



Waddling Down a Stream to a Restoration

By: Harris Trobman & Brandon Sullo

Project Goals

Our main goal of this project is to reduce or eliminate storm water pollutants to the stream as well as create a better habitat for the existing living systems in Kingwood Park.

- ✓ Design and install techniques to reduce storm water runoff volume.
- ✓ Implement bioengineering practices to control embankment issues.
- ✓ Identify sources of containments of the stream and implement plan to control and treat using bmp.
- ✓ Evaluate overall quality of existing living systems as well as make qualitative improvements to the systems.

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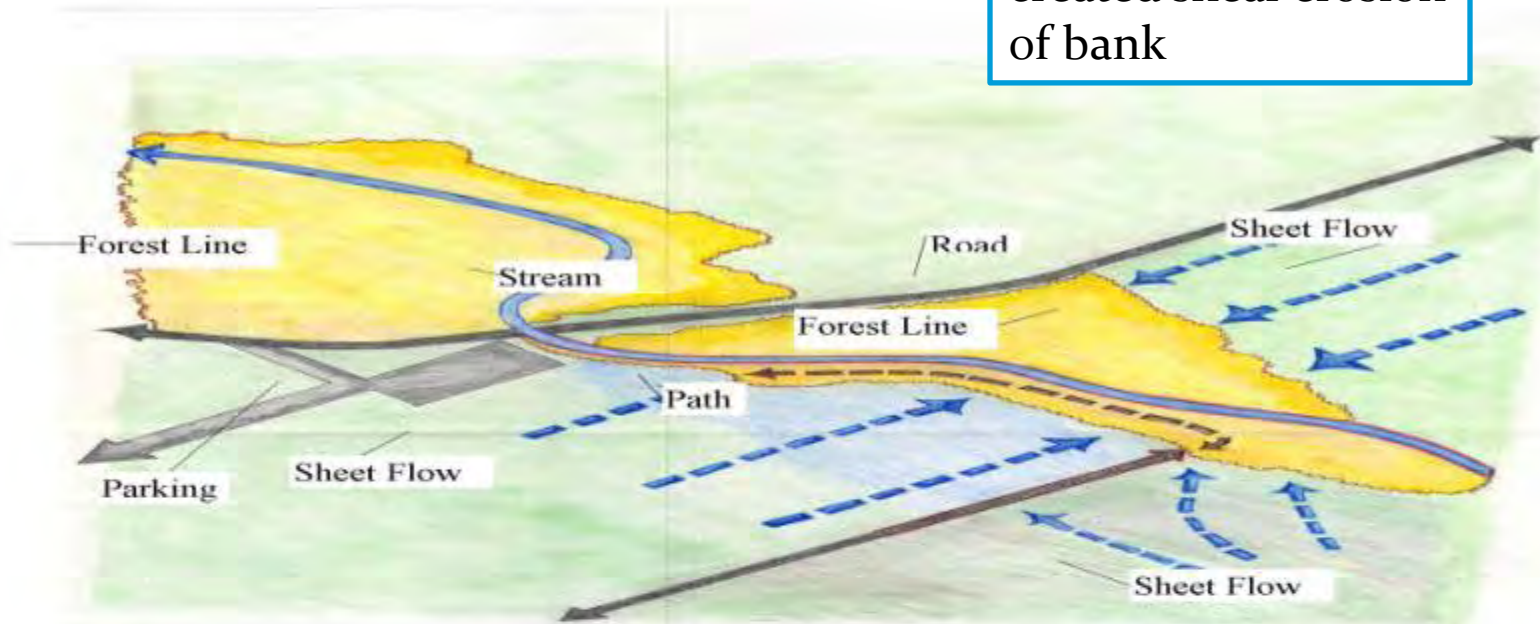
What is a healthy stream?

- Bed stability & diversity
- Balanced Transport of Sediment
- Habitat in Stream/ Flow variety
- Bank Stability
- Healthy Riparian Buffer
- Active Floodplain
- Does not aggrade (fills) or degrade (erodes)

