



# Pohick Creek Watershed Huntsman Lake

## Dam Rehabilitation Program and Watershed Planning Considerations

Wade Biddix,  
Assistant State Conservationist for Programs

*An Invitation to Attend the*

**THIRD  
NATIONAL WATERSHED  
CONFERENCE**

**May 16-19, 1993  
Holiday Inn-Downtown  
Jackson, Mississippi**

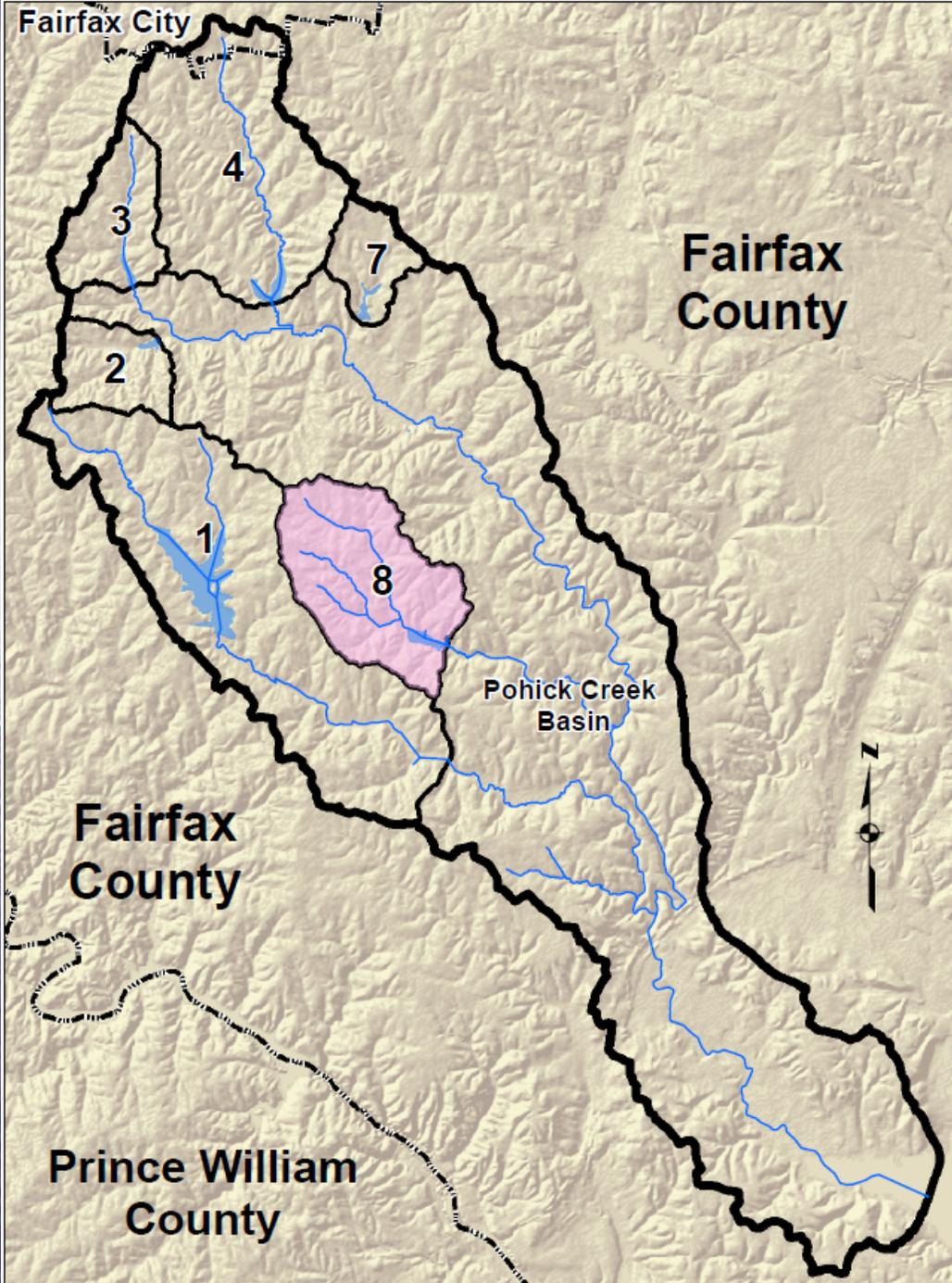
***"PL-566 - THE HOLISTIC APPROACH TO  
WATERSHED MANAGEMENT"***

A review of the Small Watershed Protection and Flood Prevention Program (PL 83-566) with a view toward demonstrating the versatility of the program in meeting today's water resource management needs.



