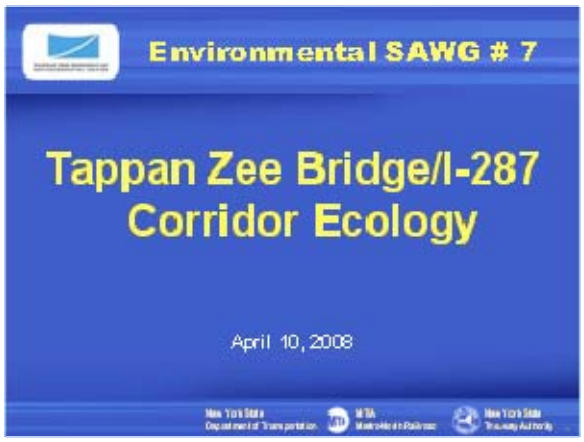
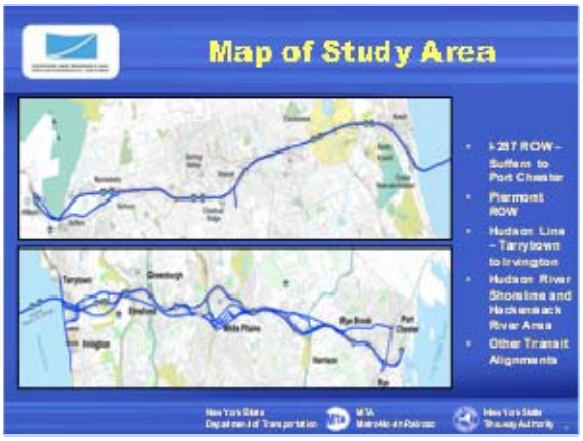
Agenda Item 2
Technical Presentation – Corridor Ecology



Slide 1

The topic of SAWG #7 is the ecology of the Corridor study area from Suffern to Port Chester, exclusive of the Hudson River, which was addressed in SAWG #5.



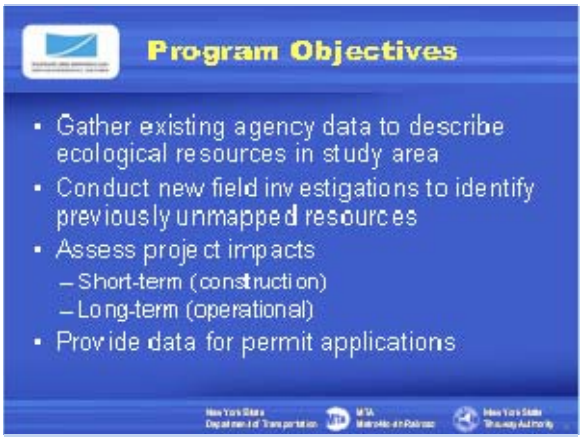
Slide 2

A map depicting the various alignments that comprise the Corridor Ecology study area.

- I-287 ROW, Suffern to Port Chester;
- Piermont ROW, Suffern to Airmont Rd;
- An expanded area at the Hackensack River,
- Hudson River shoreline, 500 feet north and south of I-287;
- Metro-North Hudson Line ROW from Tarrytown to Irvington; and
- Other bus & CRT alignments in Westchester County.

Slide 3

The photo illustrates the natural areas (i.e., vegetated areas) that occur in the ROWs and alignments that were investigated by the project team for ecological resources. In the I-287 ROW, the investigated area (edge of pavement to the ROW boundary) is typically 100 to 125 feet, but can range from approximately 20 to 200+ feet.



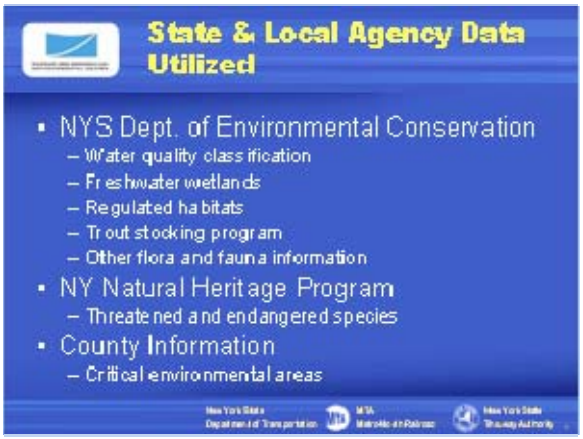
Slide 4

Description of the Program Objectives.

