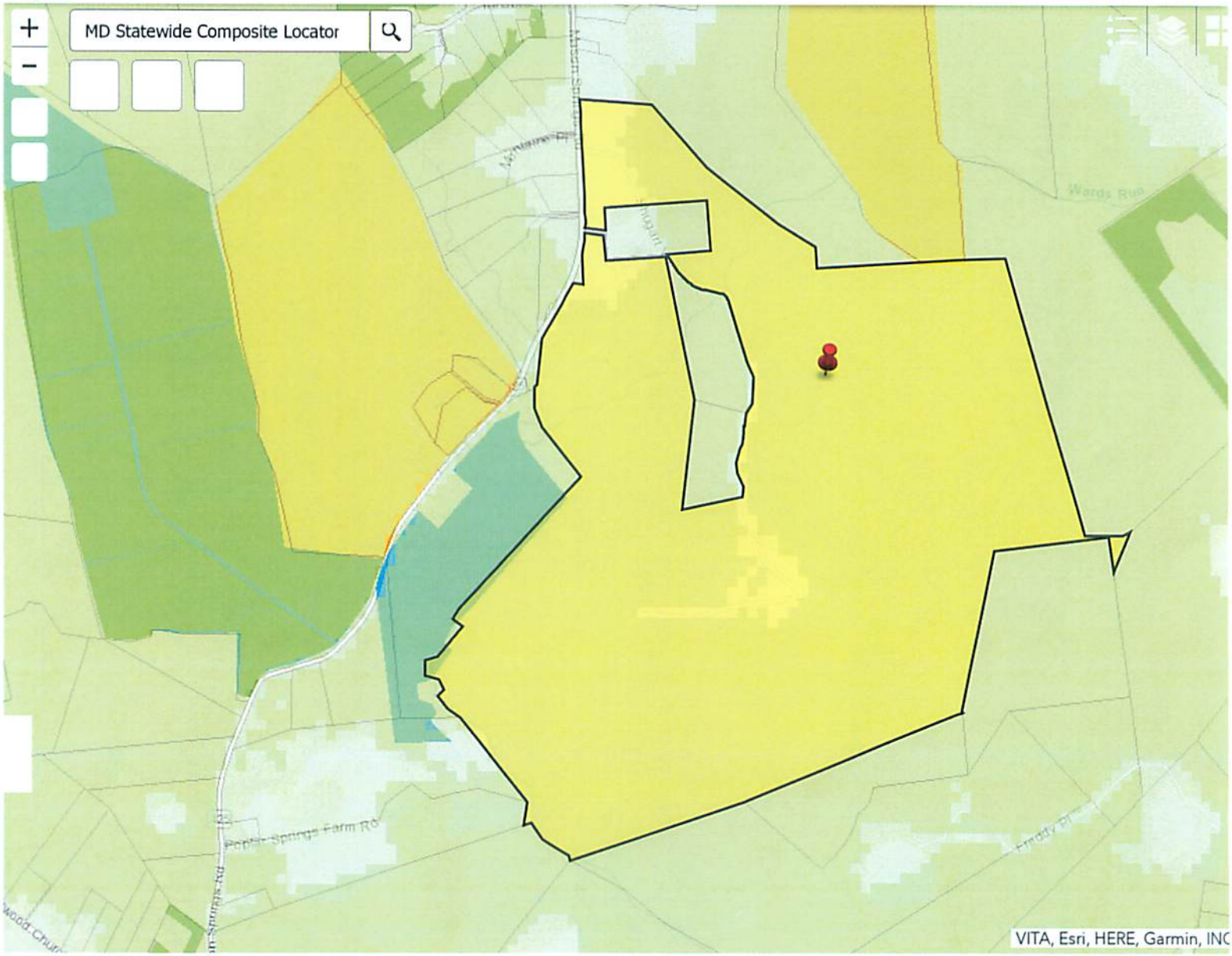
GreenPrint User Guide Parcel Eval 101

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# Conservation Benefits Assessment

## Parcel Analyzed

**Account ID:**0902005263
**Tax Map:**0041
**Parcel ID:**0024
**Parcel size:**585.95 acres
**Targeted Ecological Area:** 554.21 acres

Ratings are partially based on field surveys, but not all parcels have been surveyed. The data used to rate parcels are updated as new information is gathered and processed. Ratings may not reflect the most recently gathered data available or the parcel's actual ecological value if surveys have not been conducted.