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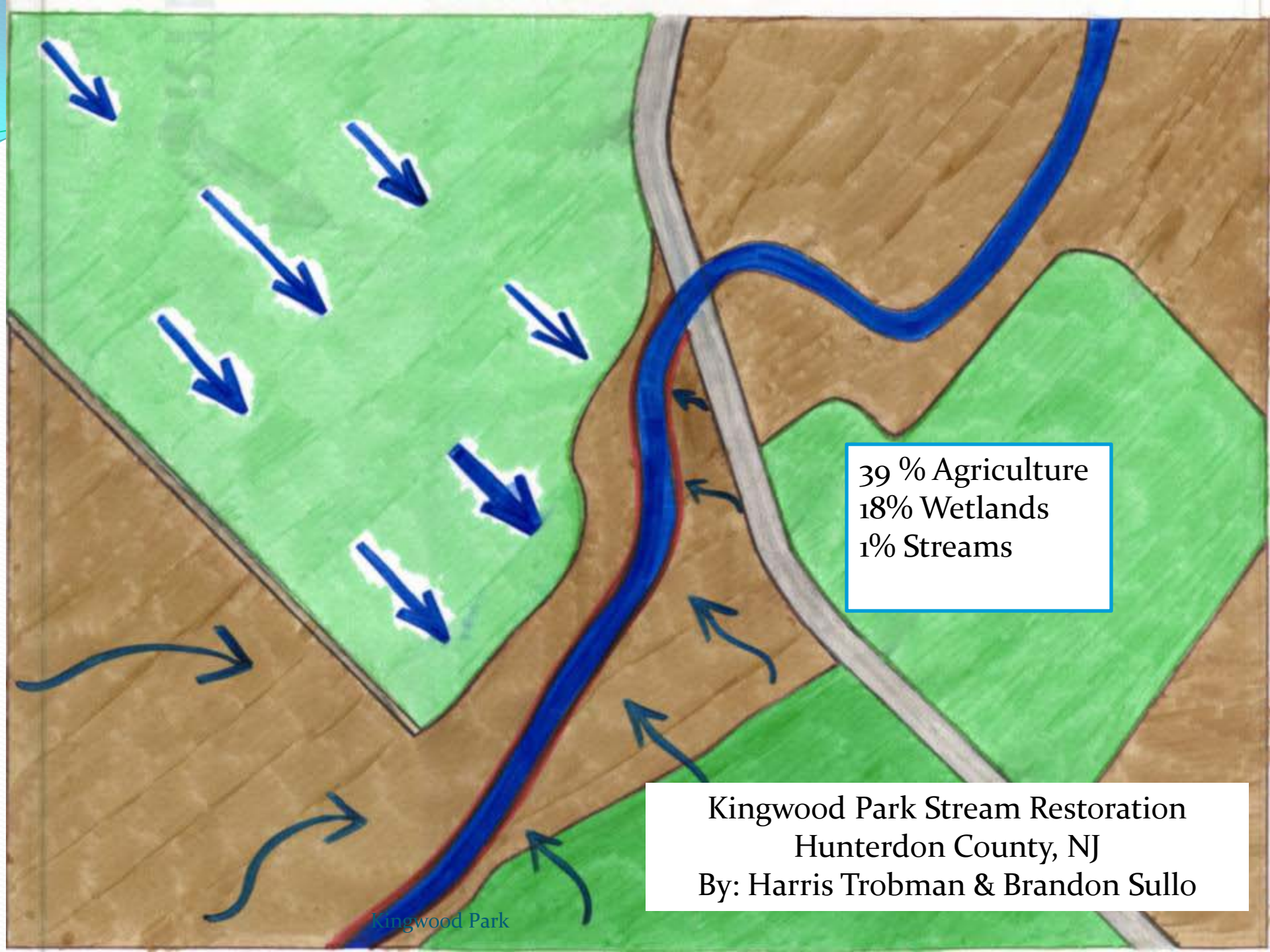
Half watershed has soil less than 3 feet deep.

Increased flow has created shear erosion of bank



Road runoff is increased due to sheet flow and must be addressed.

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39 % Agriculture
18% Wetlands
1% Streams

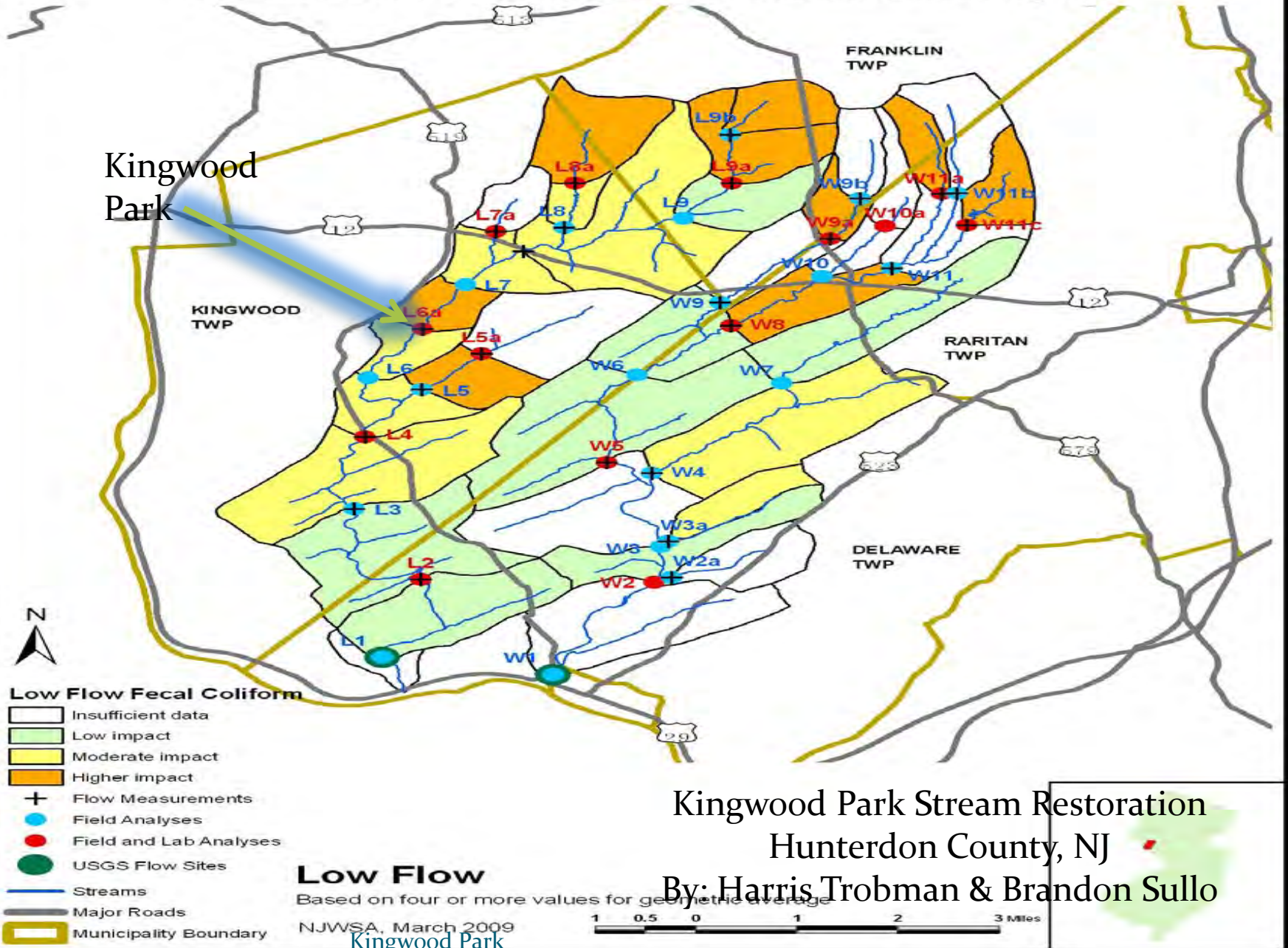
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Kingwood Park

