

A Survey of the Amphibians and Reptiles of Dyke Marsh Wildlife Preserve in Alexandria, VA

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Introduction

Dyke Marsh Wildlife Preserve (DMP) is located about 10 km south of Reagan National Airport along the Potomac River in Alexandria VA and is managed by the U.S. National Park Service (NPS). The preserve is 196 ha (484 acres) and consists of three main habitats: tidal freshwater marsh, floodplain, and swamp forest. The preserve is bordered to the east by the tidal Potomac River and to the west by a major four-lane commuter highway: the George Washington Memorial Parkway. The preserve is also surrounded by a heavily used bike trail, picnic area, and marina.

Past human influences on DMP included the diking of the marsh in the early 1800's, farming, and commercial dredging and dumping in the 1960's (Friends of Dyke Marsh brochure). Current negative human impacts on the preserve include boat wakes eroding the marsh, illegal poaching of turtles (pers comm Ned Stone), pollution from urban run-off, and the introduction of exotic plants and animals, including Chinese soft-shell turtles *Pelodiscus sinensis* (Abugattas, 2012).

Study Sites

Site names were created by the author. GPS coordinates were selected from the midpoint of each site.

Site 1- Former House Site (38.778037,-77.050327)

This area is located in on the floodplain sandwiched between a picnic area to the north, the marina to the east, a parking lot to the west and

an access road to the south. A feral cat colony lives here along with a tangle of vegetation including poison ivy *Toxicodendron radicans*, multiflora rose *Rosa multiflora*, and a variety of exotic vines.

Site 2- Haul Road East Side (38.771245,-77.049447)

Beaches and freshwater tidal marshland are the main characteristics of this site. Tangles of exotic vines and tidal detritus piles were also abundant.

Site 3 – Haul Road West Side (38.770175,-77.051464)

Floodplain and swamp forest are the primary habitats in this site.

Site 4- Pipeline Bay/Swamp Forest Area (38.758212,-77.047666)

Tidal freshwater marsh, swamp forest, and floodplain are all represented in this site.

Site 5 – Kayak Trip (38.768518,-77.047709)

Open tidal river, freshwater tidal marsh, and swamp forests were all explored by kayak in this area.

Materials and Methods

The survey took place on Thursday 3 May 2012. The morning of the survey started with overcast skies and cool temperatures around 15 °C, however, as the day progressed, the skies cleared and the temperature rose to a high of 27 °C. The pressure was 76.4794 centimeters. The dew point was 14 °C. Winds were light at about 11.5 kph. It was 2 days before a “super” moon. (National Weather Service website) The day was divided into three parts: a 3 hour terrestrial survey in the morning; a 3 hour water survey by canoe/kayak in the afternoon and a 1 hour frog call survey after sunset.

Approximately 45 volunteers participated: 30 in the morning; 10 in the afternoon; and 10 in the evening. The survey volunteers included VHS members, NPS biologists, Fairfax County Park Authority and Northern Virginia Regional Park Authority naturalists and biologists,

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U.S. Fish and Wildlife Service biologists, Master Naturalists, Friends of Dyke Marsh (FODM) members and local residents who were interested in the wildlife found in their neighborhood.

For the morning terrestrial survey, the group was divided into four teams of approximately 8 people. Each team was assigned a different terrestrial site to survey. Surveying consisted of: visual search, turning cover objects, and listening for calling frogs. The afternoon kayak survey consisted of a visual search and listening for calling frogs. The night time frog call survey consisted of listening for calling frogs and visual searching with flashlights along Haul Road in the middle of Sites 2 and 3.

Results

A total of 15 species were found during the survey. This included one amphibian (an anuran), and fourteen reptile species. The reptiles included one lizard, six snake species and seven species of turtles.

Amphibians

Frogs

1. *Lithobates clamitans melanota* (Northern Green Frog) - Four Green Frogs were seen and/or heard calling in the marsh area near Pipeline Bay in Site 4. One Green Frog was heard calling in the marsh under a bridge along Haul Road and three more were heard calling in the marsh in Site 2.