*Lake Royal, Pohick Creek Watershed, Virginia*

***Sponsored by the:***  
**NATIONAL WATERSHED COALITION**



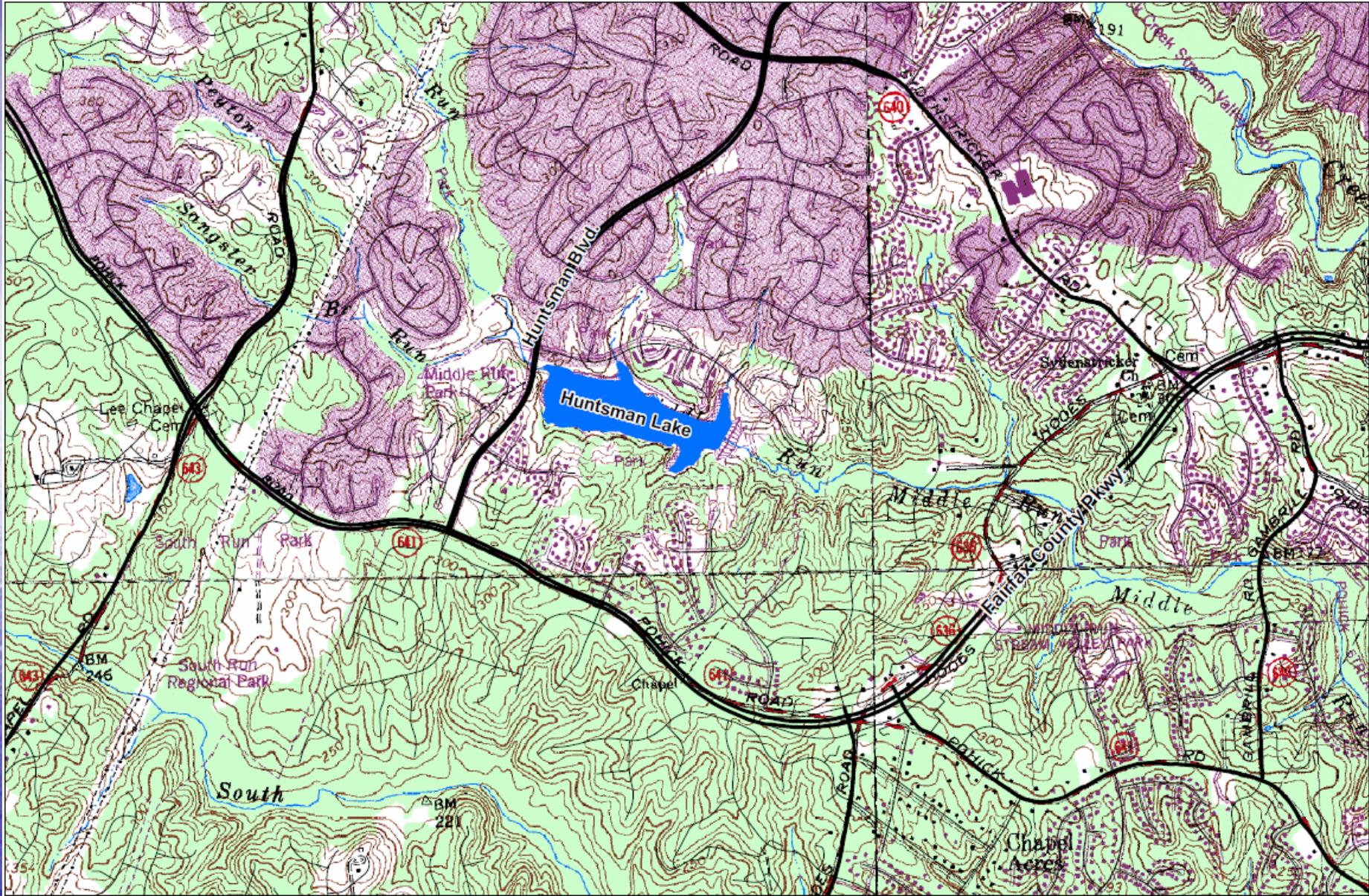
# *Huntsman Lake - Pohick Creek No. 8 in the Pohick Creek 12 Digit Hydrologic Unit*

