Structure of Presentation

- Southern Watershed Area Management Program
  - Brief Project Overview
  - Implementation Actions
- Regional Green Infrastructure Project
  - Brief Project Overview
  - Implementation
  - Future Directions
Southern Watershed Area Management Program
The Southern Watershed Area Management Program (SWAMP) is a collaborative effort involving:

– the Cities of Chesapeake and Virginia Beach,
– the Hampton Roads Planning District Commission (HRPDC),
– the Virginia Coastal Program,
– and the National Oceanic and Atmospheric Administration (NOAA).
Location of the Southern Watershed Area
Natural Heritage Element Occurrences

Figure 2. Locations of natural heritage element occurrences in the Southern Watershed Area

Legend:
- Animal
- Community
- Plant
- Other
- SWAMP Boundary
- Open Water
- Major Roads
Figure 5. Public lands and private protected lands in and adjacent to the Southern Watershed Area
Multiple Benefits Approach

- Riparian corridors providing multiple benefits:
  - Water quantity management and water quality protection
  - Wildlife habitat enhancement and Natural Heritage Resource protection
  - Compatible recreation and tourism opportunities
  - Environmental education opportunities
  - Potential wetlands compensation capability
Implementation

- Wetlands Mitigation MOA
- Chesapeake PDR Program
- Chesapeake and Virginia Beach Comprehensive Plans
- Land Purchase to Augment Corridor System
Wetlands Mitigation MOA

- Identify a set of riparian based conservation corridors and benefits associated with proper management
- Employ the shared methodology for selecting wetlands compensation sites
- Continue to refine the multiple benefits site selection process based on experience in analyzing mitigation site options
- Improve coordination and sharing of information among the agencies involved in the wetlands mitigation process
Land Protection Priorities

Figure 13. Lands targeted for protection in the Southern Watershed Area

Legend
- Southern Watershed Area Boundary
- Conservation Site Boundary
- Open Water
- Currently Protected Conservation Land
- Land Protection Priorities:
  - HIGH
  - MEDIUM
  -low
  - Desirable (Connecting Corridors)

Numbers and Conservation Site Names:
1. Manteo
2. Atlantic View
3. North End Marina
4. Black Point
5. Victory Creek
6. Poplar Point
7. Winding Creek
8. Campbell Landing
9. Sedge Island
10. Dad Bay Recreational Area
11. Dad Bay Recreational Area - Land
12. Dad Bay Middle Basin Park
13. Redding Lake
14. Rudee Heights Marina and Yacht Club
15. Camp Peyton Dune and Inlet
16. Old Playa
17. North Landing River - West End Creek
18. North Landing River - Eastern Marshes
19. North Landing River - Piney Grove Church
20. North Landing River - Bainbridge Creek
21. North Landing River - Moree Point
22. North Landing River - Southern Milestone
23. North Landing River - Dow Point
24. North Landing River - Foxtail
25. North Landing River - East Point
26. North Landing River - Creek Swamp
27. North River - Smell Creek
28. North River - Southeastern Reach
29. North River - North Bend River Park
30. North River - Indian Creek
31. North River - Middle Bay
32. North River - Maquoketa
33. Great Devil Swamp - NE Cape Cod
34. Great Devil Swamp - South Ridge
35. Great Devil Swamp - Smith Island
36. Bayside Road Bridge
37. Great Devil Swamp

Scale: 1:0 1:2 1:3 1:4 Mile

Source: Virginia Coastal Zone Management
Map Source: Virginia Department of Natural Resources
Signatory Agencies

- Cities of Chesapeake and Virginia Beach
- HRPDC – Hampton Roads Planning District Commission
- Virginia Dare SWCD – Soil and Water Conservation District
- VDCR – Department of Conservation and Recreation
- VDEQ – Virginia Department of Environmental Quality
- VDGIF – Virginia Department of Game and Inland Fisheries
- VMRC – Virginia Marine Resources Commission
- VDOT – Virginia Department of Transportation
- NRCS – Natural Resources Conservation Service
- NMFS – National Marine Fisheries Service
- USACE – U.S. Army Corps of Engineers
- USFWS – U.S. Fish and Wildlife Service
- TNC – The Nature Conservancy
Southeastern Parkway Mitigation Package

- Evolving mitigation package uses the multiple benefits approach developed in SWAMP
- Primary goals include augmentation of the conservation corridor system and buffering of Oceana and Fentress
Chesapeake 2026 Comprehensive Plan

- Future Land Use map includes the majority of the conservation corridor system as conservation land
- Natural Resources chapter uses the conservation corridor system as the basis for identifying conservation areas
“Conservation corridors will be preserved based on the recommended conservation corridors contained in the City’s Southern Watershed Conservation Plan and Chesapeake Bay Preservation Area program. This action would provide a logical, scientifically-based approach to conservation corridor design, because these programs have identified the most environmentally sensitive areas.”
Chesapeake PDR Program

- The City of Chesapeake Open Space and Agricultural Preservation Program (OSAP) uses proximity to the conservation corridor system as one element in evaluating parcels submitted to the program.
- The OSAP Program is funded through roll back taxes, street closure fees, sale of surplus properties and excess mosquito control funds.
Land Purchase