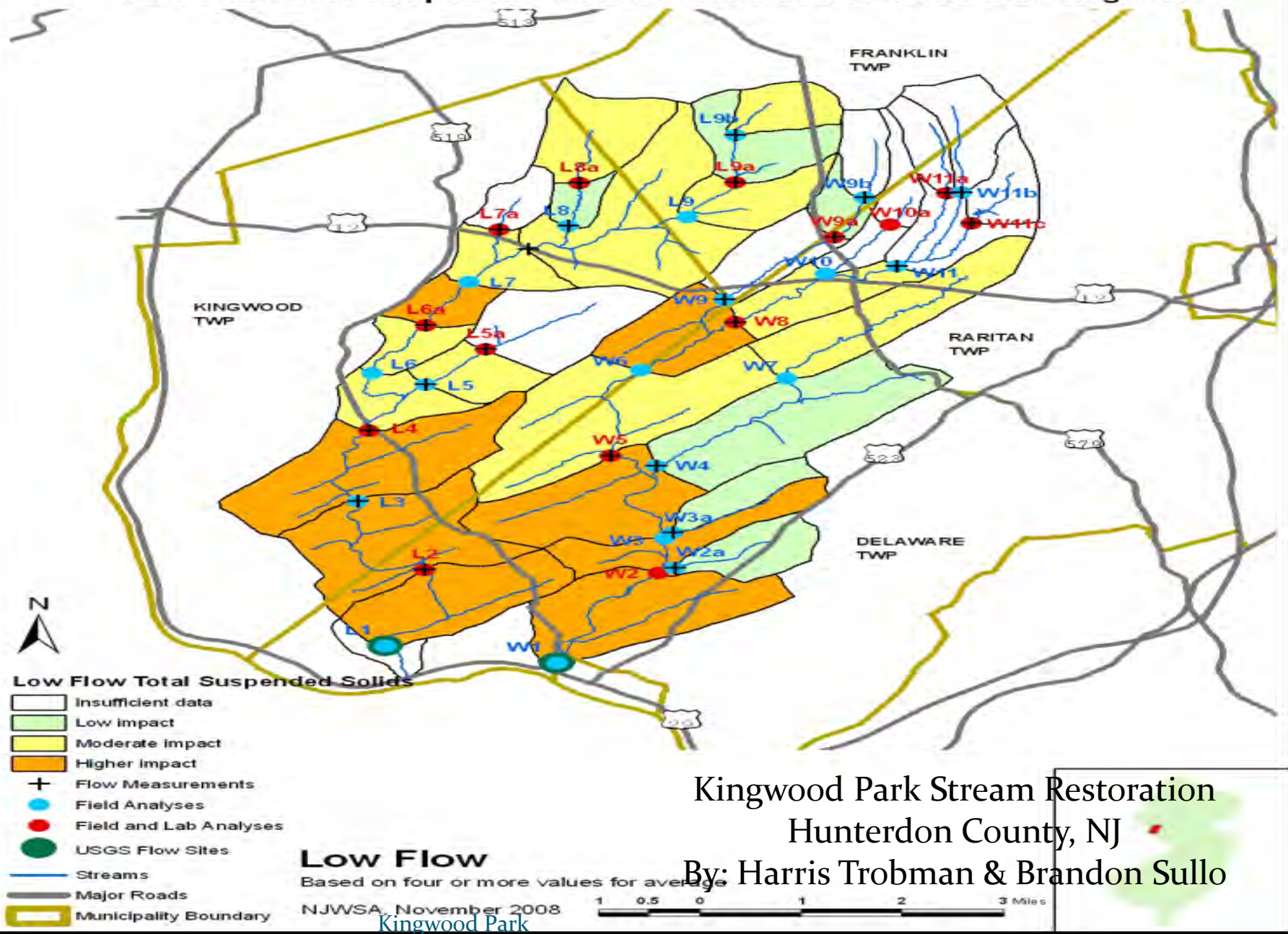
**Picture from Lockatong and Wickecheoke
Creek Watersheds Restoration and Protection
Plan**

