

Approaches to Monitoring Fish Passage Restoration Projects in an Urban Setting

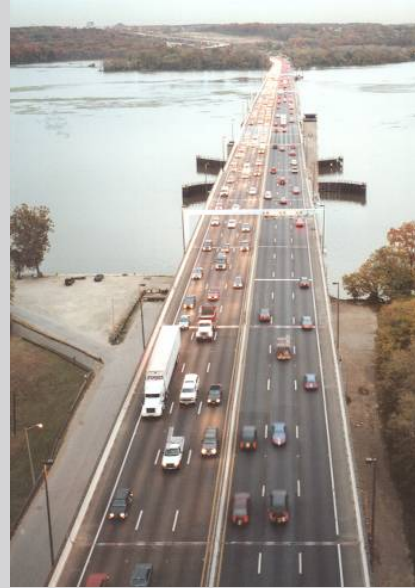
Ichthyoplankton, Trapping, and Electrofishing: Lessons Learned and Future Recommendations

Association of Mid-Atlantic Aquatic Biologists Workshop
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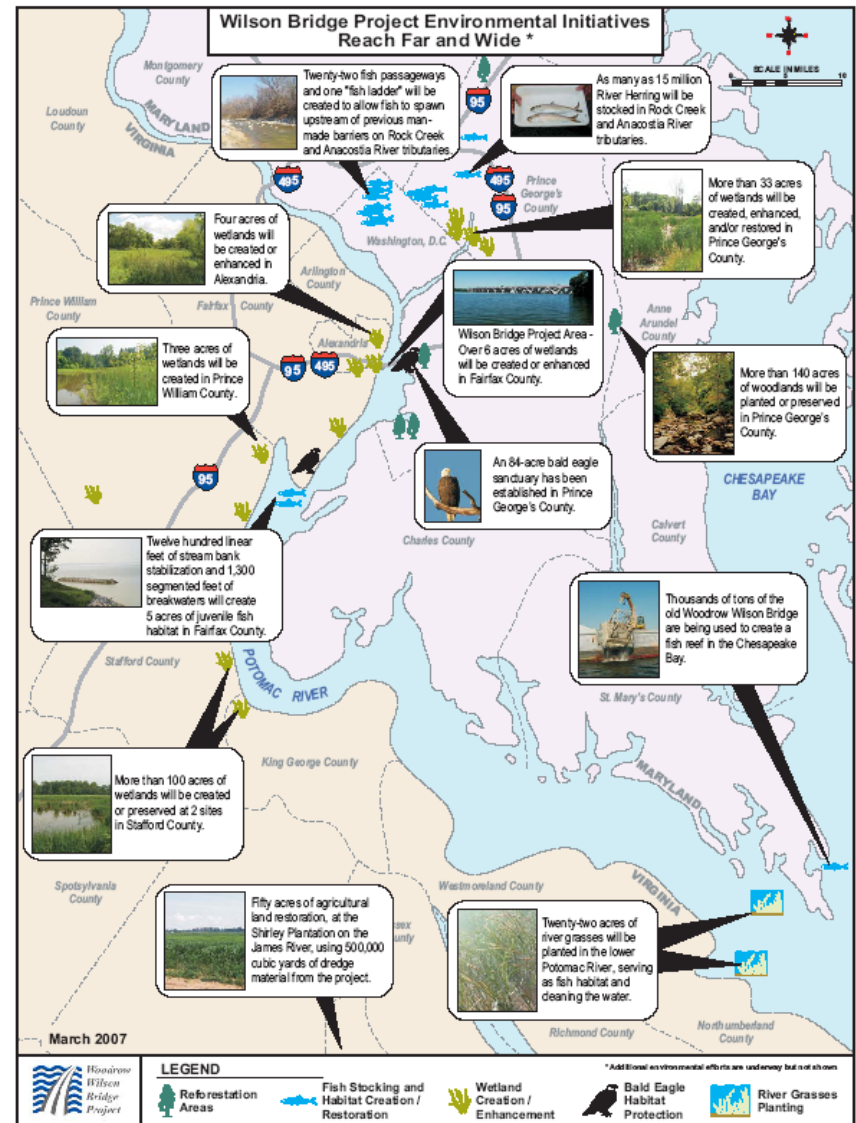
Woodrow Wilson Bridge History

- Built in 1961
- Crosses the Potomac River between Maryland and Virginia (I-495)
- 6 Lanes
- Unable to meet the needs of the public
- Impacts to wetlands, waters, and SAV