- Quantifying ecological resources,
- Assessing project alternatives for short tem construction and long term operational impacts, and
- Providing data for permit applications.

Slide 5

A listing of federal agencies from which ecological data for the project area was collected was presented.



Slide 6

A listing of state agencies from which ecological data for the project area was collected was also presented.

Slide 7

Regulatory Agency Mapped Resources title slide

Slide 8

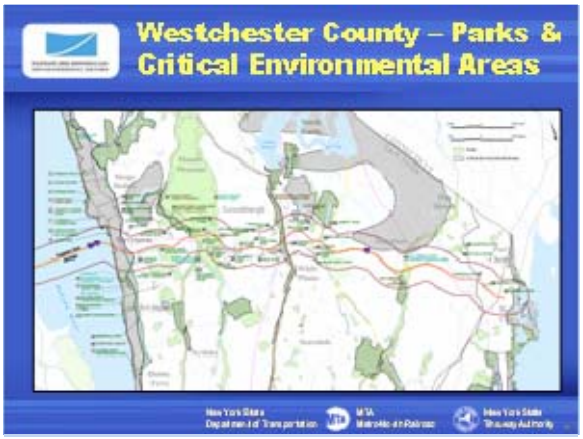
A map showing all National Wetland Inventory and NYSDEC-regulated wetlands in Rockland County. NYSDEC wetland program classifies wetlands (Classes I through IV) based on their ecological resources. Class I wetlands receive the highest regulatory protection.

Slide 9

NWI and Wetland Maps in Westchester County.

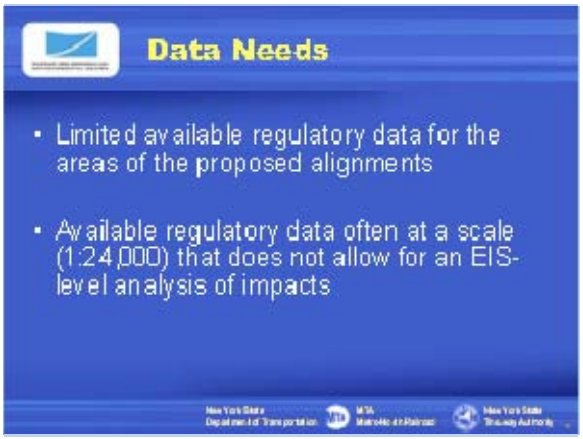
Slide 10

A map showing the locations of parkland and Critical Environmental Areas (CEAs) in Rockland County. Due to the high level of anthropogenic development, most large vegetated parcels within and adjacent to the study area are parks and CEAs. The red line in the slide represents the footprint of the I-287 ROW.



Slide 11

Parks and Critical Environmental Areas – Westchester County

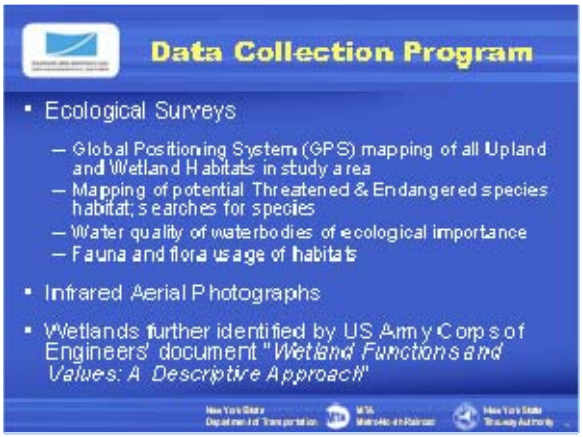


Slide 12

A slide identifying the remaining data needs (after gathering agency data). Specific shortcomings of the agency data include the threshold below which resources are not mapped, and also that the accuracy of those resources that are mapped is insufficient (e.g., too large of a scale) for the purpose of conducting an EIS-level investigation.

Slide 13

Data Collection Program title slide



Slide 14

Identification of the data collection program. The activities include:

- GPS mapping of all habitats within the project alternatives;
- Identifying and mapping threatened and endangered species habitats (if present) and searches for organisms;
- Water quality sampling program;
- Use of infra red aerial photographs;
- Collection of wetland data, wetland functions and values.

