

Anacostia Urban Reconstructed Freshwater Tidal Wetlands

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1927
Kingman in the Process of Being Destroyed by Dredging



Image 1.

1995
Kingman Following Dredging



Restoration of the Anacostia Wetland System

Over the past 10 years, and still going strong, significant strides have been made to reconstruct and restore the freshwater tidal wetland system along the urbanized Anacostia River in Washington, D.C. Once extensive wetlands in the Anacostia (over 2000 acres) were obliterated by Congressionally mandated dredging performed by the U.S. Army Corps of Engineers (Corps) during the first half of the 20th century (IMAGE #1 - depicts dredging of a piece of the Anacostia up to the Benning Bridge in 1927 with remaining wetlands above the bridge in line to be dredged in subsequent years). What resulted was a combination of tidal waters, fastland and low tide mudflats that existed for about 50 years providing poor habitat, aesthetic, water quality, etc. values.

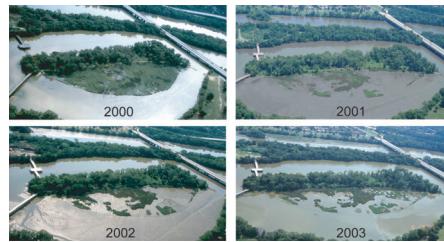


Image 2.



Image 3.

The National Park Service became custodian of much of this area and consistent with its vision of revitalized Anacostia worked closely with the self same Corps and the District of Columbia to bring back a portion of the destroyed wetlands. IMAGE # 2 - depicts resultant marsh project area locations as follows: 31 acres of marsh were reconstructed by the Corps using dredge material from the Anacostia channel at Kentishworth Marsh 1993, similar acreage at Kingman Marsh in 2000, 18 acres at the Fringe Marsh location in 2003, and more to come in 2004. Additional habitat enhancement is in the plans for man-made Heritage and Lower Kingman Island (LKI). Throughout much of this 10 year period PWRC has been involved in documenting baseline conditions and restoration progress, often with local partners such as NPS, the University of

Parameters being studied by PWRC include vegetation (species identification, cover, richness, native species, etc.), bird use based on weekly point counts, macro-benthic organisms keyed to sediment elevations, hydrology based on hydrologers and elevation surveys, sedimentation processes using Surface Erosion Tables (SETs), and enclosure studies. Degree of marsh restoration progress is determined not only by what occurs at each reconstructed site, but by field study comparison to unreconstructed sites such as Duiling Creek in the urban Anacostia and Patuxent Marsh by the Route 4 Bridge as a low impact marsh site. Comparisons are also made to literature reports for other regional marshes and historic reports for the Anacostia. Recently resident Canada goose grazing pressure, likely coupled with lowered sediment elevations, has led to disintegration of the Kingman Marshes (IMAGE #3 - image year 2000 showing an intact marsh area at the first year of reconstruction while protected by fencing, 2001 and 2002 reveal marsh disintegration with loss of protective fencing, and 2003 with small areas replanted by the Corps with goose non-preferred marsh vegetation protected by fencing).



Geese browsing



Geese with brood



Working together planting Kingman Marsh

1999
Northern Area before Reconstruction



US Army Corps of Engineers
DC Department of Health
USGS Patuxent Wildlife Research Center
National Park Service
University of Maryland

2000
Northern Area after Reconstruction



2001
Northern Area after Reconstruction



Total Vegetative Cover
2000 - 2003

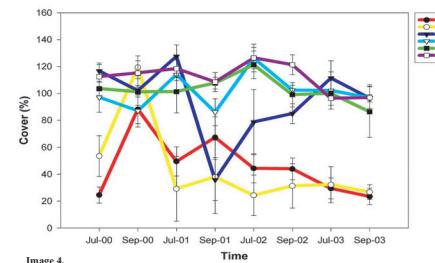


Image 4.

Species Richness
2000 - 2003

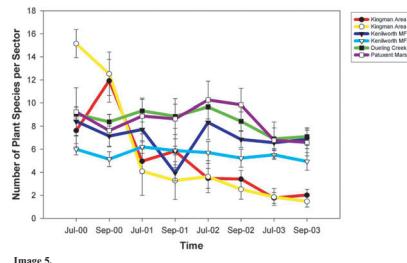


Image 5.

With elevated populations of resident Canada geese being a problem to the reconstructed wetlands and recreation areas up and down the Anacostia there is concerted action to develop a Resident Canada Goose Management Plan for the area. One indication of the impact from goose grazing and concomitant sediment elevation problems can be gleaned from IMAGE #4 (Total Vegetation Cover) and IMAGE #5 (Species Richness) which reveal the marsh collapse at Kingman as opposed to the comparison wetlands (the strong dip at Kentishworth MF 1 in 2001 is a result of treatment of invasive Phragmites and purple loosestrife dominated areas with Rodes by NPS).



Goose tracks



Exclosure effects