Comprehensive Watershed Approach

- Mitigation Projects
 - Wetland creation
 - SAV restoration
 - Shoreline stabilization
 - Fish passage restoration
- \$55 million program



Fish Passage Restoration

- 30 miles of historic spawning habitat
- 23 fish blockages
 - Rock Creek
 - Northwest Branch
 - Sligo Creek
 - Indian Creek
 - Little Paint Branch
- Target species
 - Alewife
 - American Shad
 - American Eel
 - Blueback Herring
 - Striped Bass
 - White Perch





Types of Blockages

Man Made: Utility Lines,
Concrete Fords, Dams,
Grade Control Structures



Fish Passage Restoration

- riffle grade controls
 - Coastal Plain
 - Constructed in 4 sections
 - Mimic natural stream riffle
- Flow constrictor / step pool
 - Piedmont
 - Linear with multiple rock weirs
 - Steps within structures for flow variation



First Approach – Visual Surveys

- Required by permit
- Combined with electrofishing
 - Within riffle grade controls and step pools
- Problems
 - Number of people needed
 - Condition dependent
 - Flow
 - Water clarity



First Approach – Visual Surveys

- Electrofishing
 - Crews of 9 people
 - 3 days
 - 216 hours total
- Results
 - 1 rainbow trout
 - No migratory fish



Second Approach - Trapping

- Fyke nets with orange construction fence as a funnel
- Problems
 - Installing nets
 - Fish mortality
 - Turtles, ducks, etc.
 - Multiple trips
 - Weekends
 - Storms