Slide 15

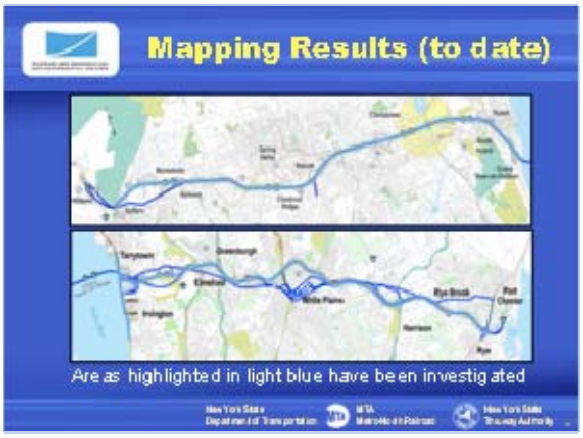
The Data Collection Program was reviewed and approved by several agencies: including US Environmental Protection Agency, Fish and Wildlife Service, Army Corps of Engineers, and the New York State Department of Environmental Conservation.

Slide 16

The methodologies for the field efforts, specifically habitat mapping. All upland and wetland habitats are mapped by Global Positioning System (GPS) with +/- 1 meter accuracy. Every habitat is identified per the NY Natural Heritage Program's (NY NHP's) document *Ecological Communities of New York State.*

Slide 17

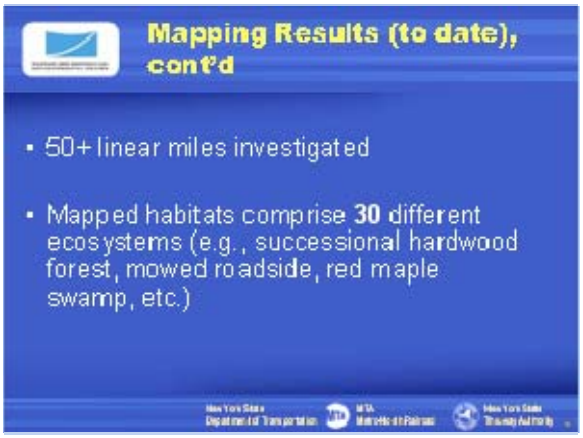
Mapping Results



Slide 18

The areas which have already been investigated are identified in slide by a lighter shade of blue. These areas include:

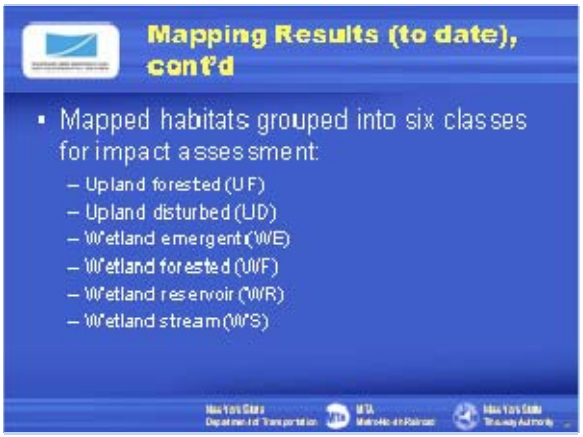
- I-287 ROW,
- Metro North Hudson Line ROW,
- Hackensack River Area, and
- Hudson River Shoreline



Slide 19

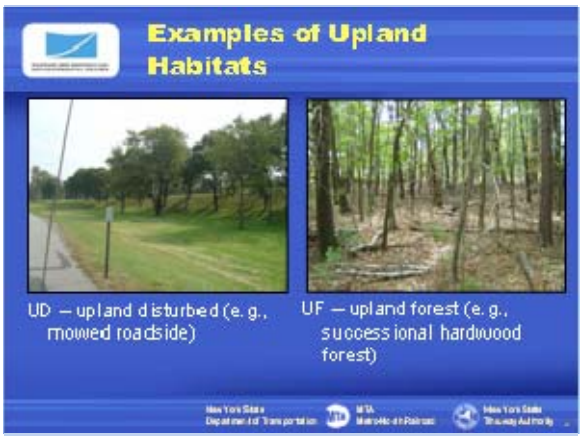
Summary statistics of the data collection program to date.

Over 50 miles of alignments have been mapped, and 30 different ecosystems have been identified, based on the NYNHP 's document, *Ecological Communities of New York State*.