## Benefit Ratings

| | |
|---|---|
| Habitat Connectivity<br>★★★★★ | The state's remaining large blocks of forest and wetlands (hubs) and the habitat pathways (corridors) that connect them.<br>Data Source: Maryland DNR, Green Infrastructure - Hubs and corridors. 2005 |
| Rare Species & Wildlife Habitat<br>★★★★★ | As described by the Biodiversity Conservation Network(BioNet), these are habitats of the state's rarest plants and animals, as well as high quality and rare natural communities and other living resources of conservation concern.<br>Data Source: Maryland DNR, BioNet Version 2. 2017 |
| Support of Aquatic Life<br>★★★★☆ | Watersheds that support high quality streams and riverine areas that are important for aquatic biodiversity and freshwater recreational fisheries.<br>Data Source: Maryland DNR, Stronghold Watersheds 2011., MDE Maryland Water Quality Tier II Catchments. 2016., MDE Surface Water Use Class 2014. |
| Forests Important for Water Quality Protection<br>★★★★☆ | Forests for healthy watersheds that are the most effective in preventing pollution to streams, rivers and bays and maintaining healthy stream hydrology.<br>Data Source: Maryland DNR Forests Important for Water Quality. 2011. |
| Targeted Ecological Area<br>YES | Lands and watersheds identified as the most ecologically valuable areas in the State and are preferred for conservation funding through Stateside Program Open Space(POS). At least 50% of the parcel must be in a Targeted Ecological Area to meet ecological criteria for POS.<br>Data Source: Maryland DNR, Maryland Focal Areas - Targeted Ecological Areas 2011. |
| Coastal Community Resiliency<br>★☆☆☆☆ | Areas along the shoreline where natural habitats, such as marshes and coastal forests, have the potential to reduce the impact of coastal hazards to the adjacent coastal communities by dampening waves, stabilizing sediment, and absorbing water.<br>Data Source: Maryland DNR, Maryland Coastal Resiliency Assessment - Priority Shoreline Areas and Marsh Protection Potential Index. 2016. |
| Future Wetland Habitat<br>★☆☆☆☆ | Areas important for inland wetland migration resulting from sea level rise that will support high value coastal habitats of the future.<br>Data Source: Maryland DNR, Maryland Sea Level Rise Wetland Adaptation Areas. 2016. |
| Proximity to Protected Lands<br>★★★★★ | Conservation opportunities located near other protected land areas contributes to landscape scale protection which is key for conserving healthy aquatic and terrestrial ecosystems.<br>Data Source: Maryland DNR and Dept. of Planning, Protected Lands. 2017. |