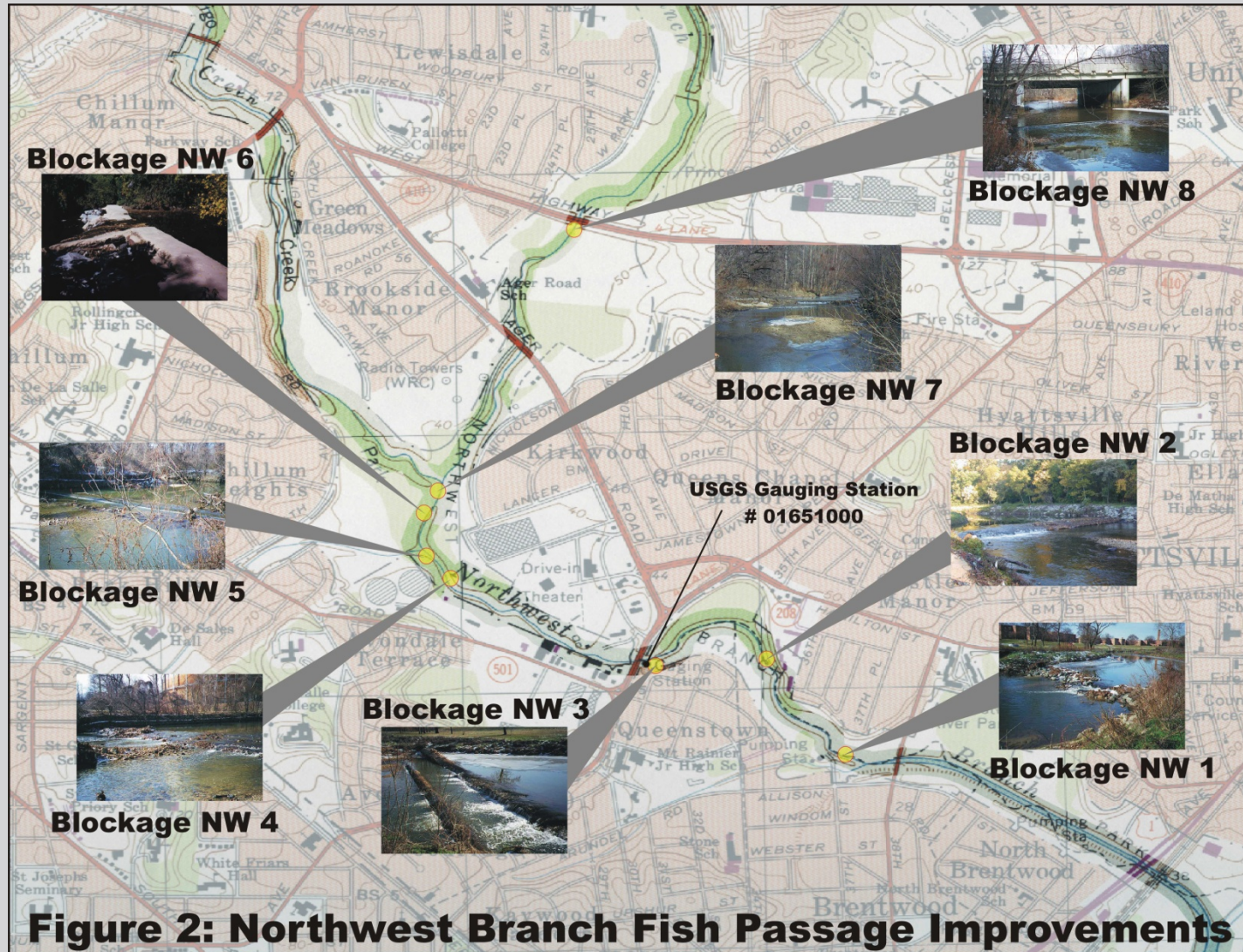


Second Approach - Trapping

- Deployed traps from late March to early May
 - Crews of 2
 - 3 - 2hr visits per day
 - 504 total hours
- Results
 - Alewife and blueback herring

