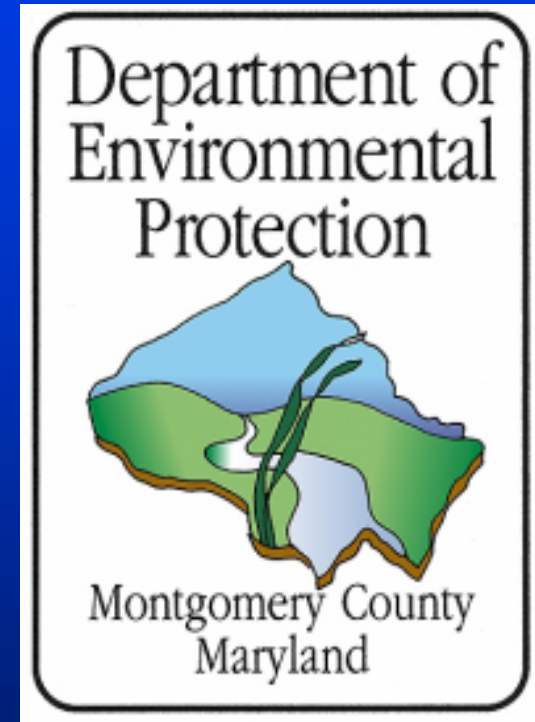


Sligo Creek – 15 Years Later

M-NCPPC



*Doug Redmond
Maryland-National
Capital Park and
Planning Commission*



*Daniel Harper
Montgomery County
Dept. of Environmental
Protection*



Sligo Creek

- Watershed Size = 8.6 Sq. Mi
- >30% Impervious
- Most development occurred before requirements for SWM

Watershed Restoration Goals

- Improve stormwater management controls
- Reduce stream bank erosion
- Restore lost aquatic habitat
- Reintroduce native species
- Monitor results

Restoration Projects



Retrofitted Existing SWM Ponds to Improve Controls



Wheaton Branch Stormwater Management Pond

Constructed New Stormwater Management Pond



9th Hole Fairway - Sligo Golf Course

Repair of Stream Bank Erosion

- To *repair* degraded stream habitat

1990



1992



1999



Restoration at Wheaton Branch

Restore Aquatic Habitat



South of Route 29



Between Rt.29 and Wayne Avenue

Intercepted Storm Drain Outfalls to Create New Wetlands Habitat and Improve Stormwater Control



Godwin Drive Wetland @ Sligo Creek Parkway



Sligo Creek Parkway at the Beltway

Riparian Reforestation

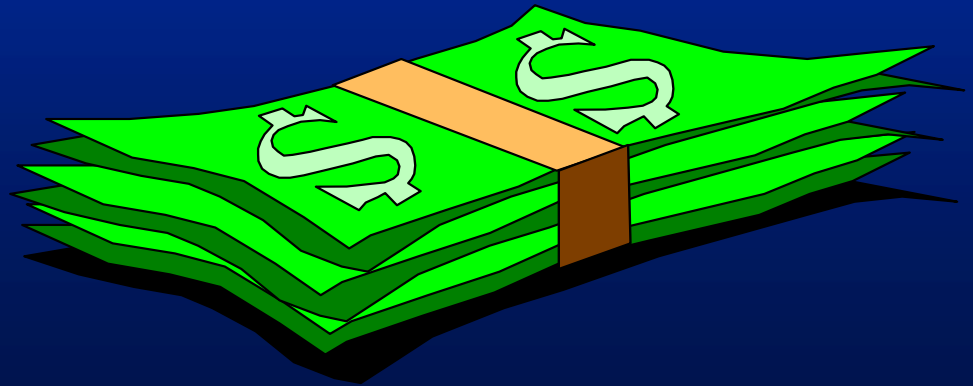


Restoration to Date

- Stormwater *retrofit projects* added runoff control to 1360 acres (approximately 25% of watershed)
- Stream & wetlands *restoration*
 - Habitat restoration, stream bank stabilization
 - Riparian tree plantings
 - Wetlands marsh and storm flow diversion projects
 - Species reintroduction, monitoring
 - Public outreach ,enforcement initiatives
- *Cooperative effort* with M-NCPPC, COG, ICPRB, Corps of Engineers, MDE
- *Model* used for restoration of other County watersheds

Show Me the Money

- Restoration Costs
 - \$2.6 Million
 - Received \$1.4 million in State and Federal grant funding



Continuing Efforts

- **Low Impact SWM**
 - Add SWM for existing government facilities
 - Rain gardens
 - Rain barrels
- **Street-scaping**
- **Water quality filters**
- **Pollution prevention**
 - Street sweeping
 - Sanitary sewer monitoring and rehabilitation

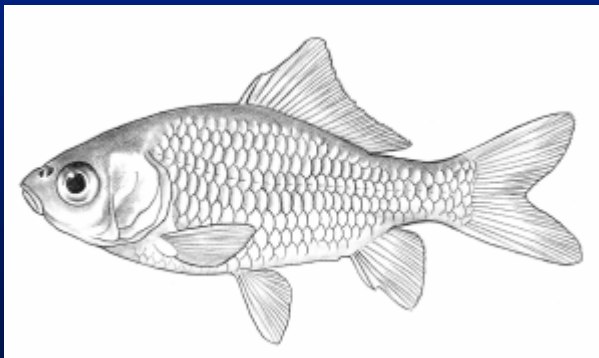


Fish Monitoring and Restocking

- Fish Inventory
- Fish Stocking
- Reassessment

Fish Inventory

- Prior to 1990 – 3 Species
 - Blacknose dace
 - Creek chub
 - Goldfish



Summary of Fish Stocking

- Fish stocked in 1990, 1992, 1993, 1994, and 1998
- 23 species stocked through 1998

