

To: Daniel Murphy, Chesapeake Bay Office, U.S. Fish and Wildlife Service  
From: Kathy Gramp, on behalf of the Advocates for Herring Bay (AHB)<sup>1</sup>  
Date: May 1, 2023  
Re: Information and recommendation regarding the Proposed New Refuge Lands in Southern Maryland

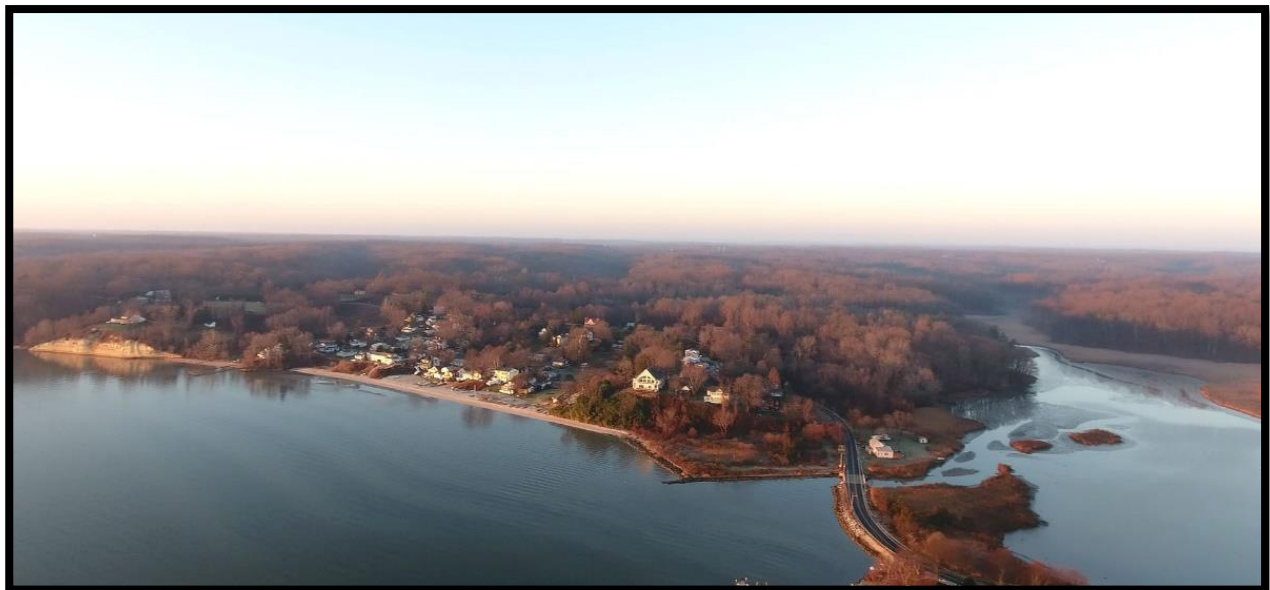
The Advocates for Herring Bay ([www.herringbay.org](http://www.herringbay.org)) applaud the U.S. Fish and Wildlife Service (USFWS) for considering innovative approaches to protecting refuge lands in Southern Maryland. We appreciated the opportunity to attend public listening sessions on the plan, but we are surprised and disappointed to learn that the ecologically valuable assets of the Herring Bay watershed were not included within the boundary of the proposed refuge.

AHB respectfully recommends that the USFWS expand the geographic scope of the proposed refuge to include the Green Infrastructure and BioNet assets located in the Herring Bay watershed in southern Anne Arundel County. As we describe in appended documentation, the Herring Bay watershed satisfies a number of the criteria used by USFWS when designing the refuge, including:

- Designation by Maryland as Green Infrastructure, including BioNet Tier 3, 4 and 5 resources
- Habitat for numerous shoreline and forest species identified as a conservation priority
- Archeological evidence of indigenous communities as well as colonial-era history

AHB has been an active collaborator on local and state-wide environmental projects for over 15 years, working to restore habitats for oysters and native flora, preserve forests and wetlands, document local history, and advocate for holistic approaches to managing the ecological impacts of activities that affect the area's land and water. We hope the information provided here will be helpful to the USFWS in designing a refuge in Southern Maryland. Please do not hesitate to contact us at [herringbay@gmail.com](mailto:herringbay@gmail.com) if you have any questions about Herring Bay.

Thank you for considering our recommendation.

