Atlanta Waterfowl Production Area

WETLAND AND WATERSHED RESTORATION

LAUREL A. BADURA

Atlanta WPA

- 432.3-acre Semi-permanent wetland
- Estimated storage capacity of the wetland is 289.4 acre-feet of water
- Atlanta WPA captures water from its11,366-acre watershed
- Provides important habitat for Whooping Cranes and other migratory waterbirds
- The watershed of Atlanta WPA has 28 pits that capture and hold water

Photo by: Jeff Drahota, RWB WMD

Hydrologic Modifications on Atlanta WPA

- Due to the altered watershed, berms were placed within the deepest portion of the wetland to contain and manage small amounts of water
- A small pit was dug in the wetland to generate material for one of the berms
- Silts and sediments accumulated in the wetland over time, reducing the storage capacity of the wetland
- Terraces from previous farming practices reduced the ability of water to flow from the watershed into the wetland

Photos by: Jeff Drahota, RWB WMD

Hydrologic Modifications (cont.)

- Fill from digging the pit was deposited in the hydric soils, which promoted smooth brome and other upland plants within the hydric soil footprint

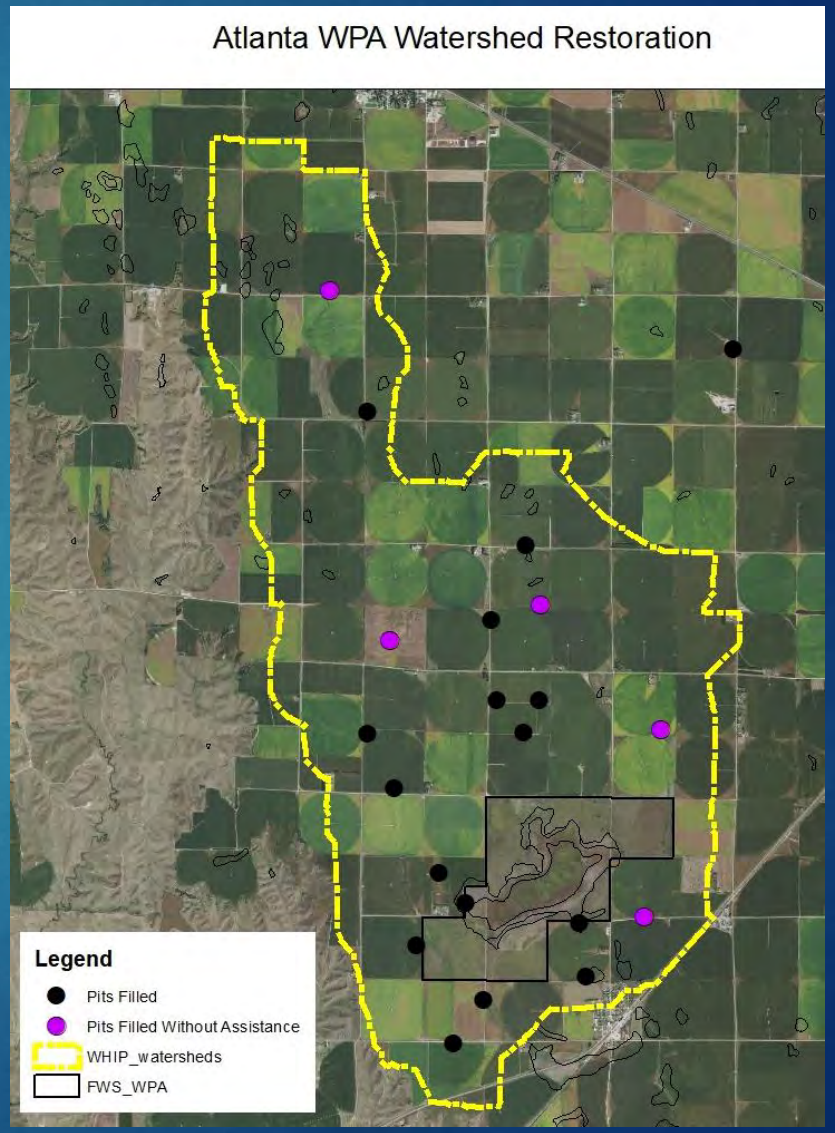
Other Modifications Within Hydric Soils

- The adjacent landowner dug a concentration pit and ditches to dry out portions of the wetland. This pit dried the hydric soils and rerouted water around the hydric soils on Atlanta WPA

