

April 22, 2024

Mr. Daniel Murphy  
Chief, Division of Habitat Conservation and Restoration  
U.S. Fish and Wildlife Service  
177 Admiral Cochran Drive  
Annapolis, MD 21401

Re: Recommendation regarding the Proposed New Refuge Lands in Southern Maryland<sup>1</sup>

The Advocates for Herring Bay ([www.herringbay.org](http://www.herringbay.org))<sup>2</sup> applaud the U.S. Fish and Wildlife Service (USFWS) for proposing innovative approaches to preserving priority conservation areas in Southern Maryland. We support the contours of the proposed Woodlands Refuge, but request that USFWS expand the proposed “partnership areas” to include ecologically and historically valuable lands in the Herring Bay region in southern Anne Arundel and northern Calvert Counties.

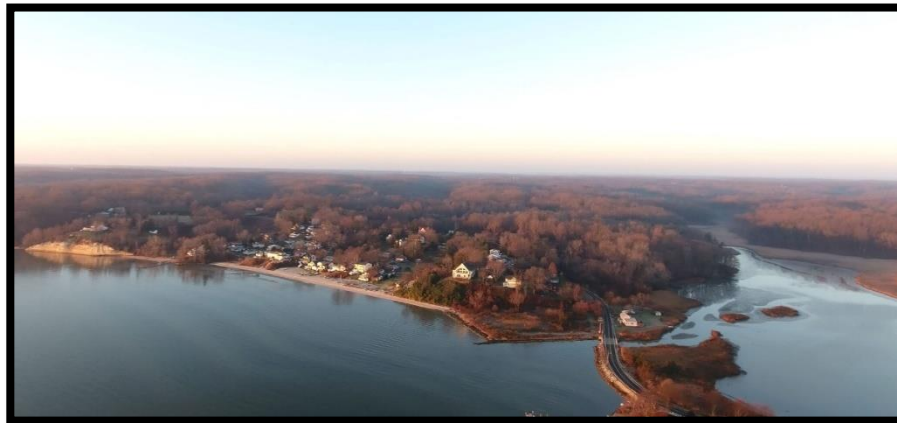
The land covered by our partnership proposal has high conservation value. As described in appended documentation, we recommend including acreage in the Herring Bay watershed and adjacent parcels in Calvert County that have high ecosystem services value, most of which have been designated by the State of Maryland as Green Infrastructure and BioNet Tier 3, 4 and 5 resources. Some of the biological attributes of those areas include:

- Shoreline habitat for priority shorebirds and waterfowl as well as breeding areas for horseshoe crabs and terrapins;
- Cliffs and associated beaches that are part of the Calvert Cliffs Formation, specialized habitats that are vulnerable to the impacts of climate change;
- Forest habitat that supports at least 15 bird species classified as Forest Interior Dwelling Species (FIDS), as well as other insect and wildlife species, and
- Archeological evidence of indigenous communities as well as colonial-era history

We hope that the attached information will be helpful to the USFWS in evaluating our proposal. 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 recommendations.

Kathleen Gramp, on behalf of the Advocates for Herring Bay



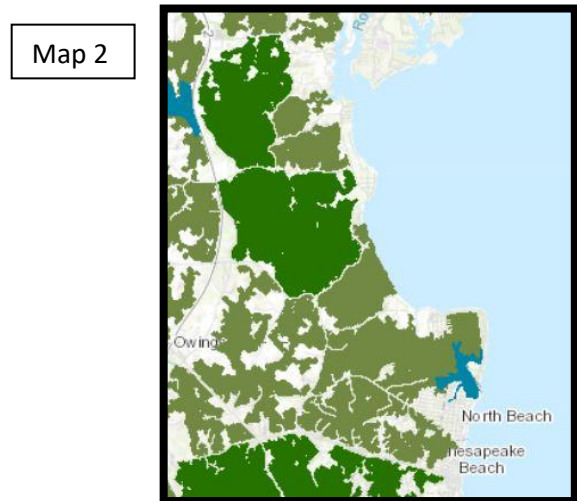
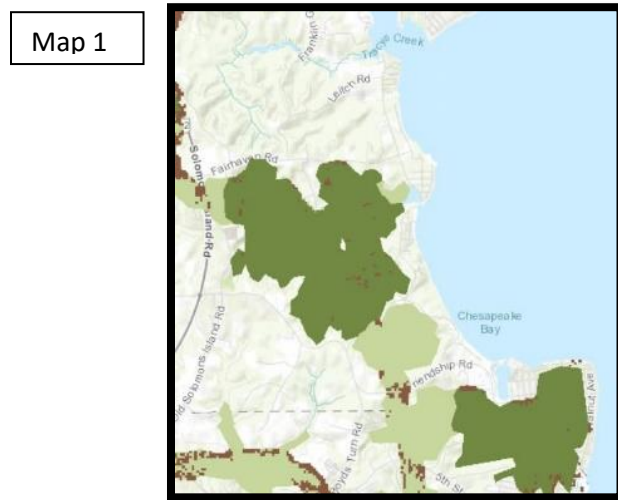
<sup>1</sup> AHB’s comments are in response to the March 8, 2024 [Proposal to Establish a Southern Maryland Woodlands National Wildlife Refuge](#).