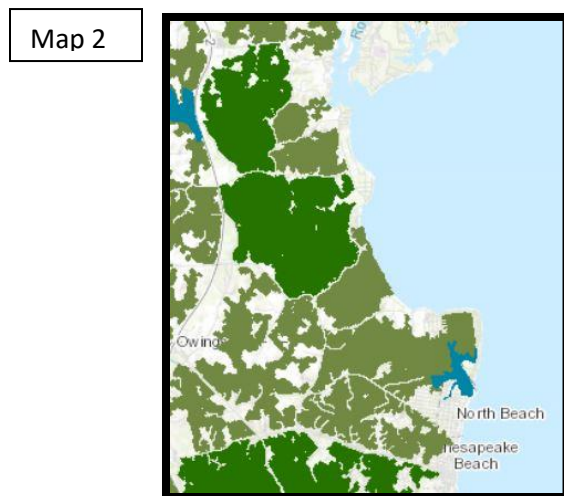
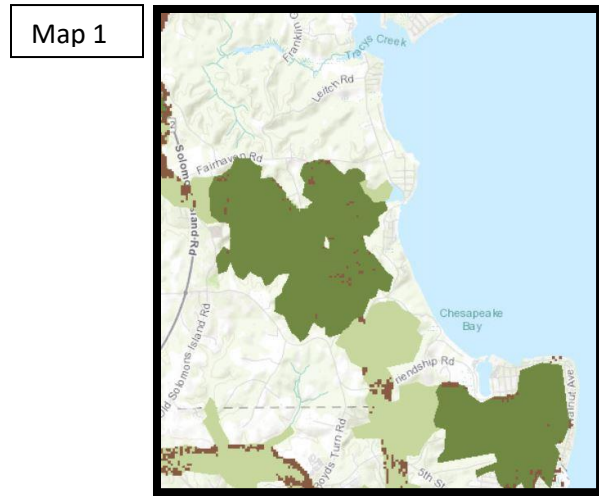


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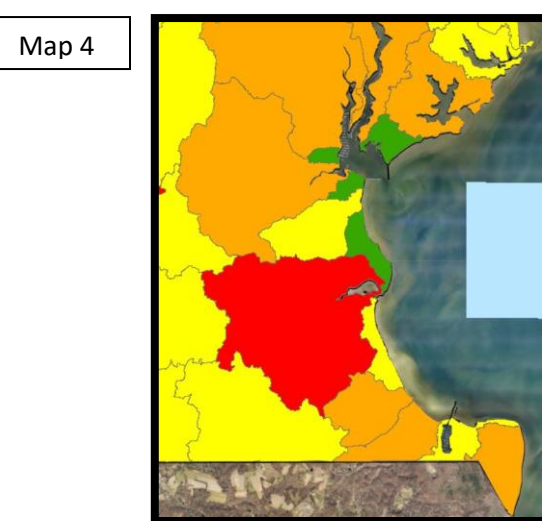
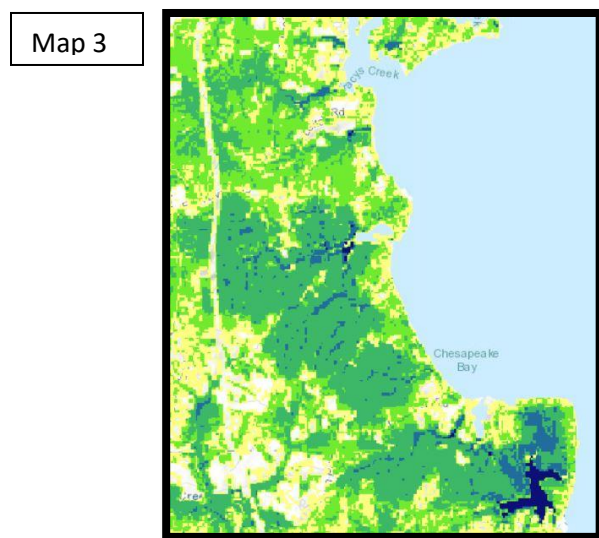
<sup>1</sup> The Advocates for Herring Bay, Inc. is a community-based environmental group in Anne Arundel County.

## State and local conservation priorities in Herring Bay

Herring Bay is a diverse watershed that features forest, wetland, and shoreline habitats. As shown in Map 1, the watershed contains thousands of acres of undeveloped land that have been designated as Green Infrastructure by the Maryland Department of Natural Resources (DNR).<sup>2</sup> Similarly, more than 2,000 acres have been classified as Tier 4 resources for Maryland’s BioNet Conservation Network, and the wetlands at the southern tip of the watershed have been designated as Tier 3, in part because of their importance as a water recharge area (see Map 2).



