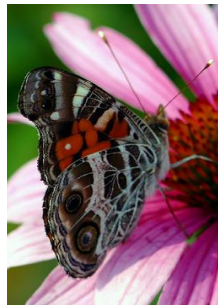


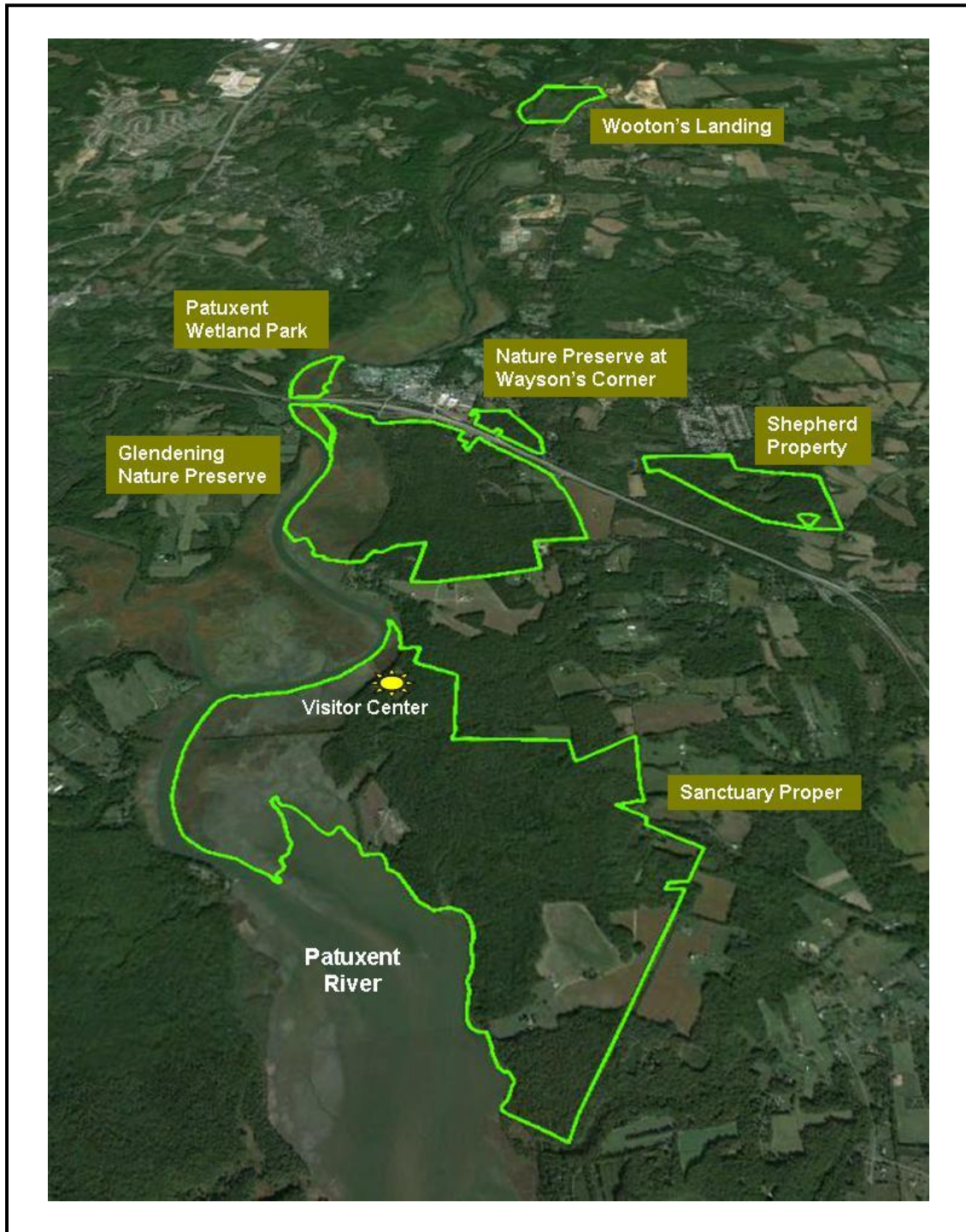


2015-2020

Jug Bay Wetlands Sanctuary STRATEGIC PLAN



JUG BAY WETLANDS SANCTUARY



<http://www.jugbay.org/>



INTRODUCTION

Natural habitats at local, state, national and international levels are threatened by a changing environment, a result of natural and anthropogenic impacts. Therefore, long-term preservation of healthy natural areas serving as sanctuaries for plants and wildlife is of increasing importance and demands active participation and commitment from all levels of society, local communities, state and federal government, non-profit organizations, etc.

