

MITIGATION BANKING



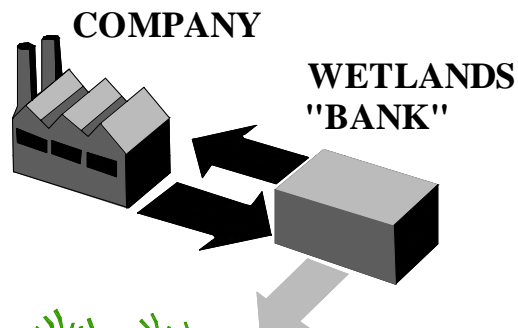
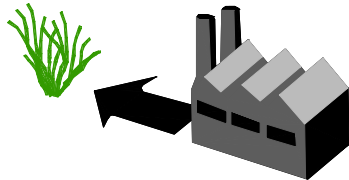
Wetland Studies and Solutions, Inc.
Michael S. Rolband, P.E., P.W.S., P.W.D.,

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I. The Concept of Mitigation Banking

HOW IT WORKS

A COMPANY WANTS TO BUILD ON WETLANDS. IN THE PAST, IT WOULD HAVE HAD TO CREATE WETLANDS AS COMPENSATION, OFTEN NEXT TO THE PROPERTY IT DEVELOPED.



UNDER THE MARKET-ORIENTED SYSTEM, IT CAN GO TO A "BANK" CREATED BY ENTREPRENEURS WHO HAVE OBTAINED CREDITS FOR CREATING WETLANDS ELSEWHERE.

WETLANDS

BY PURCHASING WETLANDS CREDITS FROM THE ENTREPRENEURS, THE COMPANY GAINS THE RIGHT TO BUILD ON ITS OWN WETLANDS. WETLANDS RESTORERS USE THIS POOLED MONEY TO CREATE MUCH LARGER CONSERVATION PROJECTS.

The Washington Post, February 15, 1996

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II. Regulatory Status

A. Federal Guidance

B. State Laws

C. Relationship to the Clean Water Act

1. Sequential analysis under 404(b)(1) Guidelines
2. NWP Section 404 General Condition #19
3. DEQ Regulations



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III. Primary Elements of a Memorandum of Agreement (MOA)



A. Service Area

B. Mitigation Ratios

1. Numeric data
2. Basis of measurement (i.e., functions & values vs. acreage)
3. Upland buffer
4. Preserved wetland values

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III. Primary Elements of a MOA (cont'd)

C. Monitoring and Maintenance Timeframes and Performance Conditions

1. Quantitative vs. Qualitative
2. Duration
3. Relationship to number of credits

D. Pre-Sales



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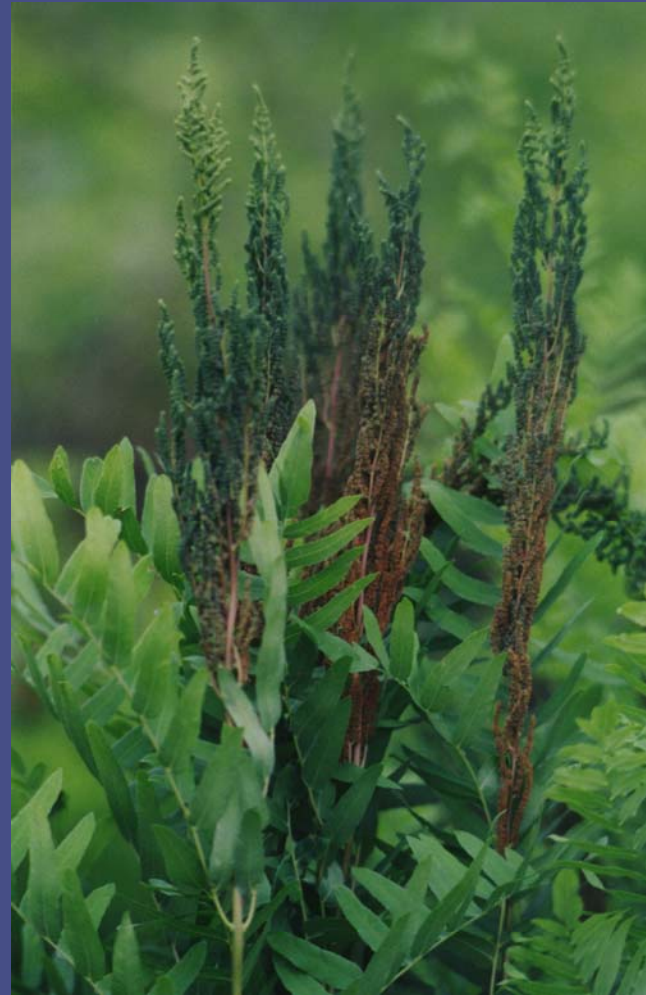
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III. Primary Elements of a MOA (cont'd)