Successful Introductions (through 1998)

- Species

– Longnose dace	75
– White sucker	140
– Tessellated darter	258

Unsuccessful introductions (through 1998)

- Silverjaw minnow, cutlips minnow, satinfin shiner, common shiner, spottail shiner, bluntnose minnow, northern hog sucker, largemouth bass, banded killifish, central stoneroller, fallfish, margined madtom
- As many as 1000, as few as 1

Mystery fish

- Species found but not stocked
 - American eel
 - Brown bullhead
 - Green sunfish
- Probable origins
 - Unusually mobile (eels)
 - Pond species (bullheads and sunfish)

Amphibians

- Creation of habitat
 - Vernal pools
 - Wetlands
- Reintroduction
 - Wood frogs
 - Spotted salamander
- Volunteer species



Reasons for Success

- Stormwater Management – control of storm flows
- Habitat creation
 - Variety of depth and flow conditions
 - Cover for fish
 - Substrate for macroinvertebrates
- Cold water input (Metro tunnel sump pump)

Reassessment

- Monitoring
- Follow-up stockings
 - New species or
 - Species with limited populations
- Selection criteria
 - Found in adjacent watersheds
 - Likely to survive
 - Increase population complexity

Monitoring through 2003

- 1992 to 2003: 29 species found at least once
- Since 1999 (one year after last stocking prior to 2004): 17 species
- 2003: 12 species
 - Despite droughts in 1999 and 2002
 - Stream segmented into pools

2004 Fish Reintroduction

- Fish collected from Northwest Branch
 - Bryant's Nursery Tributary
- Seining instead of electrofishing
 - Reduced stress on fish
- Volunteer participation
 - Friends of Sligo Creek
 - Local public schools



Checking out the catch



Welcoming Committee



Releasing the fish into Sligo Creek



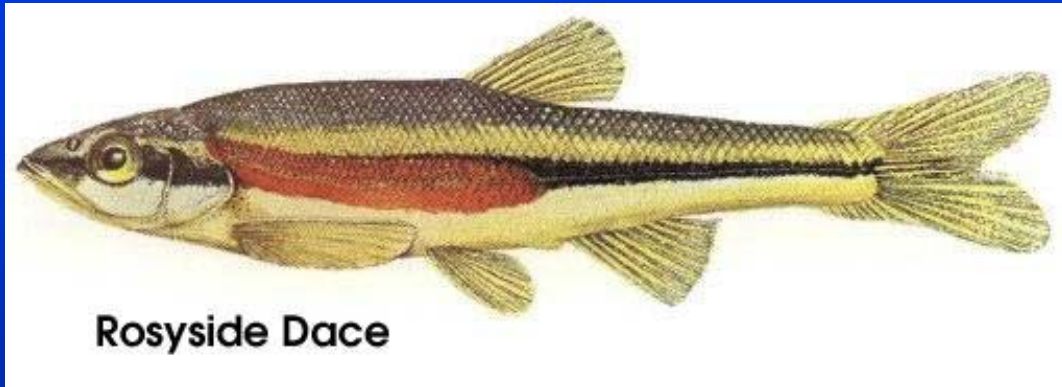
New inhabitants (tessellated and fantail darters)



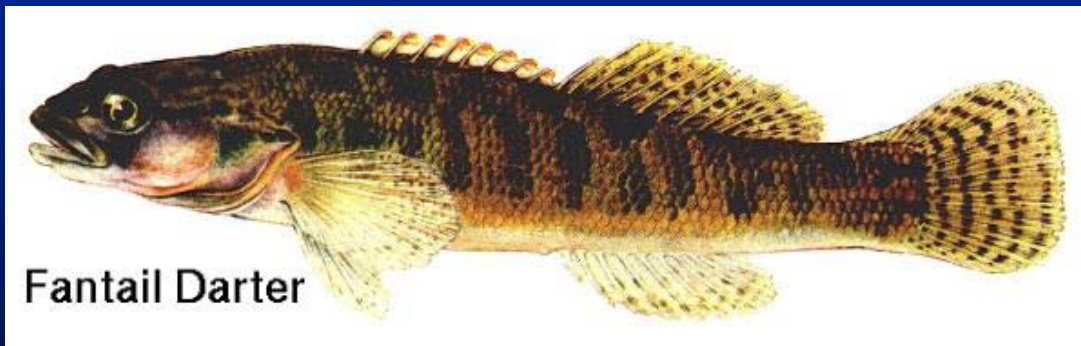
Species Reintroduced into Sligo Creek in 2004

- Rosyside dace 150
- Longnose dace 5
- Silverjaw minnow 20
- Tessellated darter 65
- Fantail darter 40

Population enhancement



New species introduction



Next Steps

- Continue monitoring
- See which species are successfully spawning
- More stocking if appropriate
- Additional watershed management measures

M-NCPPC



Department of
Environmental
Protection



Montgomery County
Maryland