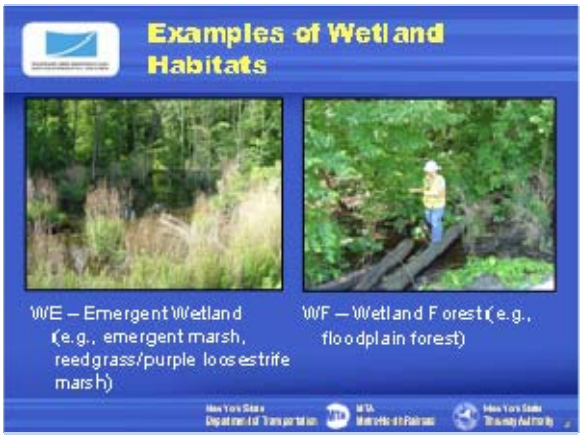
Slide 20

Because of the sheer number of ecosystems recognized using the identified criteria, analysis of impacts by specific type of ecosystem would be tedious and of limited value. Instead, the 30 different ecosystems identified were further grouped into six broader categories, as presented on this slide.



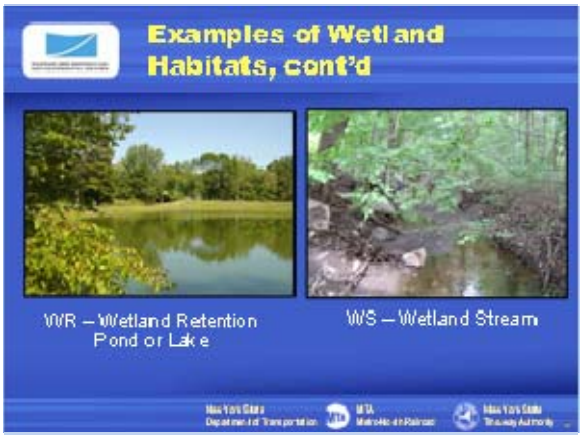
Slide 21

Examples of upland disturbed and upland forested habitats



Slide 22

Examples of wetland emergent and wetland forested habitats



Slide 23

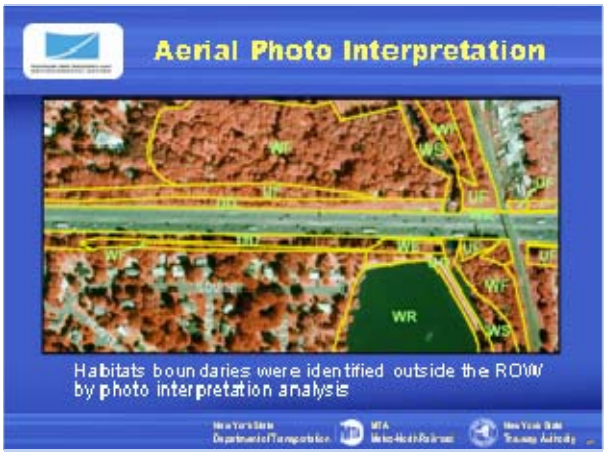
The examples of pond, lakes, and retention areas and wetland streams.

Slide 24

Example of individual mapped upland and wetland habitats around the Hackensack River.

Slide 26

Example of the individual habitats (see previous slide) grouped into the six broad mapping categories UD, UF, WE, WF, WR, and WS.



Slide 26

Example of the aerial photo analysis.

The use of infrared photography to expand habitat mapping beyond the edge of the field-mapping was illustrated.

Slide 27

Wetlands

Slide 28

Wetlands are important ecosystems that provide ecological functions and values (e.g., flood storage, habitat, etc.). Due to their importance there are numerous laws that protect them.

Slide 29

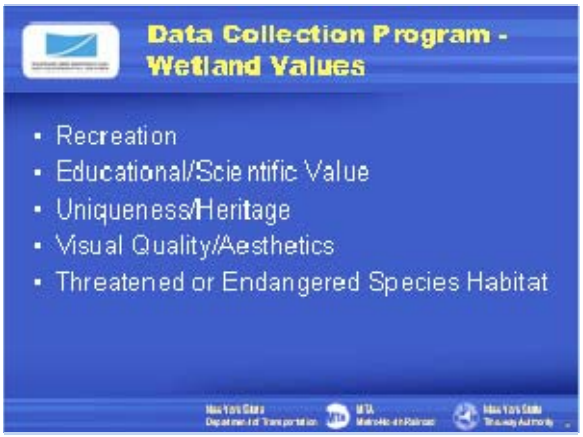
An example photograph of a wetland flagging exercise to define the wetland/upland boundary (see pink flags in photo). Wetland are identified as those areas having hydric plants, hydric soils, and wetland hydrology.