Jug Bay Wetlands Sanctuary (Sanctuary), located near the mid-point of the 115-mile long Patuxent River represents an important network of critical habitats of regional and national importance. These habitats range from open water to wetlands, to forests and fields and provide refuge to a wide diversity of aquatic and terrestrial wildlife. Being close to both Annapolis and Washington, D.C. and serving the local counties of Anne Arundel, Calvert, and Prince George's, the Sanctuary also plays an important role connecting people to nature through hands-on environmental education, practicing stewardship, citizen science, and volunteer opportunities.

In recognition of the uniqueness of Jug Bay, the Sanctuary and its partners have developed a program of activities to conserve and enhance its natural environment through science-based management, and to promote appreciation of its significance by engaging the public in outdoor education programs, stewardship projects, and citizen science. The corner stones of research and monitoring will be used to understand the complexities and interactions of the many components of the natural environment to better address issues of concern.

This Strategic Plan is a roadmap that describes our direction and main priorities during the next five years. The Plan was prepared by Sanctuary staff with valuable input from the Friends of Jug Bay and partners, and reflects a shared vision and goals.

This Strategic Plan:

- Provides staff with a vision, guidance, and work priorities for a five-year period.
- Articulates our vision, mission, and initiatives to Recreation and Parks Department's officials as well as other parties interested in supporting the Sanctuary's work.
- Provides Anne Arundel County citizens and Sanctuary visitors with an understanding of Sanctuary goals and initiatives.
- Provides the roadmap for the development of an implementation plan towards the accomplishment of identified priorities.



WHO WE ARE

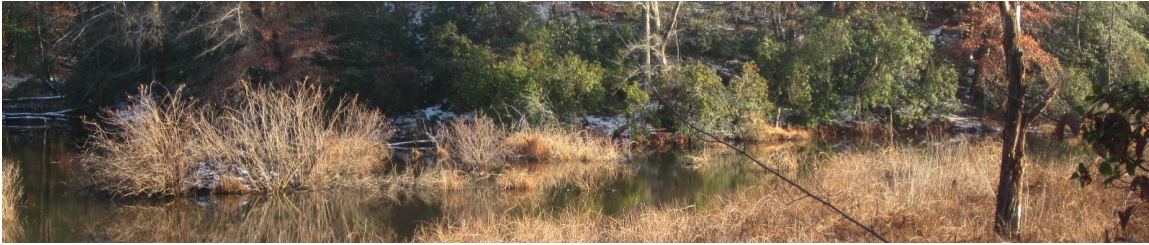
A Sanctuary – a place of refuge and protection – a tract of land where wildlife can breed and take refuge in safety – a place in which those in need of consolation can find respite from the pressures of civilization.

Jug Bay Wetlands Sanctuary was established in 1985 by the Anne Arundel County Department of Recreation and Parks. Over these 30 years, the original 178-acre tract of protected upland forest and tidal freshwater wetlands has grown to about 1,700 acres of open water, tidal freshwater marshes, forested wetlands, upland and riparian forest, creeks, meadows, pine and sand barrens, and fields.

The Sanctuary is located in the tidal reaches of the Patuxent River, and its network of habitats provides a safe environment to a high diversity of plants, invertebrates, birds, fish, reptiles, and mammal species. The National Audubon Society has designated the Sanctuary as a nationally Important Bird Area.

In July, 1990 the Sanctuary was designated as one of three components within the Maryland Chesapeake Bay National Estuarine Research Reserve (CBNERR-MD) – a research, stewardship, and education program administered jointly by the National Oceanic and Atmospheric Administration, Maryland's Department of Natural Resources, and Anne Arundel County.

