NEW YORK STATE
DEPARTMENT OF TRANSPORTATION –
Maintenance for Water Quality
Maintenance Needs from Environment…

- Clear guidance and training on stormwater and wetlands
- Timely approvals to accommodate needs
- Understand Maintenance must balance:
  - Operational Needs
  - Safety Needs
  - Environmental Needs
- Communicate environmental requirements to budget agencies, to help transportation agencies obtain resources
Maintenance Needs from Environment…

- Information for inventories on wetland locations
- Workable reasonably priced stormwater management practices
- Regular communication to help resolve problems and questions as quickly as possible
- Have environmental funding programs include transportation agencies as eligible applicants
Maintenance needs from Asset Management ...

- Help in designing and maintaining asset inventories
- Technical support and training for hardware and software
  - GIS and GPS
  - Integrated software
- Help in making sure transportation agencies are not reinventing the wheel
Washing of Bridges

- **EI 07-32 (pg. 2 of 4)**
- Streams below bridges are sensitive to pollutants.
- Wash only at times when stream flows are high enough.
- Schedule agreed upon with the appropriate Regional office of DEC.
- Bridges at DEC yearling trout stocking sites should not be washed without the cooperation of DEC in scheduling.
Washing of Bridges: Examples
Bank Stabilization to Reduce Sediment

- Protect Assets
- Protects Stream
- Increases Maintainability
Bio Engineering

NYSDOT does two main types:

- **Vegetation to shade streams**
  - controls water temperature
- **Root wads in streams**
  - Reduces erosion and provides habitat
Check Dams

- **Controlling velocities therefore reducing erosion**
- **Designed as permanent facilities**
- **They need to be located, inventoried, and maintained.**
Seeding and Mulching

- Immediately after cleaning ditches
- Can:
  - buy
  - rent
  - borrow from soil/water conservation districts.
Stormwater Outfall Inventory

Collecting Maintenance Information
- Location
- Condition
- Water quality of Discharge
GIS Map of Stormwater Outfalls

- 18,000+ Locations in NYS so far
- Maintenance Environmental Contacts (MECs) coordinated efforts
- MECs performed Quality Control
Environmental Handbook for Transportation Operations

NYSDOT website:

Region 8 Stormwater Facilities Maintenance Program

- *Ties together* Maintenance, Environment, and Asset Management

- Maintenance Spreadsheet Schedule

NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
REGION 8

**STORMWATER FACILITIES**

**OPERATIONS & MAINTENANCE MANUAL**

**SEPTEMBER 2003**
Facilities Efforts to Improve Water Quality

- **Good housekeeping**
- **Petroleum bulk storage**
  - Remove old underground storage tanks (USTs)
  - schedule to replace with above ground storage tanks (ASTs)
Above Ground Storage Tanks
Facilities Efforts to Improve Water Quality

- Spill Prevention Control and Countermeasures (SPCC) Program
- Spill Prevention Kits
Spill Response Materials
Containment Boom
Oil / Water Separators
Facilities Efforts to Improve Water Quality

Covered Salt Storage
Environmental Efforts of Winter Maintenance

- *Cascade Lakes & Chapel Pond Final Report*
  - Vegetative effects on water quality
  - External Website Address:

Environmental Efforts of Winter Maintenance

Cascade Lakes & Chapel Pond Final Report

- Vegetative effects on water quality
Environmental Efforts of Winter Maintenance
Environmental Efforts of Winter Maintenance: Living Snow Fence
Detention Structures to Reduce Salt Water Runoff
Creating Wetlands to Improve Water Quality

- Reduces runoff and flows downstream
- Increases Wildlife Habitat
Stream Restoration Efforts to Improve Water Quality

- Interagency Partnering: InterACT
- Environmental Stewardship
Stream Restoration Efforts to Improve Water Quality

Staff Training that normally occurs anyway:
- e.g. Operator training for bulldozers, excavators, etc.

Synergistic: Pulls together Maintenance, Environment, Asset Management
Training

- In-house
- Worker Experience
- Agency/Consultants:
  - USACE
  - State Resource and Reg Agencies
  - Soil Water Conservation Services
  - Product Vendors
- Drainage Decision Tool
Green and Blue Highways Roadside Maintenance Initiative:
New York State Department of Transportation:
December, 2006
NYSDOT Green and Blue Highways Initiative

- NCHRP Compendium
  - Has nearly 7,000 stewardship practices
  - Practices from all over North America
  - “We” drew from Compendium and MECs’ excellent track record
NYSDOT Green and Blue Highways Initiative

- Survey tool
- Lists all possible stewardship opportunities
- Location info supplemented with
  - mile markers or
  - GPS
NYSDOT Green and Blue Highways Initiative: Status as of December 7, 2006

Green and Blue Highways Status: December, 2006

Source: Regional Status Reports
NYSDOT Green and Blue Highways Initiative

- Region 1: Interstate 90
- Installed Deer Reflectors to Address DVA issue
Denton Nature Preserve, Region 1:
- Nature Conservancy Preserve in Washington Residency
- Natural and historical resources
- Residency improved parking lot
  - Enlarged slightly
  - Aligned for safety
  - Provided informational signs
NYSDOT Green and Blue Highways Initiative
Dresden Rest Area, Route 22, Region 1

- During Vendor Placed Paving project, Residency repaved rest area overlooking Lake Champlain and Vermont’s Green Mountains.
- Residency staff surveyed Route 22 in Town of Dresden and identified rest area improvements as best project.
- Project will have an operational benefit: improvements will make illegal trash and garbage dumping more difficult.
NYSDOT Green and Blue Highways Initiative Region 5 Phragmites Control on Route 219
NYSDOT Green and Blue Highways Initiative:
Region 6 Improved Access Parking at Appalachin Marsh
NYSDOT Green and Blue Highways Initiative:
Region 8 Vegetation Improvements along the Palisades Interstate Parkway

- Residency trimming trees for stream/waterfall view
- Residency/Region to install deer reflectors
- Ongoing issue is invasives: note thick vines on
NYSDOT Green and Blue Highways Initiative:
Region 10 Work along Rt 25/Sunrise Highway

- Restoration of eroded and degraded roadside on Route 25 (left picture)
- Installation of living snow fence at Sunrise Highway interchange (right picture)
NYSDOT Green and Blue Highways

**Partnerships:**
- Nature Conservancy
- Scenic Byways
- DEC
- Soil Water Conservation
- Local natural history group
- Local museum/DEC
- Parks
- .....