E. Acceptance of Credits for Sales

F. Regulatory Risk

1. Permit changes
2. Wetland definition changes
3. On-site alternatives in permitting process



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A Case Study of North Fork Wetlands Bank



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1993: Disney's America Proposed



- Project Location
- Existing Conditions
- Expected Wetland Impacts
 - Disney site: 9.9 acre
 - I-66 widening: 10-15 acres

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1994: “White Knight” Solution



“White Knight” Solution

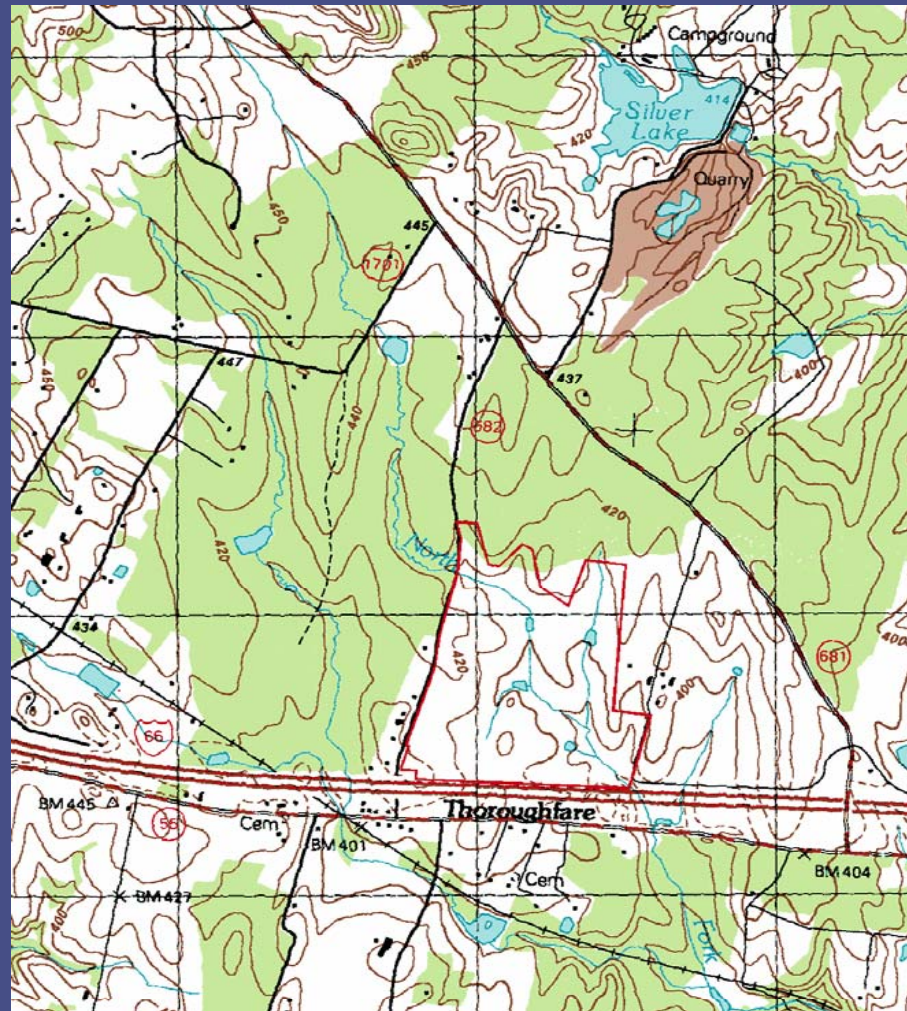
- Create wetland bank
- If zoning denied, donate wetland bank to County or VDOT