## Legend

-  Pohick Creek 8 Sub-Watershed
-  Pohick Creek 12 Digit HUC
-  Pohick Creek Sub-Watersheds
-  Main Streams
-  Main Water Bodies
-  County / City Boundaries

## *Sub-Watershed Key*

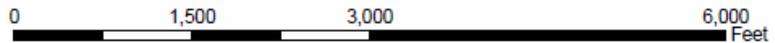
<u>Dam Site Name</u>	<u>Sub-Watershed Name</u>
Pohick Creek No. 1	LAKE MERCER
Pohick Creek No. 2	LAKE BARTON
Pohick Creek No. 3	WOODGLEN LAKE
Pohick Creek No. 4	ROYAL LAKE
Pohick Creek No. 7	LAKE BRADDOCK
Pohick Creek No. 8	HUNTSMAN LAKE



# Huntsman Lake - Pohick No. 8

USGS 1:24,000 Topographic Imagery





# Huntsman Lake - Pohick No. 8

2007 VGIN Aerial Photography

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Huntsman Blvd

Gist Ct

Gavelwood Ct

Galbreath Ct

Gillman Ct

Golden Iris Ct

Golden Leaf Ct

Golden Ball Tavern Ct

Carain Ct

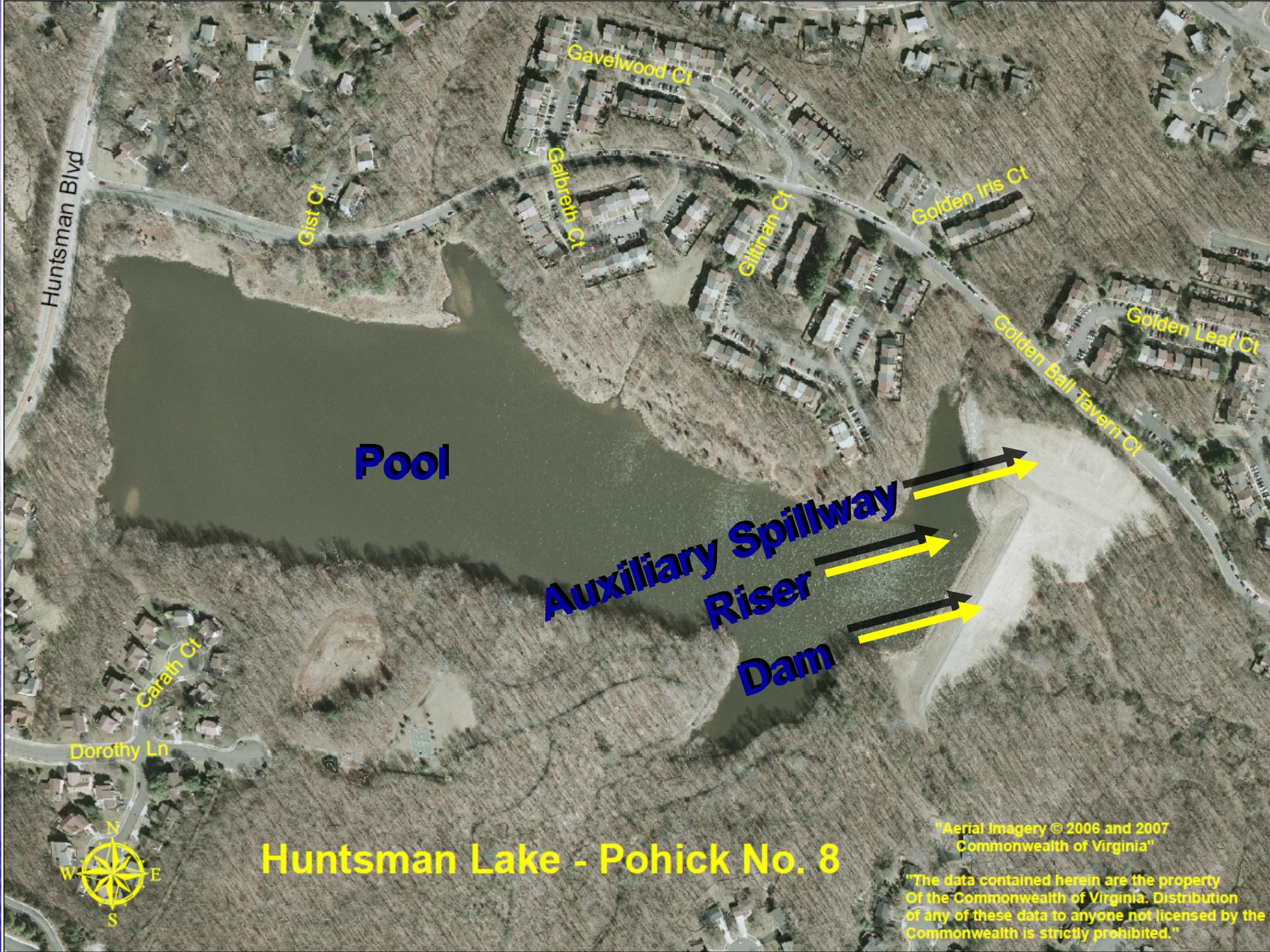
Dorothy Ln

# Huntsman Lake - Pohick No. 8



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**Pool**

**Auxiliary Spillway**

**Riser**

**Dam**

**Huntsman Lake - Pohick No. 8**

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Huntsman Lake – Pohick 8  
3D Rendition



















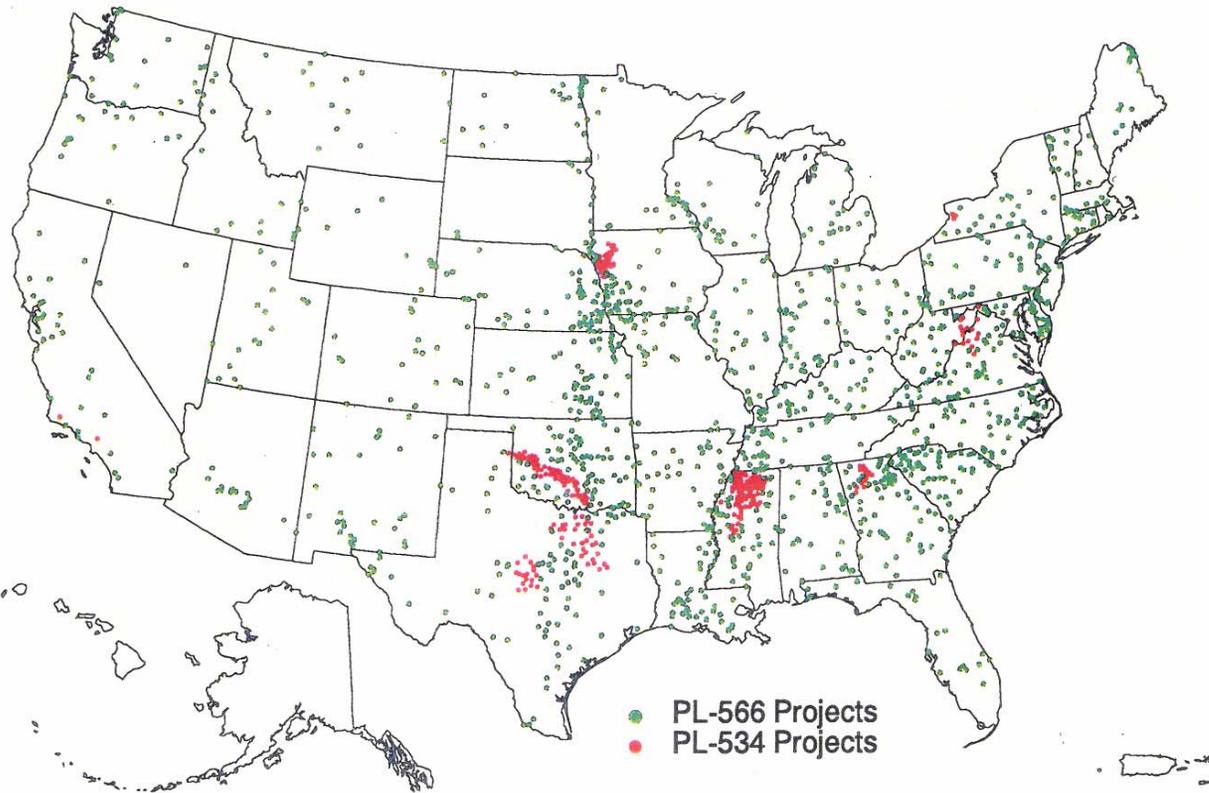


# Huntsman Lake Statistics

- Built in 1973
- Drainage area = 1,485 acres
- Pool surface area = 26 acres
- Length = 683 feet
- Height = 44 feet
- Floodwater surface area = 60 acres
- Designed to store runoff of 100 yr. storm