## Ecosystem Service Assessment

| Ecosystem Service Name *(and biophysical unit)(range)* | Annual Parcel-Level Values* | | Annual Per-Acre Values** | |
|---|---|---|---|---|
| | **Biophysical** | **Economic** | **Biophysical** | **Economic** |
| **Air Pollution Removal: Carbon Monoxide** (CO) *(kg per year)(0-1.35 kg per acre per year)* | 129.12 | $3.46 | 0.22 | $0.01 |
| **Air Pollution Removal: Nitrogen Dioxide**($NO_2$) *(kg per year)(0- 9.01 kg per acre per year)* | 2978.89 | $61.56 | 5.09 | $0.11 |
| **Air Pollution Removal: Sulfur Dioxide**($SO_2$) *(kg per year)(0- 6.67 kg per acre per year)* | 809.28 | $4.83 | 1.38 | $0.01 |
| **Air Pollution Removal: Ozone** ($O_3$) *(kg per year)(0-34.35 kg per acre per year)* | 13868.46 | $1,533.09 | 23.69 | $2.62 |
| **Air Pollution Removal: Particulate Matter**($PM_{10}$) *(kg per year)(0-8.34 kg per acre per year)* | 2683.77 | | 4.58 | |
| **Air Pollution Removal: Particulate Matter**($PM_{2.5}$) *(kg per year)(0-1.80 kg per acre per year)* | 836.95 | $3,213.56 | 1.43 | $5.49 |
| **Carbon Sequestration** *(mT per year)(0-4 mt per acre per year)* | 341.45 | $54,192.26 | 0.58 | $92.58 |
| **Groundwater Recharge** *(m3per year)(445 - 1236 m3 per acre per year)* | 28793.96 | $155,385.00 | 49.19 | $265.46 |
| **Nitrogen Uptake Potential Index** *(1 = low to 3 = high)** | 1.00 | $28,738.00 | No Data | $49.10 |
| **Stormwater Mitigation Potential Index** *(1 = low to 5 = high)** | 2.79 | $560,947.00 | No Data | $958.32 |
| **Wildlife Habitat and Biodiversity Potential Index** *(0 = low to 100 = high)** | 84.53 | $624,133.00 | No Data | $1,066.27 |
| **Surface Water Protection** | No Data | $0.00 | No Data | $0.00 |
| Total Annual Economic Value | No Data | | No Data | $2,440.54 |

## Ecosystem Service Descriptions

**Ecosystem Services**(ES):ES can be broadly defined as the benefits which humans receive as a result of the work performed by naturally functioning ecosystems. When natural systems are lost, the services they provide to society are also lost. If not replaced, society will eventually suffer consequences, such as negative human health impacts due to poor air or water quality. Here, we quantify the value of ES provided by forests and wetlands areas in biophysical and economic terms. Greater biophysical values or higher indexes correspond to higher economic values for the ecosystem service.

**Biophysical Value:**The physical work performed by an ecosystem, quantified using ecological models.

**Economic Value:**The monetary value of the benefits provided to society through ES. Here, the 'social value' of ES is quantified, based on known instances of payments for ES, such as current market values, payments for conservation or restoration, or payments to install man-made alternatives to supplement services lost. It is important to note that the economic values reported here are intended for evaluating tradeoffs and informing decision making, but do not indicate market value or compensatory value.

**Air Pollution Removal:**Trees remove pollution from the air that would otherwise contribute to human health problems, such as asthma and cardiovascular stress.

**Carbon Sequestration:**Ecosystems take up carbon and store it in their biomass, offsetting some of the emissions from human activity and helping to reduce climate change.

*Data:* Biophysical, Economic

**Groundwater Recharge:**Ecosystems allow for water to percolate through the soil and recharge aquifers, which Maryland relies on for 50% of its drinking water supply.

*Data:* Biophysical, Economic

**Nitrogen Uptake Potential Index:**Nitrogen pollution is critically important to the health Chesapeake Bay. Forests and wetlands remove nitrogen through taking it up in their biomass and soils.

*Data:* Biophysical, Economic

**Stormwater Mitigation/Flood Prevention Potential Index:** Forests and wetlands absorb rainfall, lessening the amount of runoff that would otherwise cause erosion, need to be treated by stormwater systems, or cause flood damage.

*Data:* Biophysical, Economic

**Wildlife Habitat and Biodiversity Potential Index:**Certain forests and wetlands are better able to support wildlife and more likely to support rare and threatened species. These are typically ecosystems that are less impacted by people.

*Data:* Biophysical, Economic

**Surface Water Protection:** Forests reduce pollutant runoff into reservoirs, increasing water quality in the reservoir and reducing the cost of treating water to meet drinking water standards.

*Data:* Economic

*For additional information regarding the data and methods used in this assessment, and to view the full project report, please visit the MD DNR Chesapeake and Coastal Service Ecosystem Service webpage.*

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