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1994: Lawsuits Filed

- **Stream Characterization**
 - Perennial vs. Intermittent
- **Approval of Bank is a Pre-Judgmental Decision**
- **Lawsuits Dismissed**



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September 1994: Disney Pulls Out

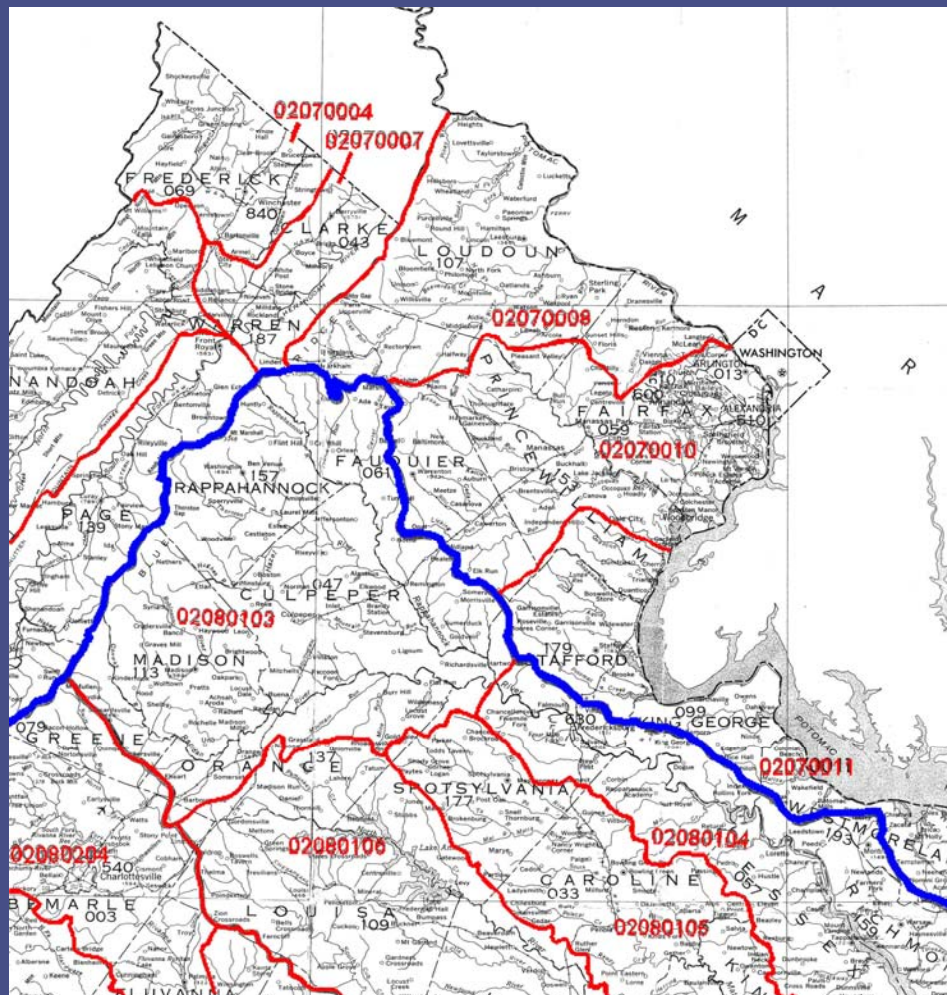


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1995-1997: WSSI Tries to Acquire the Land

- 1996 Service Area Law



— HYDROLOGIC
UNIT CODE (HUC)
— RIVERSHED
BOUNDARY

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1997: Gentleman's Agreement Reached

- **Disney Sells the Mitigation Site to the Boy Scouts of America – 1997**
- **WSSI subdivides 125 acres and buys from Boy Scouts – 1999**
- **WSSI develops North Fork Wetlands Bank – 6/99 – 3/00**
- **WSSI Donates the Property back to the Boy Scouts of America – 7/01**



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Mitigation Banking Instrument (MBI)