<sup>2</sup> The Advocates for Herring Bay is a community-based environmental group in Anne Arundel County.

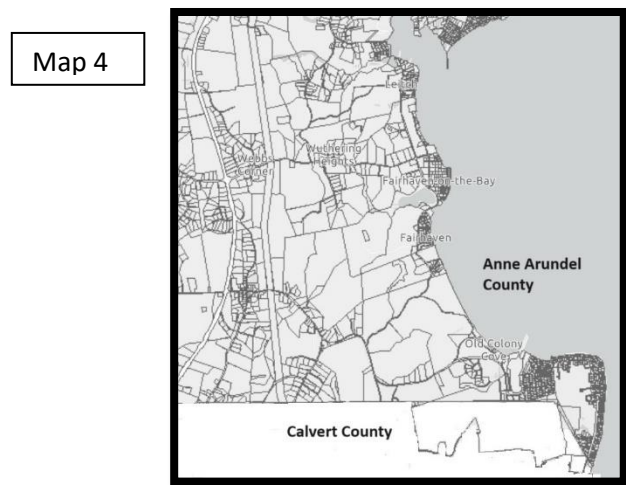
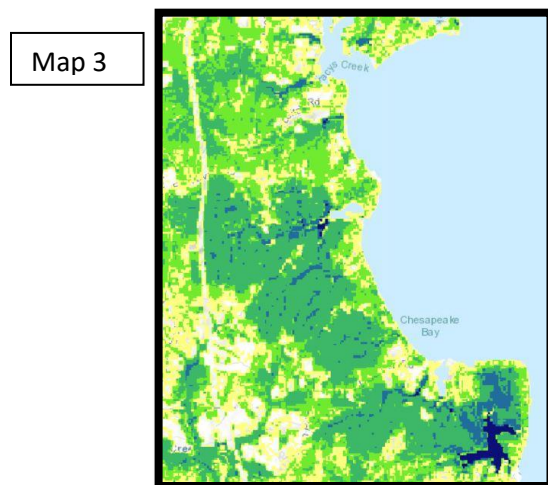
## Conservation value of proposed partnership area in Herring Bay

AHB recommends designating Herring Bay’s ecologically valuable forest, wetland, and shoreline habitats as a conservation partnership area associated with the Southern Maryland Woodlands Refuge. Key features of high-priority areas—which span over 2,200 acres in Anne Arundel County and more than 400 acres in Calvert County—are illustrated in the maps below.

As shown in Map 1, the area contains thousands of acres of undeveloped forested lands that have been designated by Maryland’s Department of Natural Resources (DNR) as Green Infrastructure.<sup>3</sup> Similarly, Map 2 shows the large tracts have been classified as Tier 4 resources for Maryland’s BioNet Conservation Network<sup>4</sup>, while the wetlands at the southern tip—which extend into Calvert County—are rated as Tier 3, partly because of their importance as a water recharge area.



DNR’s economic analysis of the ecosystem services value of Maryland’s natural resources affirms these rankings. 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>5</sup> Map 4 shows that many of the parcels in the proposed partnership area are larger than 50 acres, including a 395-acre tract in Calvert County that adjoins the southern border of Anne Arundel County.



<sup>3</sup> Source: *Green Infrastructure* layer in DNR’s [Greenprint](#) GIS. Dark green = hubs, light green = corridors.

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

<sup>5</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.