The Sanctuary is also supported by the Friends of Jug Bay (FOJB). Founded in 1986, FOJB is a non-profit citizens' organization that acts to preserve the Sanctuary and to support its education, stewardship, and research programs. Through financial contributions and active engagement, FOJB members provide critical support that greatly enhances Sanctuary programs and activities and its long-term protection.



WHAT WE DO

The Sanctuary has identified climate change, development and land use change, and invasive species as focus areas over the next five years. These are the most significant issues threatening the Sanctuary and demand a collaborative and comprehensive response. These issues will be addressed by following different approaches: land protection and stewardship, science-based management, education and outreach, research and monitoring, citizen science, and volunteerism.

Climate Change

Changing temperature and precipitation regimes, erosion, flooding and inundation, salinity intrusion, and the altering and hardening of shoreline structures are some of the main stressors affecting not only the Sanctuary, but the entire Chesapeake Bay region. These issues have both ecosystem and socio-economic implications and deserve urgent attention. Jug Bay in collaboration with CBNERR-MD and other partners have been collecting long-term monitoring data on marsh emergent vegetation, submerged aquatic vegetation, water quality, and marsh surface elevation dynamics with the goal of better understanding the impacts of climate change on these coastal habitats and gathering such data will be continued and expanded as needed.

Development and Land Use Change

Jug Bay is located relatively close to urban and rural centers and is under development pressure; it is relatively pristine thanks to preservation efforts by

local and state agencies and organizations. Population growth and development, increases in impervious surface, the loss and alteration of natural habitat in the watershed, and increases in point source flows are some of the issues Jug Bay is facing and that need attention. Thus, ongoing efforts in land conservation, stewardship action, and best land management practices are some of the activities that Jug Bay and its partners will continue to advance.

Invasive Species

Invasive species of both plants and animals have become increasingly problematic because of their tendencies to proliferate quickly, displace native species, and alter natural habitat. Some efforts implemented to educate, better understand, and control the expansion of invasive species in Jug Bay include the offering of informational programs to the public, implementing stewardship, research and monitoring projects, and active species removals.



JUG BAY WETLANDS SANCTUARY

VISION

A diverse and healthy network of protected natural habitats for the preservation of wildlife, associated ecosystems and public appreciation.

MISSION

To increase awareness, understanding, and appreciation of estuarine and other natural ecosystems and their conservation through outdoor education, research, stewardship, and volunteering.

Education Mission

To provide science-based, discovery-centered, and hands-on environmental education experiences to all ages.

Research and Citizen Science Mission

To conduct and support research and monitoring addressing relevant conservation and management issues and to foster citizen science through hands-on experiences.

Stewardship Mission

To practice stewardship that avoids or minimizes environmental impacts to the Sanctuary in order to maintain diverse and healthy natural habitats.

Volunteering Mission:

To maintain and foster a supportive and educational volunteer program in which volunteers learn about the natural world while they contribute to scientific understanding and habitat protection.

GOALS AND OBJECTIVES



Protected Habitats

GOAL:

The long-term integrity and diversity of Jug Bay natural habitats will be maintained and enhanced through protection, science-based management, restoration, stewardship, and land acquisition.

OBJECTIVES:

1. Increase the protection and connectivity of key areas around the Sanctuary and local watersheds to improve habitat integrity and resiliency to natural and anthropogenic stressors.
2. Advance habitat quality and protection by implementing and demonstrating restoration and science-based land management practices while integrating information from climate change and other stressors.
3. Foster public stewardship of the natural environment through field experiences.

PRIORITY STRATEGIES:

1. Identify, prioritize, and facilitate the County purchase and protection of land bordering the Sanctuary.
2. Implement and demonstrate restoration and science-based management practices at the Sanctuary's natural habitats while taking into account climate change, land use change, invasive species and other stressors.
3. Develop and offer hands-on land stewardship programs to promote habitat protection and appreciation of the natural environment.



Science

GOAL:

Scientific research and citizen science advance the understanding of Jug Bay's natural environment and inform the Sanctuary's management, stewardship practices, and education programs.