- **2/99: MBI Signed by COE, EPA, and DEQ With a Non-Binding Condition (2 year process)**
- **Major MBI Issues**
 - Open water
 - Boy Scout usage
 - 1 dam vs. 3 dams
 - Design standards for dam
 - USFWS did not sign MBI



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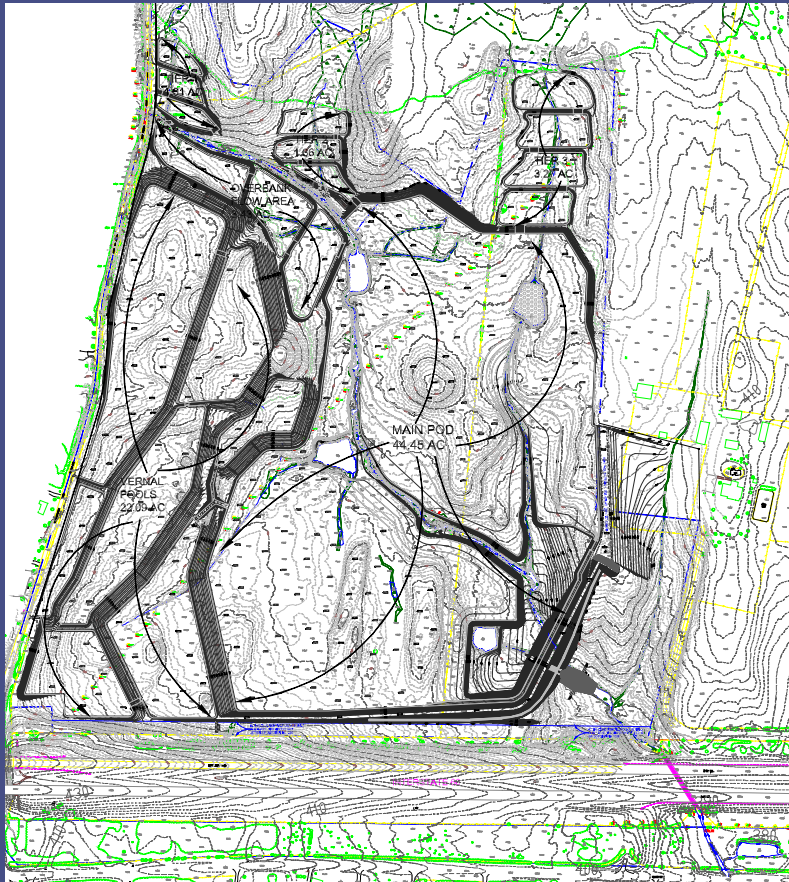
1999: Existing Conditions



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Construction of Wetlands



Design: March 1999



Construction: September 17, 1999

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Construction of Wetlands (cont'd)



Delivering the Clay Liner Material



Construction of the Clay Liner



Stockpiling Clay Liner Material



Spreading Topsoil on Clay Liner

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Construction of Wetlands (cont'd)



Wetlands Area at Final Grade



Newly Seeded Wetlands Area



Seeding the Wetlands Areas



September 2000 – 1st Growing Season

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Construction Completed



August 15, 2002

- **Objective Achieved:**

- Create wetlands habitat acceptable to Regulatory Agencies for mitigation of wetlands impacts in Northern Virginia
- Provide educational and recreational opportunities for the Boy Scouts of America

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Construction Completed (cont'd)



August 15, 2002

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- **Objectives Achieved (cont'd):**

- Attract a diverse mixture of wildlife by selecting and planting a diverse mixture of native plants, including:
 - 59,150 trees (11 species)
 - 30,400 shrubs (9 species)
 - 7,175 emergents (9 species)
 - 2,380 floating aquatics (3 species)
 - 16,070 lbs of herbaceous seeds (51 species)

Monitoring a Success



- **588 Woody Stems Per Acre and 90% Herbaceous Cover in Forested and Scrub/Shrub Wetlands – MBI Requirement of 400 Woody Stems Per Acre**
- **94% Herbaceous Coverage in Emergent Wetlands – MBI Requirement of 60% in Year 2**
- **WSSI Staff, Fairfax Audubon Society Members, and Other Birdwatchers Have Documented 170 Bird Species, as Well as High Densities of Turtles and Amphibians**

