct discharge to delineated wetlands.
- Delineate unsuitable soils for septic treatment.



- Use shoreline buffers, or creek buffers.
- Establish restrictions on water dependent use.
- Limit public access to designated areas.



- Design stormwater management for maximum nitrogen and bacteria removal.
- Maximize on-site infiltration with pretreatment.
- Provide for long residence time for coliform die off.
- Do not use swales as primary stormwater management.
- Develop “low density” stormwater management options.

- Routinely inspect septic systems.
- Minimize new NPDES discharges.
- Identify and correct illicit connections.

- Promote boater education.
- Encourage citizen monitoring.
- Establish public education pollution prevention programs.

- Marina siting and design.
- Pumpout stations.
- Septic systems siting and technology.
- Replace failing septic systems and sanitary sewers.
- Planning for storm hazards.