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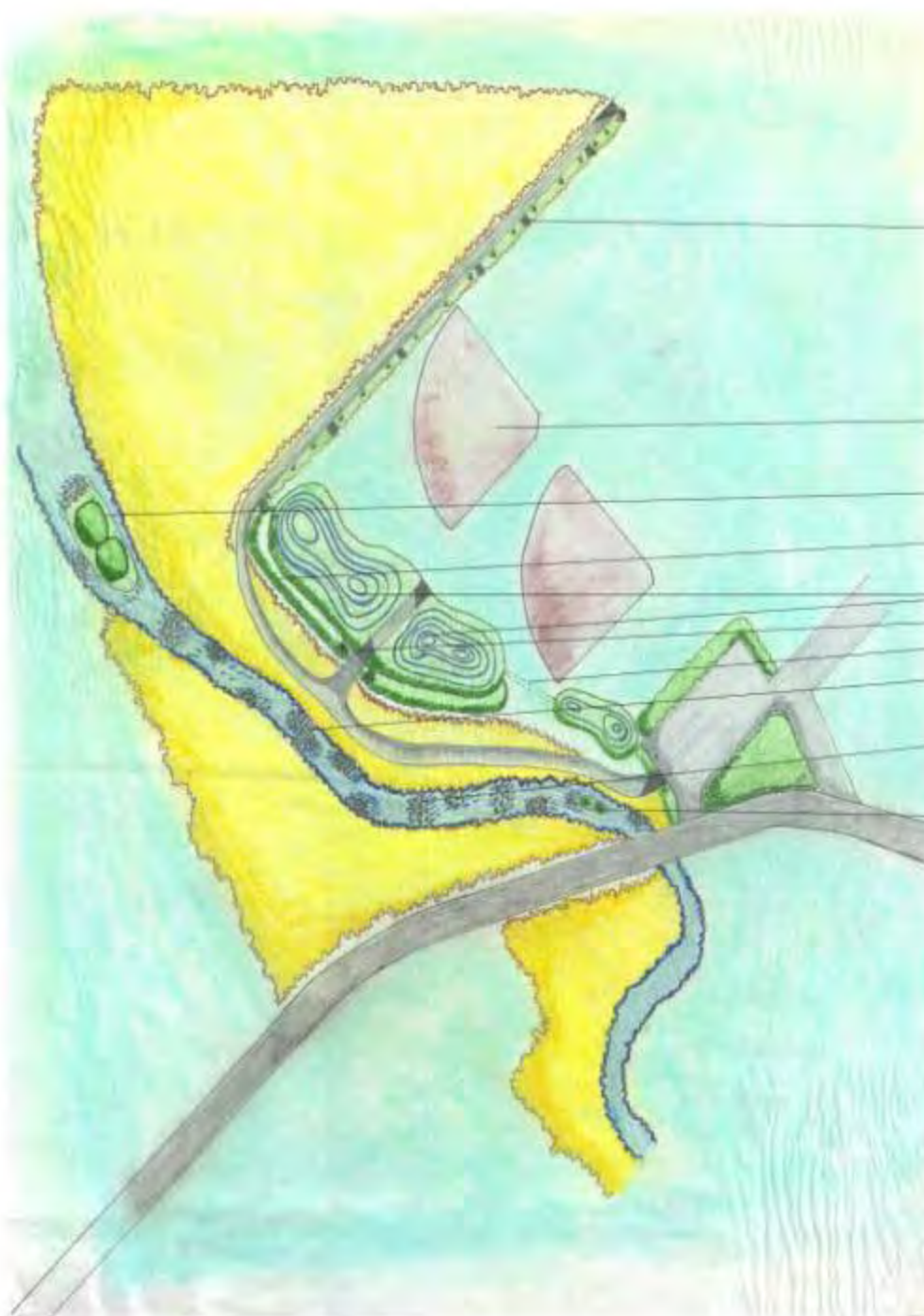
Lockatong and Wickecheoke Creek Study Area Low-Flow Fecal Coliform Levels for Sub-watershed Regions



Lockatong and Wickecheoke Creek Study Area **Low-Flow Total Suspended Solids Levels for Sub-watershed Regions**