Reptiles

Lizards

1. *Plestidon fasciatus* (Common Five-Lined Skink) - One dead Five-lined was found on a bike path with a squished tail in Site 4. Three skinks were seen basking on logs on the beach along Haul Road in Site 2; and two skinks were seen in the wetlands of Site 3.

Snakes

1. *Carphophis amoenus amoenus* (Eastern Wormsnake) -
One Wormsnake was found at Site 4.
2. *Nerodia sipedon sipedon* (Common Watersnake) -
By far the most commonly seen snake in our survey. This species was seen at all five sites: four at Site 1; six at Site 2; seven at Site 3; two at Site 4, and five on the kayak trip in Site 5. They were all found on the move terrestrially and aquatically or basking in the open.
3. *Opheodrys aestivus* (Rough Greensnake)
One Rough Greensnake was seen on the move in vegetation in Site 3. The snake was not photographed as it disappeared too quickly for the spotter to capture.
4. *Pantherophis alleghaniensis* (Eastern Ratsnake)
One rat snake was seen crawling in a small tree between the marsh and the path in Site 2 and one was seen crawling in the open in Site 1.
5. *Storeria dekayi dekayi* (Northern Brownsnake)
One Brownsnake was found under driftwood on the edge of the beach in Site 2 and one dead Brownsnake was found at the parking lot of Site 4.
6. *Thamnophis sirtalis sirtalis* (Eastern Gartersnake)
One Eastern Gartersnake was found basking in the open in Site 2 on our pre-survey scouting trip on 22 March 2012.

Turtles

1. *Chelydra serpentina serpentina* (Eastern Snapping Turtle)
One hatchling snapper was found crossing the path at Site 2. Two adults were seen in the water at Site 4.

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2. *Chrysemys picta picta* (Eastern Painted Turtle)

One Eastern Painted Turtle was sighted and confirmed by the crew at Site 4. More Painted Turtles were likely seen, especially on the kayak trip in Site 5, however confirming the ID of the basking turtles on the kayak trip was extremely difficult for this survey leader.

3. *Pseudemys rubiventris* (Northern Red-bellied Cooter)

At least two Red-bellied Cooters were seen during the survey, confirmed by the crew at Site 4. Many more large, basking turtles were sighted during the kayak trip, but their identity could not be confirmed.

4. *Sternotherus oderatus* (Eastern Musk Turtle)

One Musk Turtle was found crawling through a very shallow stream area in the swampy marsh area of Site 4.

5. *Terrapene carolina carolina* (Eastern Box Turtle)

Two Eastern Box Turtles were found, both at Site 1.

6. *Trachemys scripta elegans* (Red-eared Slider)

Two Red-eared Sliders were seen basking in Site 4; one Red-eared Slider was identified by John White via a picture sent to him post-survey of one of the turtles seen in Site 5. More Red-ears were most likely seen but not identified.

7. *Trachemys scripta scripta* (Yellow-bellied Slider)

One Yellow-bellied Slider was identified in the marsh at Site 4. More were probably seen during the kayak trip into Site 5.

Discussion

All 15 species found on this survey were expected in this area. No species represented new county (Mitchell and Reay, 1999) or park records (pers comm Brent Steury).

It is difficult to ID basking turtles covered in mud and algae in an area where there are four species with similar sizes and markings. To get a better understanding of the species of Dyke Marsh Wildlife Preserve, turtle traps should be used so that close inspection and positive identification of the animals could be made.

The most remarkable aspect of this survey was the dearth of amphibians. Thirteen species of frogs are known or expected in Fairfax County VA (Mitchell and Reay 1999). In an area seemingly perfectly suited for frogs, only ONE species was found: *Lithobates clamitans melanota*. Forty five people spent morning, afternoon, and night in a large marsh without seeing or hearing any amphibians except for 7 Green Frogs.

I believe more nighttime amphibian surveys should be conducted at Dyke Marsh Wildlife Preserve to verify if this survey underrepresented the amphibian population or if the Dyke Marsh Wildlife Preserve is unusually deficient in frogs compared to other sites in the area (personal observation).

Literature Cited

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