## 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.

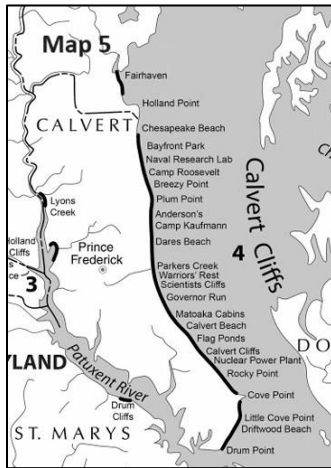
<b>Table 1: Shoreline habitat</b>	
<b>Birds and waterfowl observed in proposed Partnership Area that support SWAP and other conservation priorities</b>	
<b>Shorebirds</b>	<b>Waterfowl</b>
American Woodcock	American Black Duck
Dunlin	Black Scoter
Greater Yellowlegs	Blue-winged Teal
Least Sandpiper	Canvasback
Lesser Yellowlegs	Gadwall
Ruddy Turnstone	Long-tailed Duck
Sanderling	Redhead
Semipalmated Sandpiper	Ruddy Duck
Short-billed Dowitcher	Surf Scoter
Spotted Sandpiper	White-winged Scoter
<b>Herons, Ibis</b>	<b>Gulls, Terns, Skimmers</b>
American Bittern	Black Skimmer
Black-crowned Night-Heron	Common Tern
Glossy Ibis	Forster's Tern
Yellow-crowned Night-Heron	Laughing Gull
Great Blue Heron	Royal Tern
Great Egret	
Little Blue Heron	<b>Other</b>
Snowy Egret	Horned Grebe
Tricolored Heron	Pied-billed Grebe
	Common Loon
Note: Tundra Swans overwinter here	Brown Pelican



<sup>6</sup> The species on Table 1 have been observed in Herring Bay, as documented by reports from E-Bird, the annual Christmas Bird Count, the Maryland Biodiversity Project, 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.

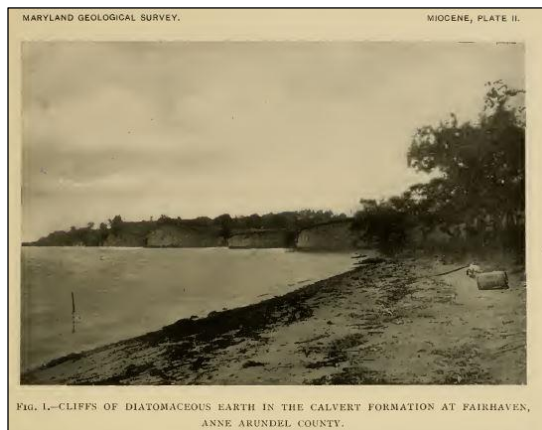
## Herring Bay's Cliff and Beach Habitat

The shoreline of Herring Bay is punctuated by the northernmost outcropping of the Calvert Cliffs Formation (see Map 5).<sup>7</sup> Made from the residue of trillions of ancient marine diatoms, these cliffs feature a layer of Miocene fossils. Herring Bay's cliffs also provide nesting habitat for Belted Kingfishers, Northern-Rough-winged Swallows, and Bank Swallows. Additionally, the combination of the open-faced cliffs and the adjacent beaches provide habitat for crayfish, spiders, wasps, dragonflies, moths, beetles, and other insects<sup>8</sup>.



Images taken in 1904 of the Fairhaven segment of the Calvert Formation are shown below on the left.<sup>9</sup> Sandy beaches separate sections of those cliffs and generally are bisected by small streams. As shown below on the right, three cliff faces remain largely exposed. Two are bordered by sandy beaches on both sides, while the third has a hardened shoreline on one side. Fortunately, less than a quarter of the cliff-related shoreline seen in 1904 has been hardened with riprap.

Like cliffs elsewhere, the Fairhaven segment has experienced significant erosion over the last 100 years. That erosion has become more pronounced in recent years, in part because of the more intense rain, wind, and wave events associated with climate change.



<sup>7</sup> This map is extracted from Figure 1.1 in [Geology and Vertebrate Paleontology of Calvert Cliffs](#), page 4. The Calvert Cliffs Formation is highlighted in bold along the western shore of the Chesapeake Bay.

<sup>8</sup> To date, no observations of the Puritan Tiger Beetle have been reported by the Maryland Biodiversity Project.

<sup>9</sup> See Maryland Geological Survey, [Miocene Text](#), 1904, page 32.