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Vegetative Berm

Existing Baseball Field

Planting Island

Vegetative Berm

Constructed Wetlands

Stone Path

Swale connecting basins

Bridge

Rock in varying patterns to direct water

Island Planting

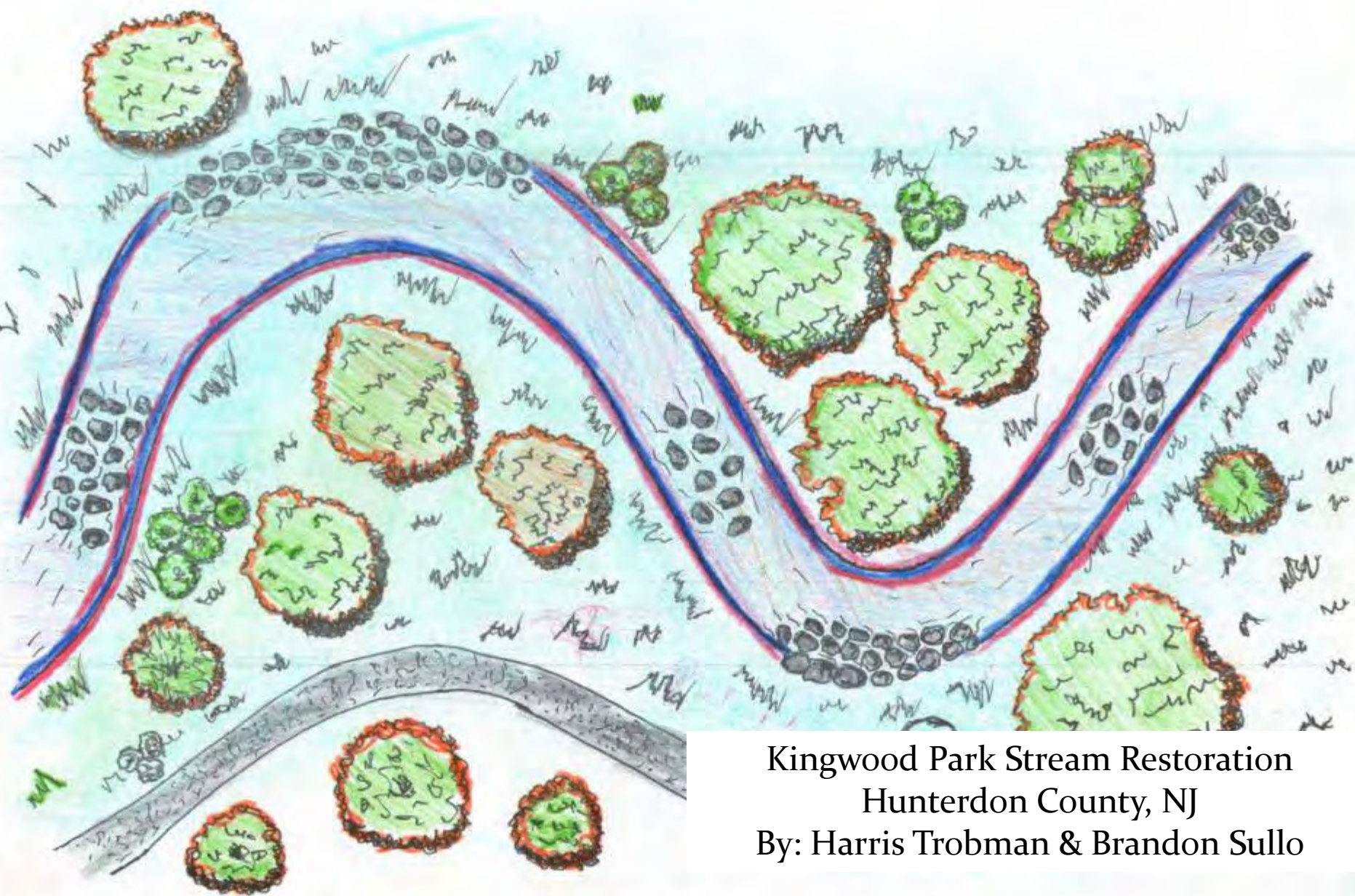
1"=60'-0"