Slide 30

All mapped wetlands were further identified by noting their functions and values, using the methodology described in the US Army Corps of Engineers manual "*Wetland Functions and Values: A Descriptive Approach*"

Slide 31

Wetland Functions, as identified per *Wetland Functions and Values: A Descriptive Approach"* document.



Slide 32

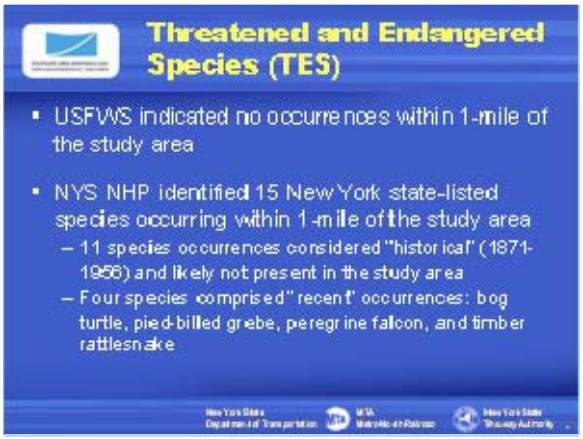
Wetland Values, as identified per *Wetland Functions and Values: A Descriptive Approach"* document.

Slide 33

An example of the data sheet used to collect information on each mapped wetland's functions and values.

Slide 34

- The threatened and endangered species (TES) program was described.



Slide 35

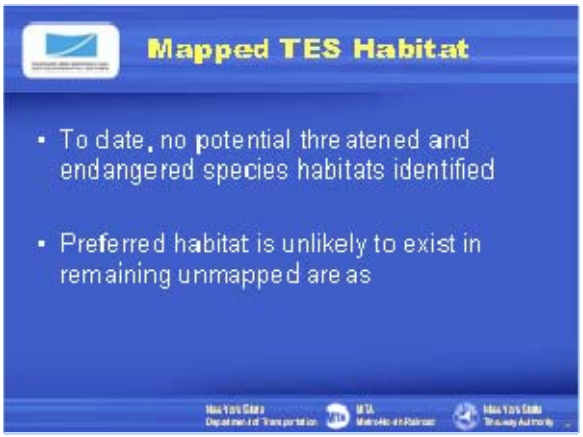
No occurrences of federal TES were identified in the study area. Fifteen state-listed TES were identified; however, 11 of these are "historic" (i.e., pre-1956) observations; these observations are given considerably less weight in the analysis. The four remaining species that have been "recently" observed were identified.

Slide 36

A description and photos of the Peregrine Falcon and Pied-billed grebe. Both species are listed by New York State as threatened and endangered species.

Slide 37

A description of the timber rattlesnake and the bog turtle. Both species are listed by New York State as threatened and endangered species.

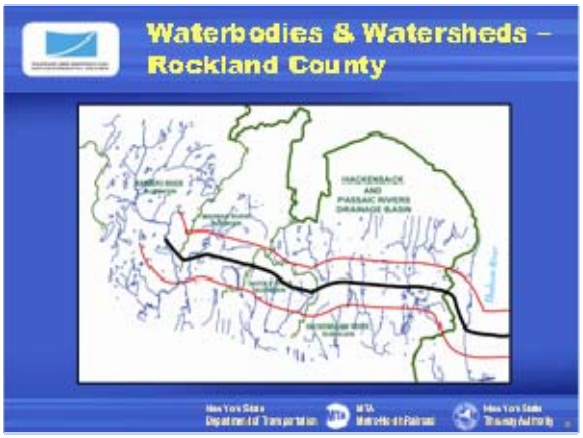


Slide 38

No threatened and endangered species habitat has been found within the project alignments during the habitat mapping activities.