Photo by: Jeff Drahota, RWB WMD

Watershed Modifications

- 28 irrigation reuse pits were located in the wetland's 11,366-acre watershed
- These pits were capable of capturing approximately 95 acre-feet of water at full capacity



Project Goals and Objectives

- Increase wetland ecosystem services provided by Rainwater Basin wetlands including:
  - Ground water recharge
  - Nutrient cycling
  - Increased flood water storage
  - Carbon sequestration
- Restore and enhance wetland functions:
  - Reduce the growth of invasive species such as reed canary grass, hybrid cattails, trees
  - Reduce soil dessication
  - Improve hydrologic function, promoting the growth of moist-soil plants
- Improve wetland habitat for wildlife:
  - Provide feeding and loafing areas for migratory waterbirds such as Whooping Cranes, Pintails, Mallards, and Blue-winged Teal
- Provide Landowner benefits:
  - Closing pits and allowing landowners to farm through pits, earning additional income and removing pivot obstacles
- Improve public benefits on the WPA:
  - Improve hunting and bird watching opportunities

Phase 1 (Ongoing)

- Watershed restoration:
  - 20 pits have been filled in the Atlanta watershed
    - 15 of those pits have been filled through Landowner Agreements
      - Contributing 37.6 acre-feet of water to the wetland
    - Fill material for the pits came from the landowners' fields, as well as a sediment plume within hydric soils on Atlanta WPA
    - 5 of those pits have been filled by landowners without partner assistance
      - Contributing 20.3 acre-feet of water to the wetland
  - 8 pits remain, if filled, these pits will contribute an addition 37.1 acre-feet of water to the wetland

Phase II

- Phase II of this project included restoration activities on the WPA
  - Removal of 7.15 miles of terraces, which captured runoff in the uplands and prevented runoff from entering the wetland
  - Removal of 2 low-level berms from the hydric soil footprint
  - Recontouring waterways into the wetland
  - Small pit fill within hydric soils

Photo by: RWB WMD

Phase III

- Wetland restoration on private lands
  - Landowner was interested in filling the pit in exchange for the ability to pass his pivot through the WPA
  - Pit had the capacity to store 8.6 acre-feet of water and intercepted water from the watershed.
  - Ditches on the private lands side diverted water around the northwest unit of the WPA
  - Material from the pit was deposited within the hydric soil on the WPA
  - Silts and sediments from erosion were slowly filling the hydric soil on the landowner's wetland footprint

Photo by: Jeff Drahota, RWB WMD

Wetland Restoration Components

- Removed approximately 16,403 cubic yards of fill from the hydric soils and deposited it in the private lands pit and ditches
  - Average depth of excavation was 1 foot
- Removed sediment deposits from hydric soils on private lands
  - Average depth of excavation was 4 inches
- Retrofitted 5 pivot towers with flotation tires to enable the pivot to pass through the wetland without rutting the soils or getting stuck

Completed Project

Budget

	Project Component	Total Cost	Funding Sources and Project Participants
Phase I	Watershed restoration (72,064 c.y.)	$177,934.08	Private Landowners, Nebraska Environmental Trust Fund, Rainwater Basin Joint Venture, USFWS Partners for Fish and Wildlife Program and USFWS Rainwater Basin Wetland Management District
Phase II	Wetland restoration	$139,410.58	Nebraska Environmental Trust Fund, National Fish and Wildlife Foundation, USFWS Rainwater Basin Wetland Management District, Rainwater Basin Joint Venture, Ducks Unlimited
Phase III	Fill removal and pit and ditch fill (16,403 c.y.)	$49,788.75	Private Landowner, USFWS Partners for Fish and Wildlife Program, USFWS Rainwater Basin Wetland Management District, Rainwater Basin Joint Venture, Nebraska Environmental Trust Fund
	Pivot Tires (5 Towers)	$14,000.00	Private Landowner, Rainwater Basin Joint Venture, Nebraska Environmental Trust Fund
Total Project Cost		**$381,133.33**	

Questions?