Kingwood Park Stream Restoration

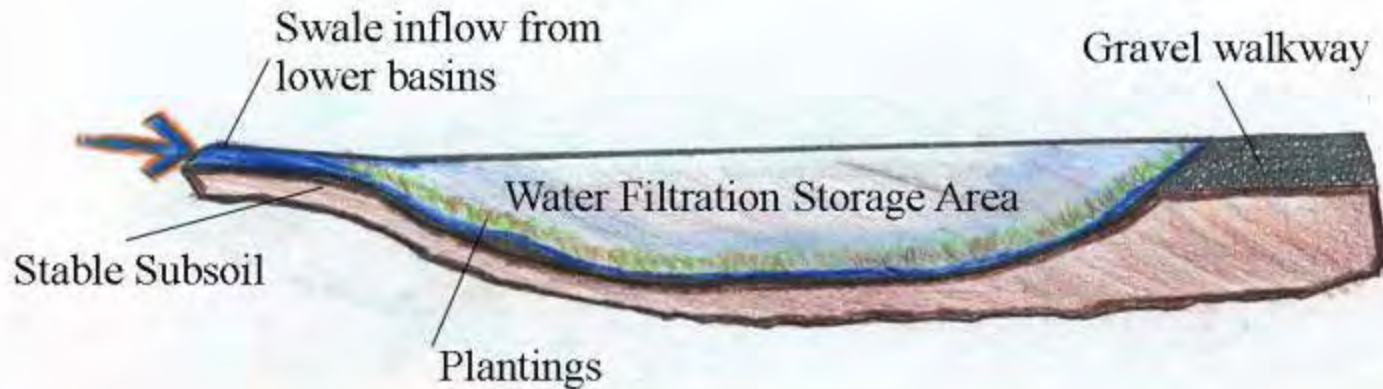
By: Brandon Sullo & Harris Trobman

December 8th, 2010



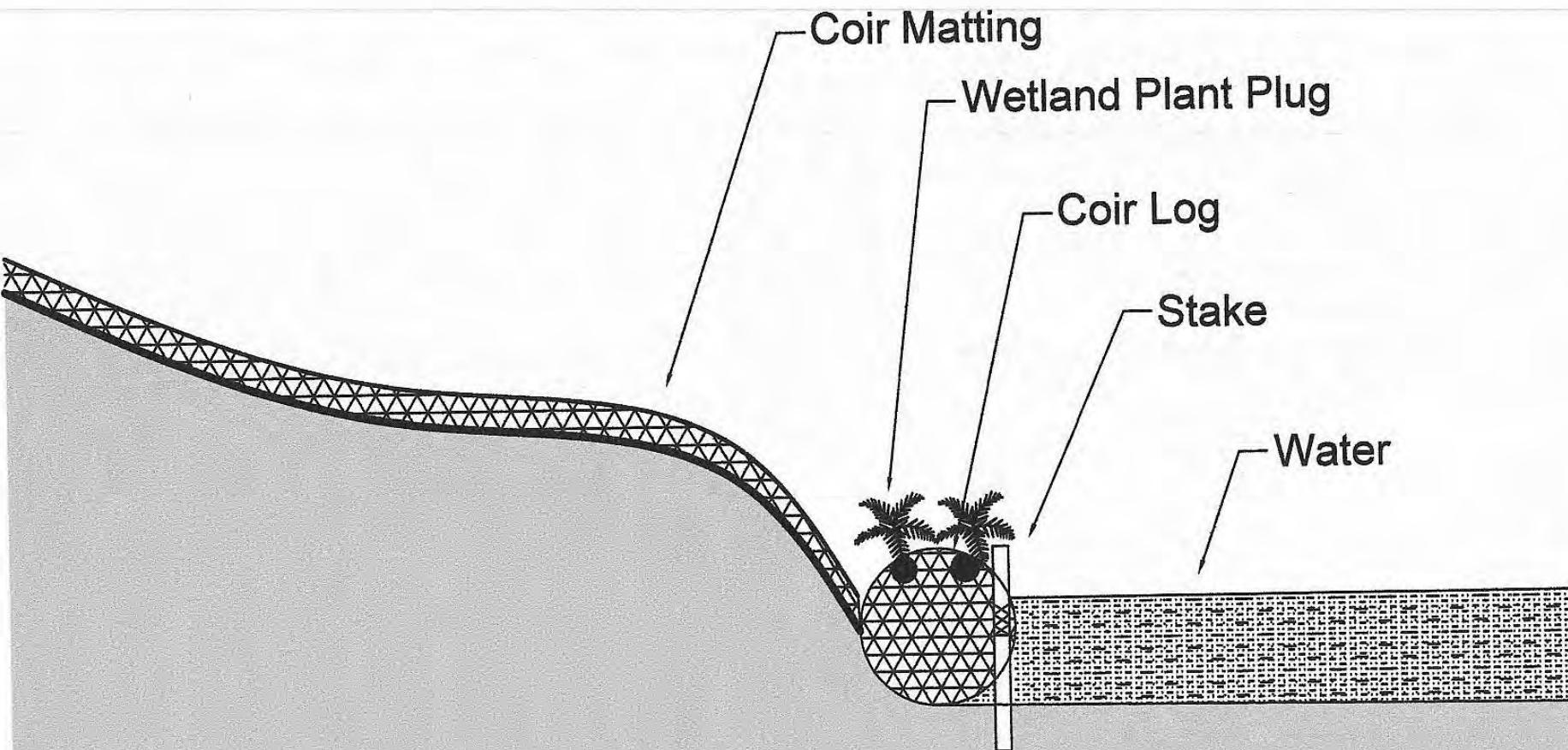
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Has capacity to hold
approximately 158,000
gallons.