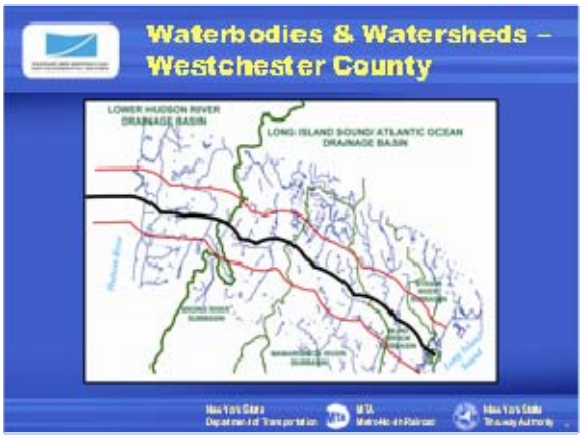
Slide 39

Waterbodies



Slide 40

A map identifying the drainage basins and waterbodies that occur within the Rockland County portion of the study area.

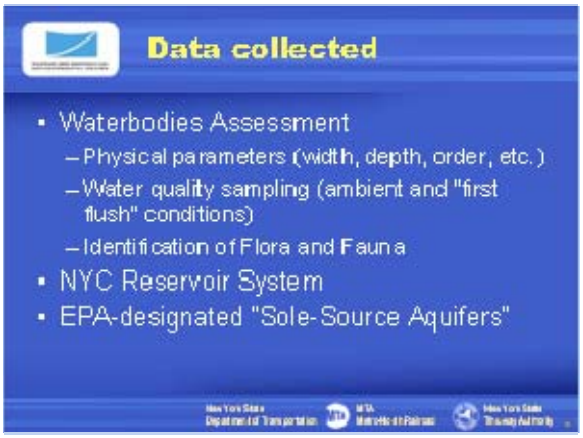


Slide 41

A map identifying the drainage basins and waterbodies that occur within the Westchester County portion of the study area.

Slide 42

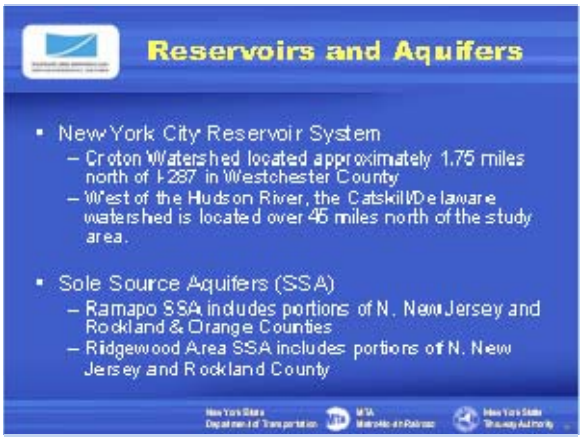
The photographs show the highway crossing over two class A waterbodies in Rockland County – Ramapo River and Hackensack River



Slide 43

The data collected for all waterbodies is identified. This includes the following:

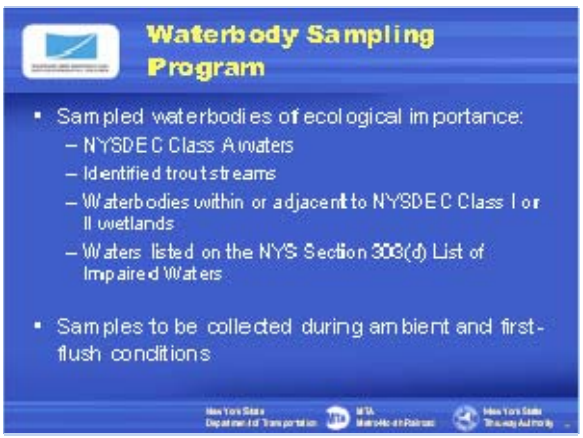
- Physical parameters
- Water quality data
- Identification of flora & fauna
- Location of NYC watershed
- EPA-designated sole-source aquifers



Slide 44

Reservoirs & Aquifers – no NYC reservoirs are within the study area, but two SSAs (Ridgwood and Ramapo) are located in the western portion of the study area.

NYC watershed also supplies drinking water to much of Westchester.



Slide 45

The waterbody sampling program was described. Water samples are being collected during normal-flow, or "ambient" and "first-flush" conditions for all Class A waterbodies, trout streams, waterbodies in and/or adjacent to NYSDEC Class I & Class II wetlands, and 303(d)-listed waters.

Slide 46

A brief overview of stormwater management, including regulatory background.

Slide 47

Photographs illustrating the mechanical or biologic treatments that are currently available.

Slide 48

Photo of a stormwater storage unit.

Slide 49

End slide.