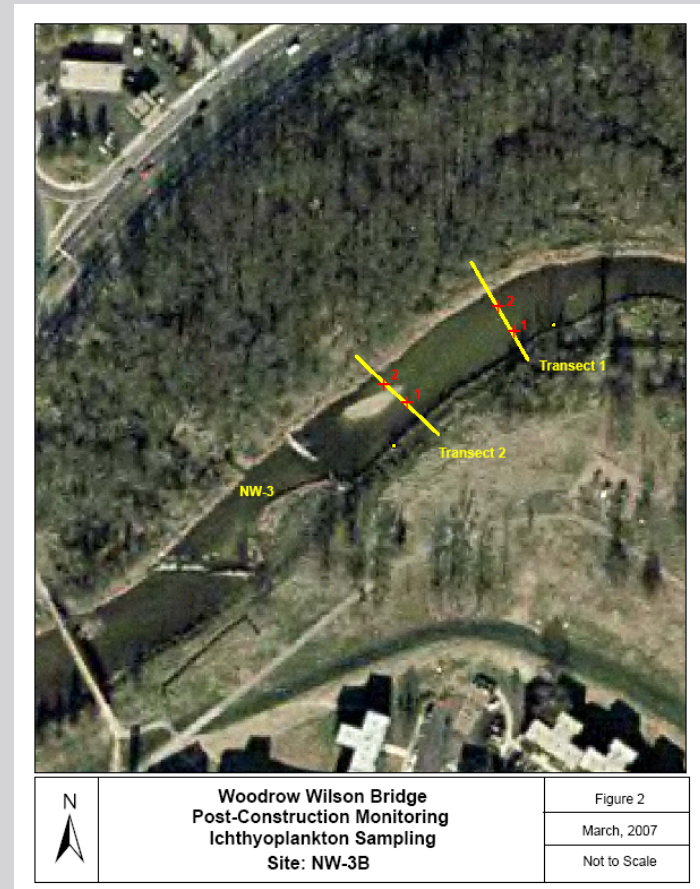


Second Approach - Trapping



Third Approach - Ichthyoplankton

- Custom ichthyo net from Wildco
- Transect approach



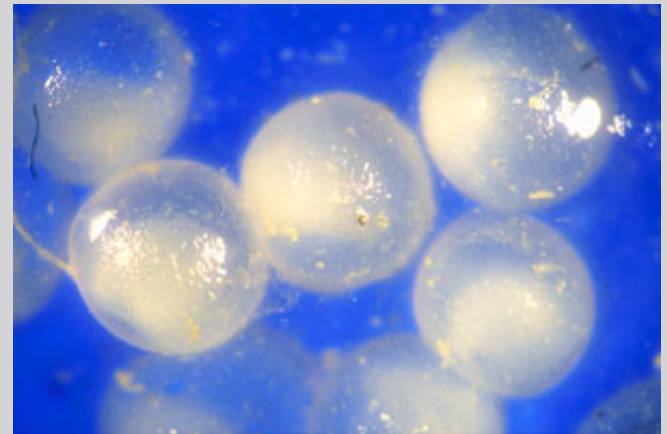
Third Approach - Ichthyoplankton



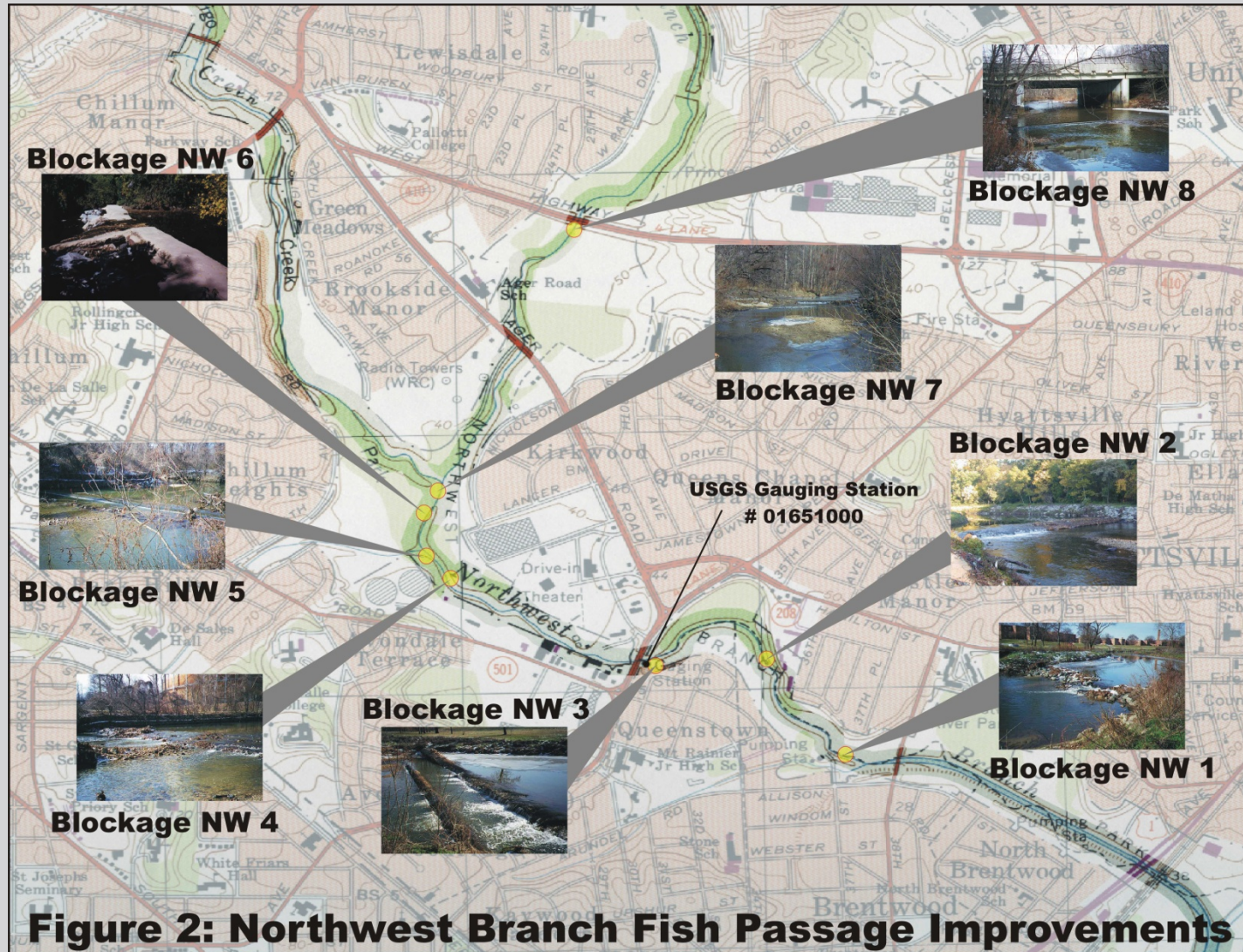
Third Approach - Ichthyoplankton

Sampling conducted
from late March to
early May

- Field
 - Crews of 2
 - 3 – 2 hr trips per week
 - 72 total hours of field work
- Lab work
 - 40 hours total



Third Approach - Ichthyoplankton



Urban Issues



Recommendations

- Go with ichthyo!
- Survey for adults
- Have an expert
- Migratory fish listserve



Aknowledgements

- Jim Mowrer – Maryland DNR
- Potomac Crossing Consultants
- RKK Engineers
- DC Fisheries
- National Park Service
- MNCPPC – Prince George's County
- ICPRB
- MWCOG