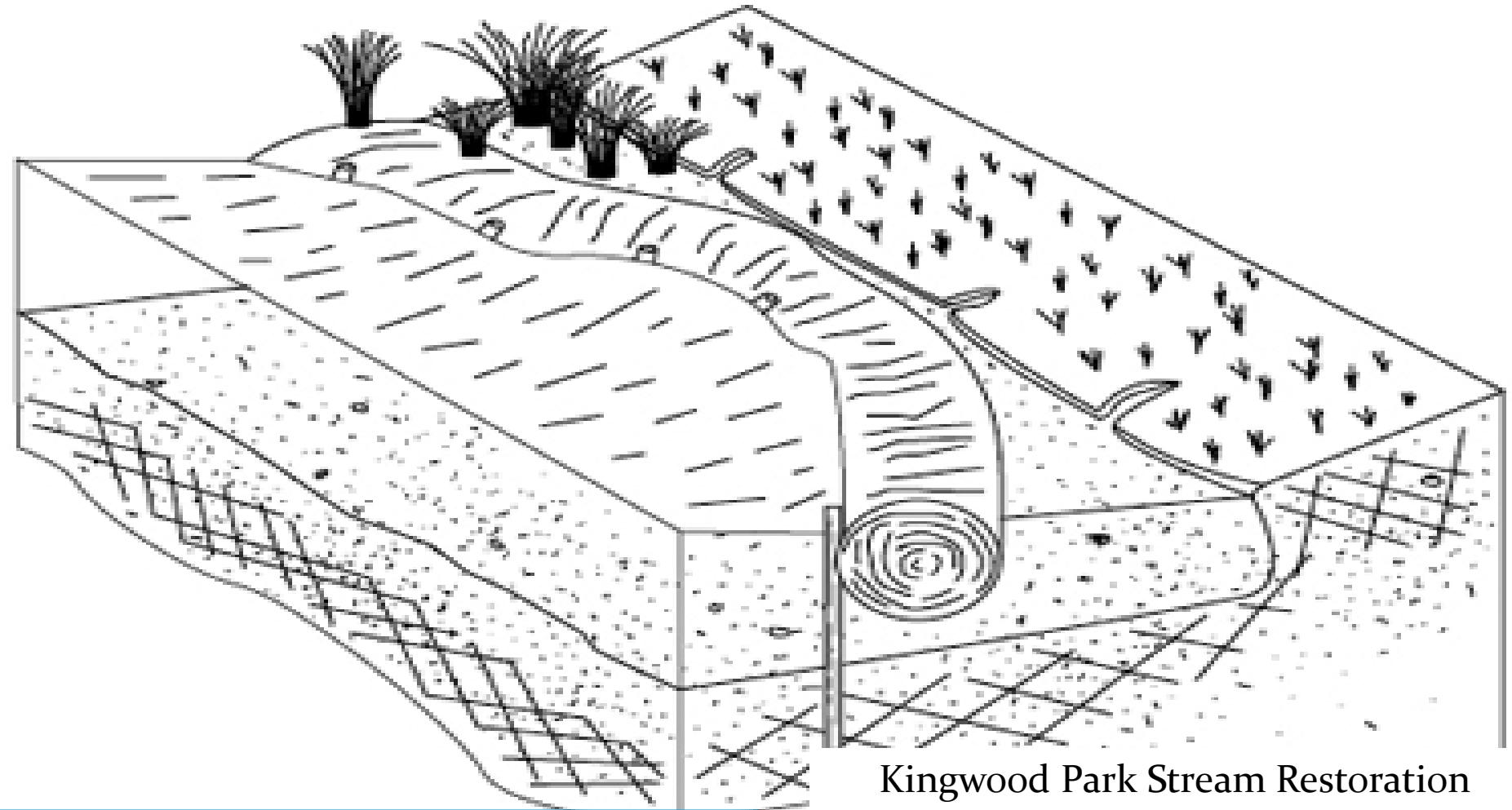
Constructed Wetlands Details

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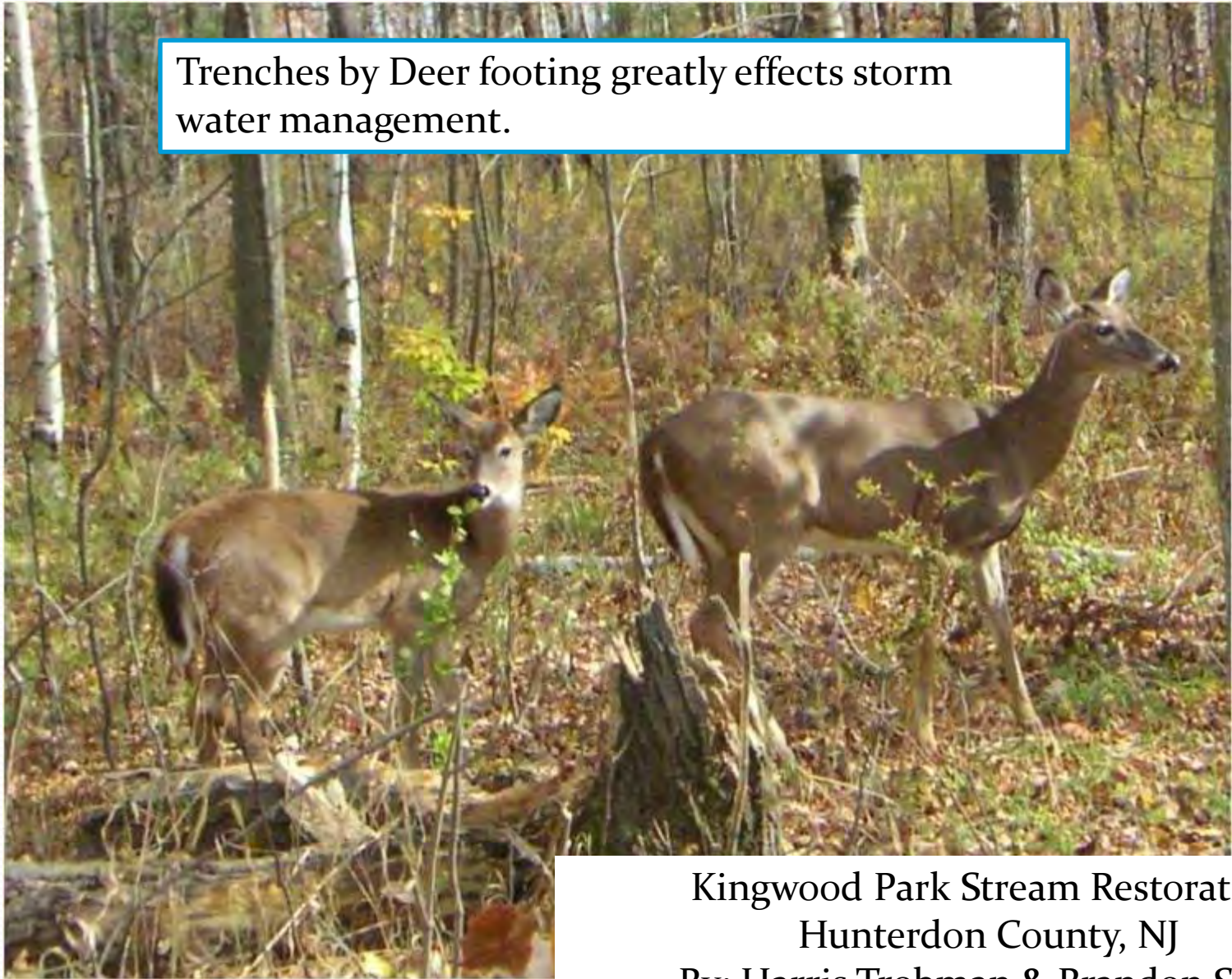
Coir fascines stabilize banks and help establishment of wetland plants.