# Small Watershed Program

## Watershed Project Locations



NRCS has assisted communities build more than 11,000 dams since 1948

# Dam Rehabilitation Legislation

“The Small Watershed  
Rehabilitation Amendments”

(Public Law 106 - 472; Sec. 313)

Enacted November 9, 2000

# “Rehabilitation”

- Extend service life of dams and meet applicable safety & performance standards
  - Prolong beyond original life
  - Replace deteriorating components
  - Repair after catastrophic events
  - Upgrade to meet dam safety laws
  - Decommission (removal)

The only dams eligible for rehabilitation are those built with NRCS assistance

# Pohick Creek Watershed

- Four dams in need of rehabilitation to protect lives and property.
  - No. 2 – Lake Barton
  - No. 3 – Woodglen Lake
  - No. 4 – Lake Royal
  - No. 8 – Huntsman Lake

# Reasons for Rehabilitation of Dam

- County has received a *Conditional Operation and Maintenance* Certificate from State Dam Safety Agency
- Sponsors are responsible for correcting the identified hazard by repairing or removing the dam.

# Important Reminder

- Fairfax County owns and operates this dam.
- The NRCS role is to provide assistance.
- This is a **federally-assisted** project, **not a federally owned** project.

# What NRCS Provides

- 65% Federal Cost-Share
- 100% cost of NRCS technical assistance for Planning, Design, Contracting and Construction
- Upgrade entire structure for 50-100 years

# Rehabilitation Implementation Process For Each Dam

1. Sponsor application
2. Site assessment and risk analysis
3. Ranking of applications
4. **Project Planning**
5. Design
6. Construction

# Planning Process

- **Phase I – Data Collection and Analysis**
- **Phase II – Formulate and Evaluate Alternatives; Sponsor's Make Final Decision**
- **Phase III – Design and Construction of Selected Alternative**

- Required Alternatives to be Considered:
  - No federal action
  - Decommissioning (removal)
  - **Rehabilitate to current criteria**
  - NED alternative (maximizes net benefits)

# Some Possible Issues to Address

- Armoring of Auxiliary Spillway
- Widening of Spillway
- Raising Dam Height
- Installing Cut-off Walls
- Replacing Riser or Riser Top
- Providing Sediment Storage
- Acquiring Property Rights
- Locating Access Road to Site

# Alternatives For Rehabilitation Must Be:

- Complete – Consider all the issues
- Effective – Alleviate the problems or realize the opportunities
- Efficient – Be a cost-effective solution
- Acceptable – To the public and be compatible with existing laws, regulations, policies, etc.

# Engineering Assistance To Be Provided by Consulting Engineering Firm

- Emergency Spillway Investigation
- Emergency Spillway Risk Analysis
  - Included HEC RAS and SITES Model Runs
- Consideration of Some Limited Structural Alternatives