OBJECTIVES:

1. Improve understanding of Jug Bay key natural habitats, wildlife, and ecosystem processes and their response to natural and anthropogenic stressors.
2. Encourage collaborative and multidisciplinary research to address information needs that support resource management and stewardship practices.
3. Build up Jug Bay's citizen science program to become an example for similar programs within the region.
4. Foment social science research to increase our understanding of Jug Bay's social and cultural environment.
5. Increase the use of on-site scientific information to support education, outreach, resource management, and conservation.
6. Provide a place-based outdoor laboratory and research experiences for the formation of future scientists.

PRIORITY STRATEGIES:

1. Implement monitoring and research projects for detecting and understanding the effects of climate change, development and land use change, and invasive species on Sanctuary's key natural resources.
2. Develop targeted research and monitoring to inform resource management, stewardship practices, and habitat conservation.
3. Develop new field citizen science projects that promote increased public participation in the collection and dissemination of relevant information.
4. Develop and disseminate data syntheses, presentations, website information, and reports to support the Sanctuary's education, outreach, management activities, and conservation efforts.
5. Develop and implement strategies that promote social science research; use the information to foster stewards that value and protect the natural environment.
6. Support research and education internships and hands-on research experiences for STEM, undergraduate, and graduate students to foment the formation of future scientists.



People

GOAL:

Education, stewardship, and volunteer activities improve the understanding and appreciation of Jug Bay's natural environment and serve to encourage public protection.

OBJECTIVES:

1. Increase environmental literacy and stewardship among students, teachers, volunteers, and visitors through the offering of hands-on activities and meaningful outdoor experiences.
2. Foment the learning and development of skills among teachers and volunteers as environmental educators and active stewards for the protection of Jug Bay's natural resources.
3. Integrate on-site research experiences and results into education and stewardship programs.
4. Provide learning and safe natural outdoor experiences to a diverse public community for the appreciation and enjoyment of Jug Bay natural areas.
5. Enhance collaborations with the local community, the Friends of Jug Bay, and other local environmental and advocacy organizations to promote education and habitat protection and conservation.

PRIORITY STRATEGIES:

1. Provide place-based outdoor recreational, educational and stewardship experiences that facilitate hands-on learning and exploration of Jug Bay natural environments including its natural history, habitat protection, and natural and human impacts.
2. Offer relevant trainings and outdoor experiences to teachers and volunteers for the development of skills as environmental educators and stewards.
3. Provide on-site and hands-on educational programs such as "Classrooms in the field" to support school environmental education.
4. Increase translation of on-site research to the public through website information, presentations, Marsh Notes newsletter, trail interpretation displays, exhibits, and education and stewardship activities.
5. Facilitate and promote public participation (including minorities and the disabled) in the Sanctuary's outdoor environmental education and stewardship programs through special citizen science and public programs and events.
6. Develop collaborative projects and events with the local community to foment the appreciation of natural areas and to address issues of mutual environmental concern.



Public Access / Facilities

GOAL:

Public access and park amenities are defined to ensure safe and meaningful outdoor experiences while preserving the peaceful and “primitive” character of the Sanctuary.

OBJECTIVES:

1. Manage and operate the Sanctuary to maintain its quiet and peaceful conditions for the benefit of wildlife and long-term public enjoyment.
2. Promote the Sanctuary as a place for ecological research, environmental outdoor education, nature study, and passive recreation.
3. Establish any new environmentally friendly facilities only to support Sanctuary research, education, and management goals, and appropriate passive recreation.

PRIORITY STRATEGIES:

1. Continue to support the current “limited public access” policy to minimize disturbance to wildlife while also ensuring meaningful outdoor experiences.
2. Continue to promote citizen science, environmental education, and passive recreation such as hiking, bird watching, canoeing and kayaking.
3. Evaluate a priori new activities, programs, and construction projects according to regulations to avoid any negative environmental impacts.
4. Build an education pavilion to augment the capacity of the Sanctuary to support education programs and public events. New infrastructure will blend environmentally friendly materials and practices.
5. Explore the implementation of controlled-group primitive camping in the Glendening Nature Preserve and Wootons Landing to enhance outdoor education activities.

ACKNOWLEDGEMENTS

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