The coconut fiber accumulates sediment and biodegrades as plant roots develop and become a stabilizing system.

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Trenches by Deer footing greatly effects storm water management.



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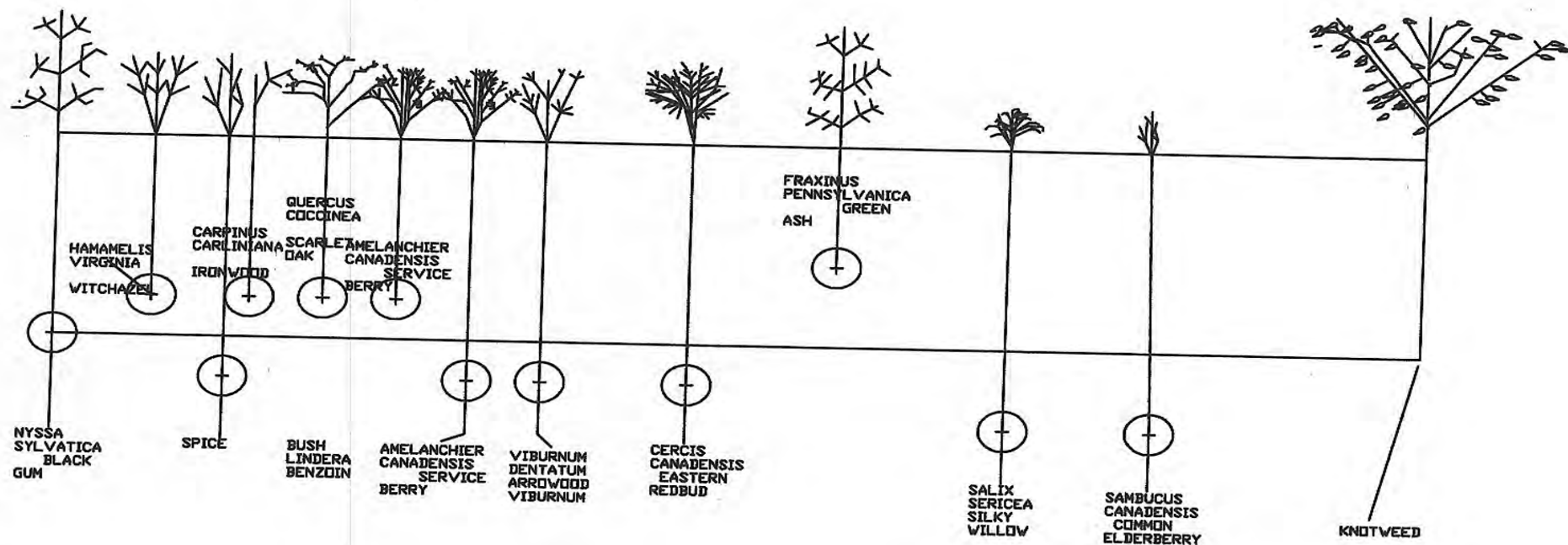
Inspiration

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Long Term Goals

- Plant 10' x 10' squares to develop forest
- Interdisciplinary projects to maintain stream health including implementing B.M.P. practices to control fecal coliform near banks.
- Create permanent fix to roadway drainage such as sand traps.
- Monitor growth of native plants & fish as indicators.
- As talked about before create balanced control of deer population.

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