DNR’s economic analysis of the ecosystem services value of Maryland’s natural resources affirms these rankings.<sup>3</sup> As shown in Map 3, most of the area’s green infrastructure has a value of about \$2,000 or more per acre per year.<sup>4</sup> In its 2018 watershed assessment, Anne Arundel County designated one of Herring Bay’s subwatersheds as among its highest priorities for preservation (shown in red in Map 4).<sup>5</sup>



<sup>2</sup> Source: *Green Infrastructure* layer in DNR’s [Greenprint](#) GIS. Dark green = hubs, light green = corridors.

<sup>3</sup> Source: *BioNet* layer in DNR’s [Greenprint](#) GIS. Blue = Tier 3, dark green = Tier 4, olive green = Tier 5.

<sup>4</sup> Source: *Ecosystem Services* layer in DNR’s [Greenprint](#) GIS. Light green = \$900 to \$1,800 per acre per year; dark green = \$1,800-\$2,700 per acre per year; and blue = \$2,700 to \$3,600+ per acre per year.

<sup>5</sup> Source: *Subwatersheds Priority for Preservation* layer in Anne Arundel County’s [BWPR Watershed Application](#). Red = highest priority. See [Herring Bay, Middle Patuxent, and Lower Patuxent Watershed Assessment](#), June 2018.

## Wildlife Resources of Herring Bay’s Shoreline Habitats

Herring Bay is a sub-bay of the Chesapeake. Its shallow waters—averaging 3 feet or less near the shore—provide an accessible source of the aquatic invertebrates, fish, insects, and vegetation needed by diverse species of birds. Tidal action frequently exposes large expanses of nutrient-rich mud and sandbars, especially in the large estuarine wetland at the center of the watershed. The shoreline is rimmed by nearly a mile of sandy, undeveloped beach, as well as by other smaller beaches north of the Miocene-era cliffs of the Calvert Formation.

As shown in Table 1, Herring Bay’s shoreline habitat supports numerous shorebirds, terns, herons, and gulls that are a priority for conservation in Maryland’s State Wildlife Action Plan (SWAP). Key species include Spotted Sandpiper, Dunlin, Greater Yellowlegs, and the Forster’s and Royal Tern. The table also lists waterfowl that overwinter in the wetland, its tidal inlet, or along the shore.<sup>6</sup>

The gradual gradient of Herring Bay’s shoreline also provides breeding habitat for horseshoe crabs and terrapins. The importance of those breeding areas was cited by DNR and the U.S. Environmental Protection Agency as one of the reasons Herring Bay was designated in 2002 as one of the first two “No Discharge Zones” in the state. A video taken in 2021 of a terrapin laying eggs on land near the shores of Herring Bay may be seen [at this YouTube link](#), courtesy of the Herrington Harbor Marina.

<b>Table 1</b>	
<b>Birds and waterfowl observed in Herring Bay in habitats that support SWAP and other conservation priorities</b>	
<b>Shorebirds</b>	<b>Waterfowl</b>
Dunlin	American black duck
Greater yellowlegs	Black scoter
Spotted sandpiper	Canvasback
note: Killdeer also present	Common loon
	Gadwall
	Horned grebe
	Long-tailed duck
<b>Other species</b>	Pied-billed grebe
Black-crowned night heron	Redhead
Common tern	Ruddy duck
Forster’s tern	Surf scoter
Great blue heron	
Great egret	
Laughing gull	note: Tundra swans
Little blue heron	overwinter in Herring Bay
Royal tern	
Snowy egret	
Tricolored heron	



<sup>6</sup> The species on Table 1 have been observed in Herring Bay, as documented by reports from the annual Christmas Bird Count, the Maryland Biodiversity Project, and E-bird, or by photographic evidence. Note: The quadrant maps used by U.S. Geological Survey include the land south of the estuarine wetland in the North Beach quadrant and the land north of the wetland in the Deale quadrant.



## Wildlife Resources of Herring Bay’s Forested Habitats

Herring Bay’s forests blanket a steeply sloped terrain carved by numerous headwater streams. The forests maintain the integrity of the soils in this undulating topography (see Map 5), naturally cleansing the waters entering Herring Bay. Sightings of Stoneflies and other indicator species testify to the biotic health of the stream and forest ecosystems.

As shown in Table 2, Herring Bay’s extensive network of intact forest is habitat for over a dozen species identified as a priority for conservation in the SWAP.<sup>7</sup> The table includes several Forest Interior Dwelling Species (FIDS) that are a priority for protection in Maryland’s Critical Area. Local birders also report the presence of Black-billed and Yellow-billed Cuckoos, Prothonotary Warblers, and Yellow-breasted Chat.