## 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 6), 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.

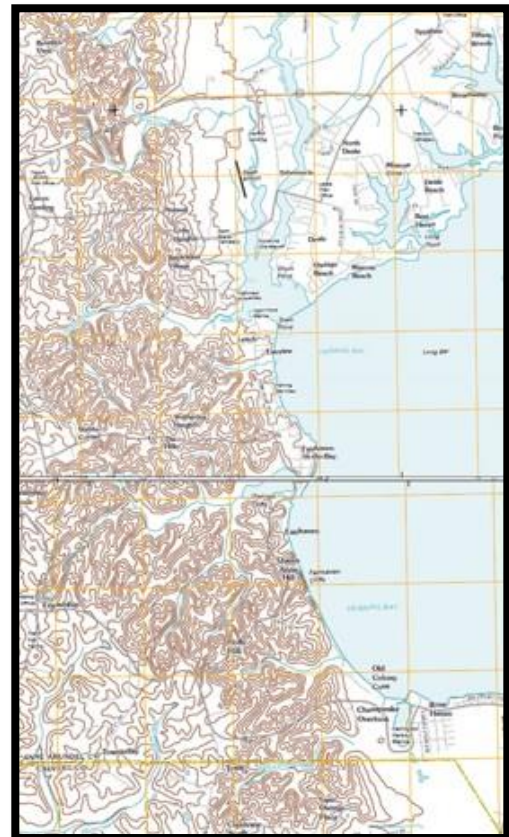
As shown in Table 2, Herring Bay’s extensive network of intact forest is habitat for over a dozen species identified as a priority for conservation in the SWAP.<sup>10</sup> The table includes several Forest Interior Dwelling Species (FIDS) that are a priority for protection in Maryland’s Critical Area. 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>11</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.

**Table 2: Forest and associated habitats  
Birds observed in proposed Partnership Area that  
that support SWAP and other conservation priorities**

<b>FIDS</b>	<b>Other species</b>
Acadian Flycatcher	Prairie Warbler
American Redstart	Yellow-breasted Chat
Barred Owl	American Peregrine Falcon
Black-and-white Warbler	Bank Swallow
Hairy Woodpecker	Common Nighthawk
Hooded Warbler	Bald Eagle
Kentucky Warbler	Northern Harrier
Louisiana Waterthrush	Sharp-shinned Hawk
Northern Parula	Red-headed Woodpecker
Ovenbird	
Piliated Woodpecker	
Red-eyed Vireo	
Red-shouldered Hawk	
Scarlet Tanager	
Wood Thrush	

Map 6



<sup>10</sup> The species on Table 2 have been observed in subwatersheds identified as a conservation priority, and are documented by reports from E-Bird, the annual Christmas Bird Count, the Maryland Biodiversity Project, or by photographic evidence.

<sup>11</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>12</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>13</sup>

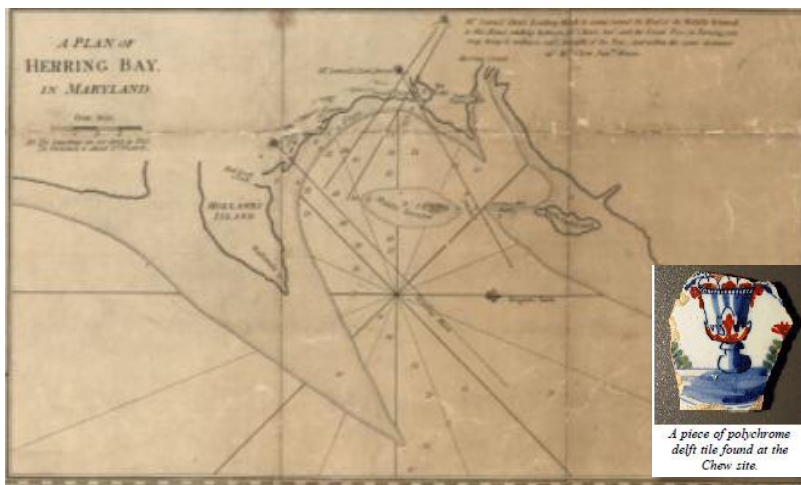
While the exact locations of these indigenous and colonial discoveries are not publicized, most are known to be within or adjacent to the subwatersheds classified by the state as conservation priorities.



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>12</sup> Stephanie Taleff Sperling, et al., *Emergency Excavation and Documentation of Five Endangered Archeological Sites in Anne Arundel County, Maryland* (March 21, 2017).

<sup>13</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).