WOODGLEN LAKE

LAKE BARTON

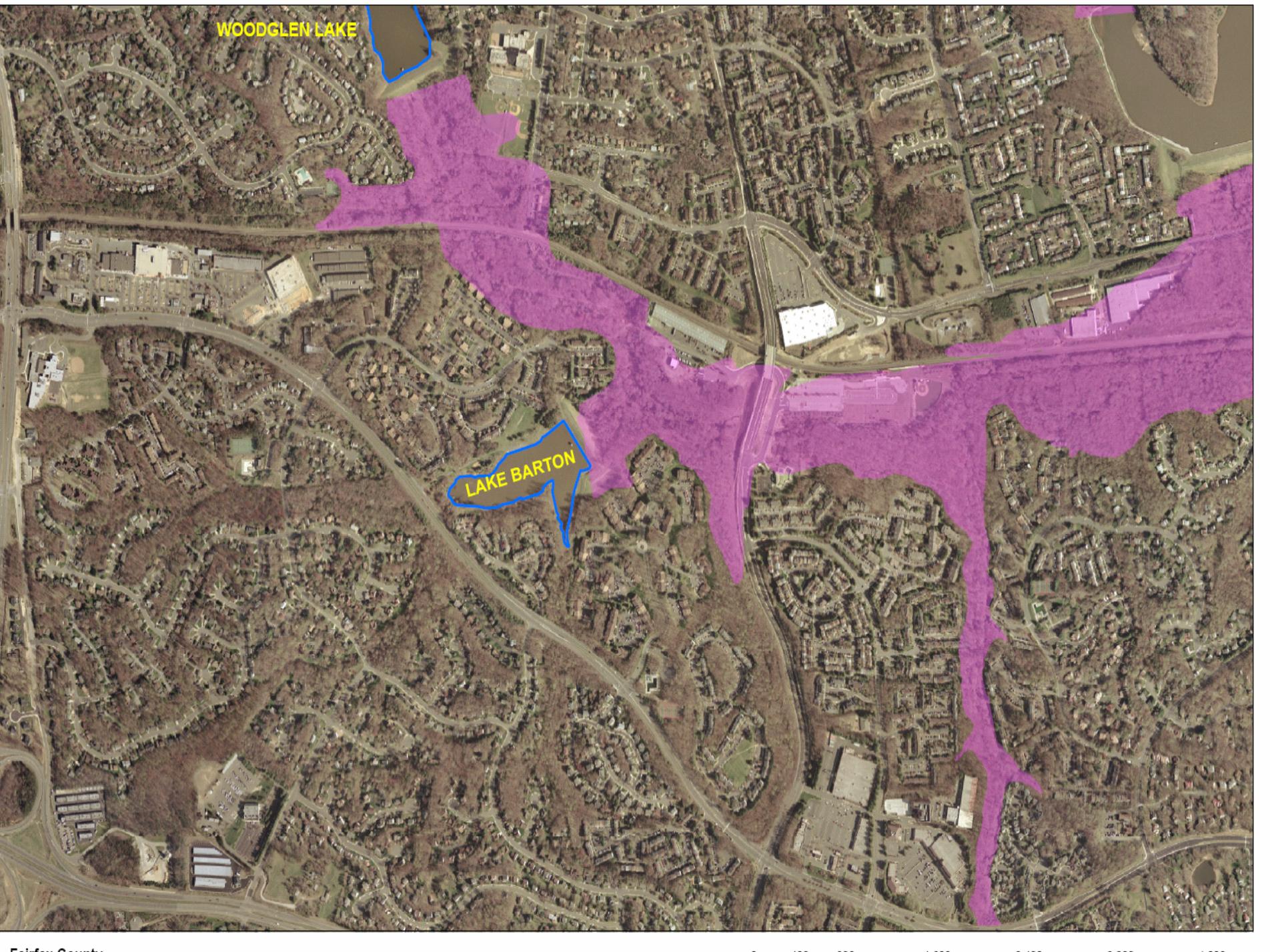
Fairfax County  
100 Year Flood Plain

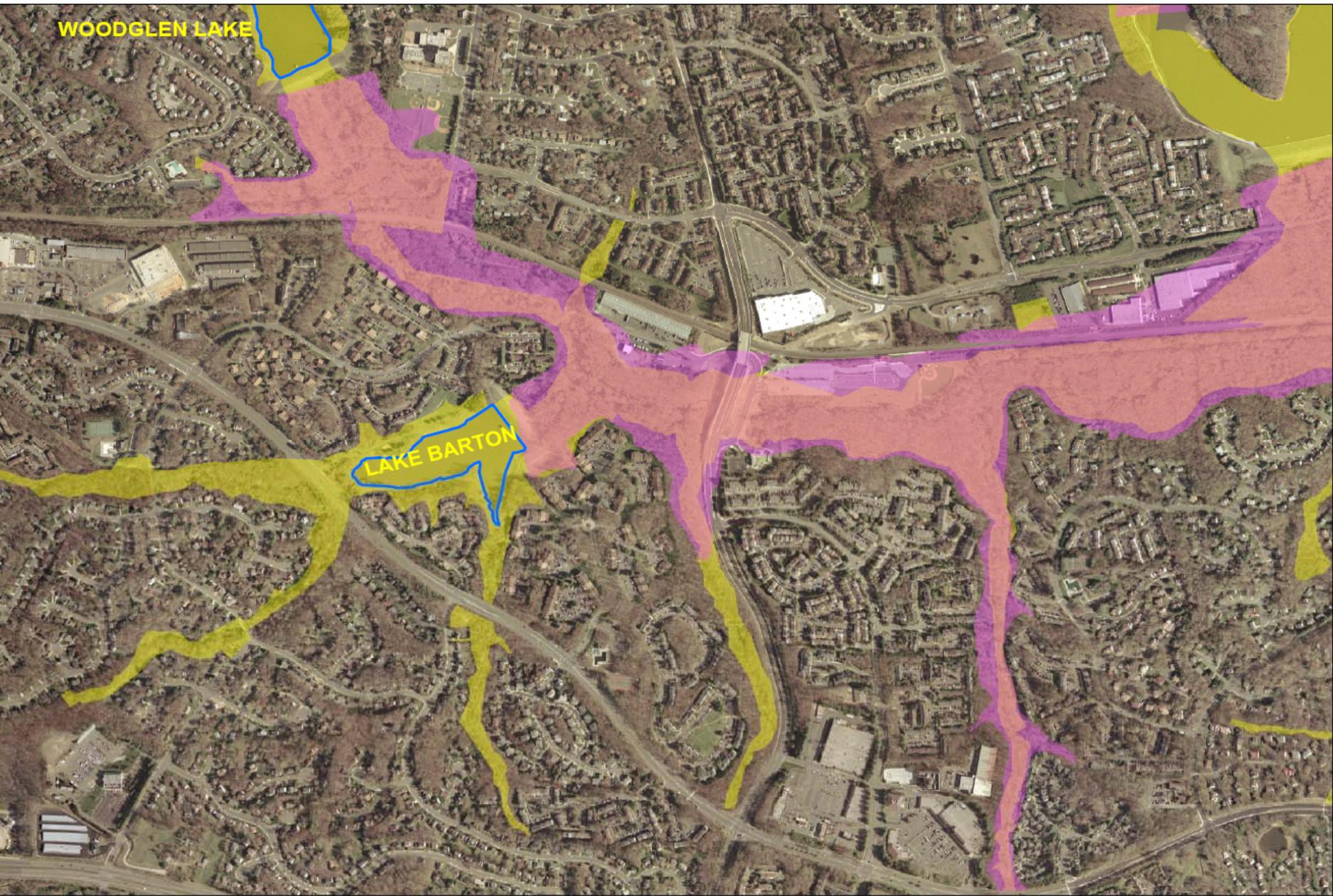
**100 Year Flood Plain for Pohick 2 - Lake Barton**

0 400 800 1,600 2,400 3,200 4,000  
Feet

WOODGLEN LAKE

LAKE BARTON





WOODGLEN LAKE

LAKE BARTON

irfax County  
ear Flood Plain

**Breach Zone and 100 year Flood Plain  
for Behick 2, Lake Barton**

0 400 800 1,600 2,400 3,200 4,000 Feet

# Planning Schedule

- Current Fiscal Year
  - Initiate Planning Efforts
  - Phase I - Begin Data Gathering and Analysis
    - 1<sup>st</sup> Public Meeting
- FY-11
  - Finish Data Gathering and Analysis
    - Sediment and Camera Surveys
    - Run Hydrology and Hydraulic Models
    - Inventory and Analyze Resource Information
  - Phase II – Decision Support
    - Formulate and Evaluate Alternatives
    - 2<sup>nd</sup> Public Meeting
    - Finish Draft Plan
    - Interagency and Public Review of Plan
    - Finish Rehabilitation Plan
- FY-12 - Request Funding for Design and Construction

# Overall Rehabilitation Schedule

- The schedule for planning, design and construction of Huntsman Lake is :
  - Draft plan completed May 2011
  - Final plan completed August 2011
  - Design package completed January 2012
  - Construction begins Spring 2012
- Note: All is dependent on having adequate resources (funding and staffing) to follow through.

A watershed committee with representatives from the sponsors and the community will provide input and make decisions.

# Bottom Line

- NRCS is committed to assisting sponsors to rehabilitate this structure
- This dam provides tremendous value
  - Flood Protection
  - Open Space
  - Recreation
  - Fish and Wildlife Habitat
  - Property Value

# Commitment to Public Safety

- NRCS
- Sponsors
  - Fairfax County Board of Supervisors
  - Northern Virginia Soil and Water Cons. District
- Public Involvement
  - Everyone has a stake in the project.
  - Everyone must be willing to “give and take” in order to come up with best solution.

# NRCS Point of Contact

- Blaine Delaney
  - Watershed Program Coordinator
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  - [Blaine.Delaney@va.usda.gov](mailto:Blaine.Delaney@va.usda.gov)

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