- The City of Virginia Beach purchased the land surrounding Stumpy Lake protecting one of the highest priority sites in the corridor system.
- The Cities of Chesapeake and Virginia Beach currently have an application pending for CELCP funding to purchase a set of six parcels in and adjacent to the corridor system.
- Back Bay National Wildlife Refuge continues to purchase land in the Back Bay watershed.
- The Nature Conservancy continues to purchase land in the Northwest River watershed.
Southern Watershed Area Management Program

- Southern Watershed Boundary
- Land acquisition candidates
- SWAMP Conservation Corridor
- Existing Protected Lands
- Jurisdiction Boundaries

Map 2

Virginia Beach

Chesapeake

December 2005

Atlantic Ocean

Back Bay
Regional Green Infrastructure Project
Project Overview

- Obtained grant from the Virginia Coastal Program based on the success of the SWAMP project.
- Worked with all localities in the HRPDC to develop a corridor system that fits with local planning goals.
- Corridor system is a framework to prioritize and potentially link several categories of open lands.
Goals for the Project

- Determine local planning needs
- Identify a corridor system that provides multiple benefits:
  - Habitat protection
  - Stormwater management
  - Wetlands Mitigation
  - TMDL & Tributaries Strategy compliance
  - Comprehensive Planning
  - Recreation/Tourism
- Provide GIS mapping of corridor system to localities
- Educate public on benefits of the corridor system
Figure 7
The Hampton Roads Conservation Corridor Study

Legend
- Opportunities for Connectivity
- Suitability for Conservation
  - Low suitability
  - High suitability - WATER QUALITY
  - High suitability - HABITAT
  - High suitability - BOTH

Notes:
The suitability for Conservation information identifies areas that are potentially most suitable for protection based on critical habitat or water quality protection perspectives. The suitability information was derived from multiple ecological analyses and was integrated into the following land cover categories: habitat, land use, and wetlands. The suitability categories were derived using a GIS model and included a combination of ecological and land use analyses.

The opportunities for Connectivity information highlights areas where there are potential gaps in existingCritical Habitat or Water Quality Protection zones in Hampton Roads. It is based on a network analysis and identifies areas that are not connected to existing conservation areas.

This map is intended as a tool to aid regional planning processes and does not necessarily reflect the actual future land use plans of individual Hampton Roads locations.
Implementation

- Land Acquisition
- Green Infrastructure Workshops
- Total Maximum Daily Load Implementation Plans
- Stormwater Management Programs
- Military Base Encroachment
- Southampton County Comprehensive Plan
- Green Infrastructure Summary Report
- Future Actions
New Conservation Lands Acquired in HR

- Agreement between International Paper, The Nature Conservancy & The Conservation Fund to protect 218,000 acres in the southeastern U.S.
- 20,000 acres protected in Sussex, Surry, Southampton, and Isle of Wight Counties by TCF
- All tracts fall into the HR Conservation Corridor
Total Maximum Daily Loads

- **Total Maximum Daily Load**
- **Definition:** Maximum amount of a pollutant that a waterbody can receive and still maintain its designated use.
- **In effect:** Planning tool to develop pollution reduction goals in order to improve water quality in impaired waterbodies.
Impaired Waters in Hampton Roads

2004 Impaired Waters
2006 Impaired Waters
Use of Green Infrastructure in TMDL Implementation Plans

- Non-point source pollution is a large part of the problem in Hampton Roads
- Both structural and non-structural methods will be required
- In many cases green infrastructure provides a cost effective alternative to engineered stormwater BMPs
Military Base Encroachment

- Hampton Roads is home to a large number of military facilities
- Military employment and associated business and industry are mainstays of the economy
- Long term viability of these facilities is threatened by encroachment of development
Hampton Roads Joint Land Use Study

- The Hampton Roads Joint Land Use Study (JLUS) was intended to explore solutions to encroachment on several military facilities.
- The JLUS includes a green infrastructure component.
- The conservation corridor network includes critical lands between Oceana Naval Air Station and Fentress.
- Identified actions in the JLUS include purchase of easements and rezoning of these lands to preclude incompatible development.
The recently completed Southampton County Comprehensive Plan includes a map of the portion of the regional green infrastructure network contained within the County.

The future land use map includes substantial portions of the green infrastructure as conservation lands.
Green Infrastructure Summary Report

- Report title is Green Infrastructure in Hampton Roads
- Introduction to Green Infrastructure
- Synopsis of previous efforts
  - SWAMP
  - HRCCS
  - Workshops
- Case Studies
- Recommended Future Actions

(Report is available on the HRPDC web site: http://www.hrpdc.org/newpep/HRCCS.shtml)
Future Actions

- White paper on the integration of green infrastructure implementation with the development approval process
- Workshop on the use of green infrastructure to deal with encroachment of development on military bases
- Integration of green infrastructure implementation with stormwater management and associated regulatory compliance
Future Actions

- Continued refinement of the regional conservation corridor network
- Identification and selection of sub-areas within the regional conservation corridor network for implementation action
- Possible development of a regional parks plan
- Possible development of a regional agriculture and forestry protection plan
Future Actions

- Continue efforts to ensure integration of the Hampton Roads Conservation Corridor network with state and multi-state level initiatives
Future Actions

- Development of a long term financing strategy for green infrastructure in Hampton Roads
- Continue public education efforts