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Mitigation Credit Users

40+ Projects have Utilized North Fork Wetlands Bank to Date



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Dedication to the Boy Scouts



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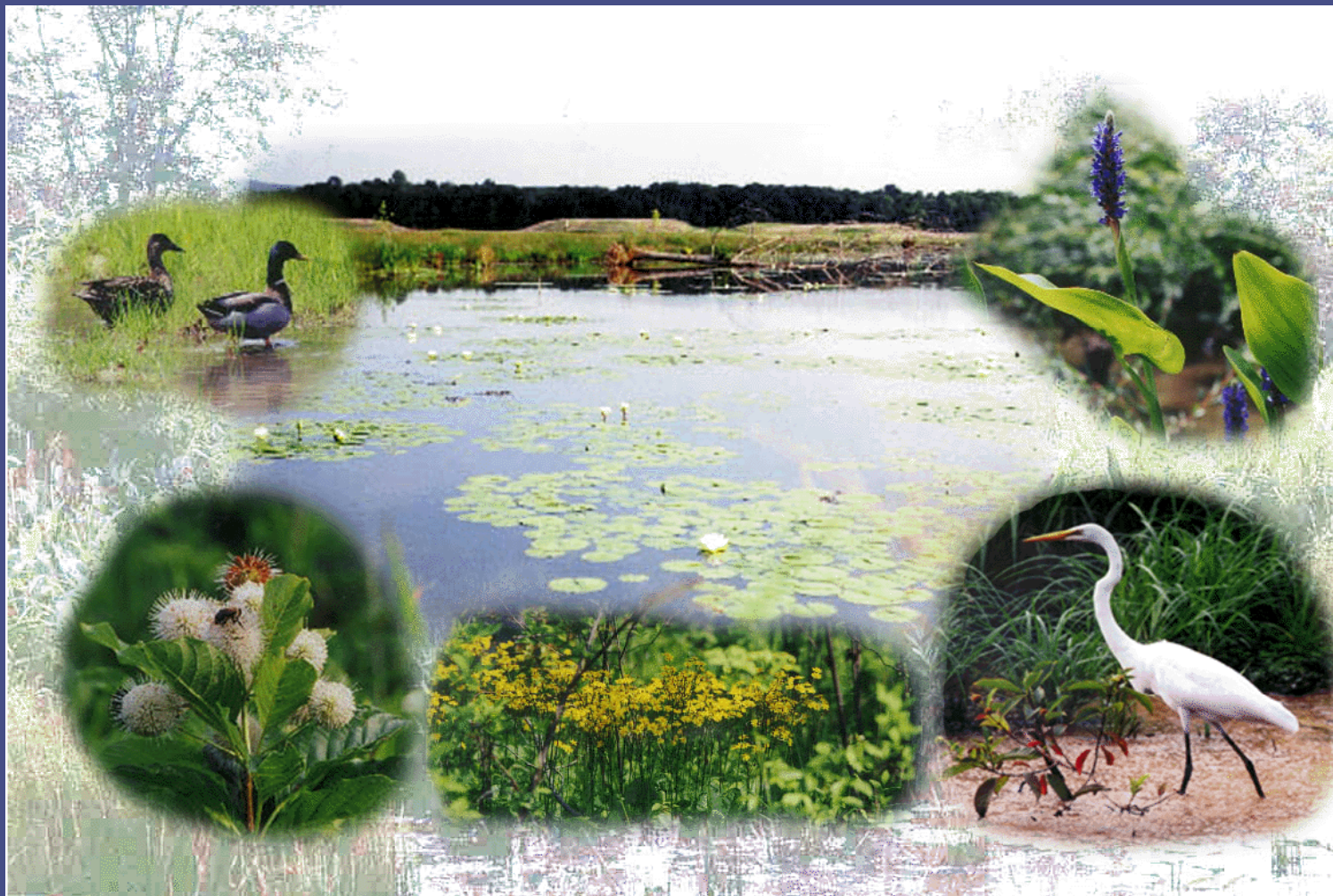
Education and Recreation



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Wetlands and Wildlife in Haymarket, Virginia



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