In a survey done for AHB, a noted wetland ecologist profiled the various forest habitats associated with the streams that feed the estuarine wetland.<sup>8</sup> He reported that upland forests along the steep slopes had a mix of pine, tulip poplar, red and white oak, beech, red maple, and mountain laurel. The mesic upland forests included sweet gum, sycamore, and areas with pawpaw and other understory vegetation. Habitation by beavers at different times has created a diverse mix of habitats in the floodplains. One of the forested floodplains included a dense layer of spicebush as well as elm, sycamore, and ironwood.

Map 5



**Table 2**  
**Birds observed in Herring Bay**  
**in habitats that support**  
**SWAP conservation priorities or**  
**Forest Interior Dwelling Species (FIDS)**

SWAP priorities	Other FIDS species
Acadian flycatcher	Barred owl
American redstart	Hairy woodpecker
Bald eagle	Piliated woodpecker
Brown creeper	Red-eyed vireo
Common nighthawk	Red-shouldered hawk
Kentucky warbler	
Northern parula	
Ovenbird	
Prairie warbler	
Scarlet tanager	
Sharp-shinned hawk	
Winter wren	
Wood thrush	

<sup>7</sup> The species on Table 2 have been observed in subwatersheds identified as a conservation priority, and are documented by reports from the annual Christmas Bird Count, the Maryland Biodiversity Project, and E-bird, or by photographic evidence.

<sup>8</sup> See W.S.Sipple Wetland & Environmental Training and Consulting [Report on a Field Investigation](#) for the Advocates for Herring Bay, November 3, 2009.

## Indigenous and Colonial Heritage of Herring Bay

Archeological excavations in Herring Bay have unearthed artifacts of stone, pottery, and repurposed fossil shells produced by indigenous peoples from the Archaic period dating back 13,000 years.<sup>9</sup> Large tracts of buried oyster shells (middens) have been found near the shore and by streams, including one measuring 2,000 feet long by 300 feet wide.

Herring Bay also is the site of one of the earliest settlements in Maryland. In 1669, the town of Herrington was designated as a port to control transatlantic trade, and in 1683, was one of three formal towns established by the General Assembly (the other two were London Town and Arundelton, which later became Annapolis). Historians recently discovered artifacts from the home of one of the prominent Quaker families who founded Herrington. The home of Samuel Chew Sr. and Anne Ayres was so large—it was slightly larger than the Governor’s mansion in Williamsburg—that it was used as a navigation marker in Hoxton’s 1732 inset map of Herring Bay.<sup>10</sup>

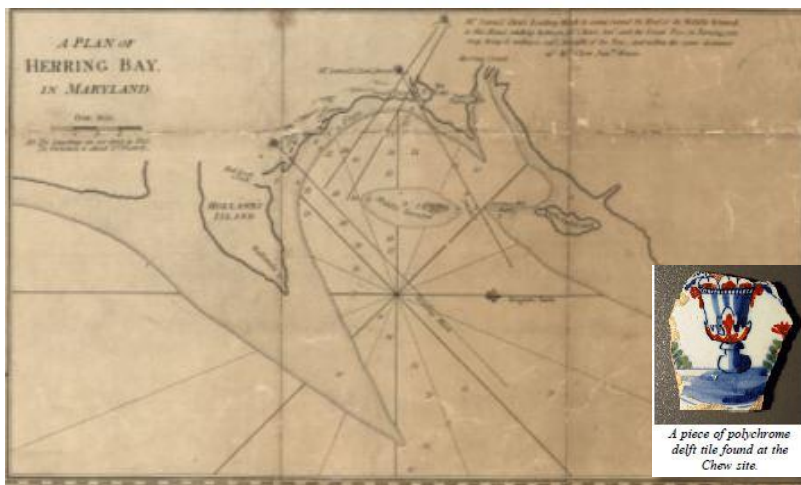
While the exact locations of these indigenous and colonial discoveries are not publicized, most are known to be within or adjacent to the subwatersheds classified by the state as conservation priorities.



Figure 140: Pottery from the 2012 Demas Collection at 18AN1500; Clockwise from Top Left - Whole Pinch Pot Interior and Exterior, Shell Tempered Sherds with Heavy Ochre, Gravel Tempered Accokeek, Decorated Potomac Creek, Popes Creek Sherds Possibly from One Vessel



Figure 161: Large Oyster Shells from EU1 and 2 Midden Strata at 18AN1500



A piece of polychrome delft tile found at the Chew site.



Figure 155: Excavation of Midden in F111 at 18AN1500

<sup>9</sup> Stephanie Taleff Sperling, et al., *Emergency Excavation and Documentation of Five Endangered Archeological Sites in Anne Arundel County, Maryland* (March 21, 2017).

<sup>10</sup> John E. Kille, “How to Lose and Find a 17<sup>th</sup> Century Town: the Cultural Landscape of Herrington,” *Anne Arundel County History Notes*, (April 2006).