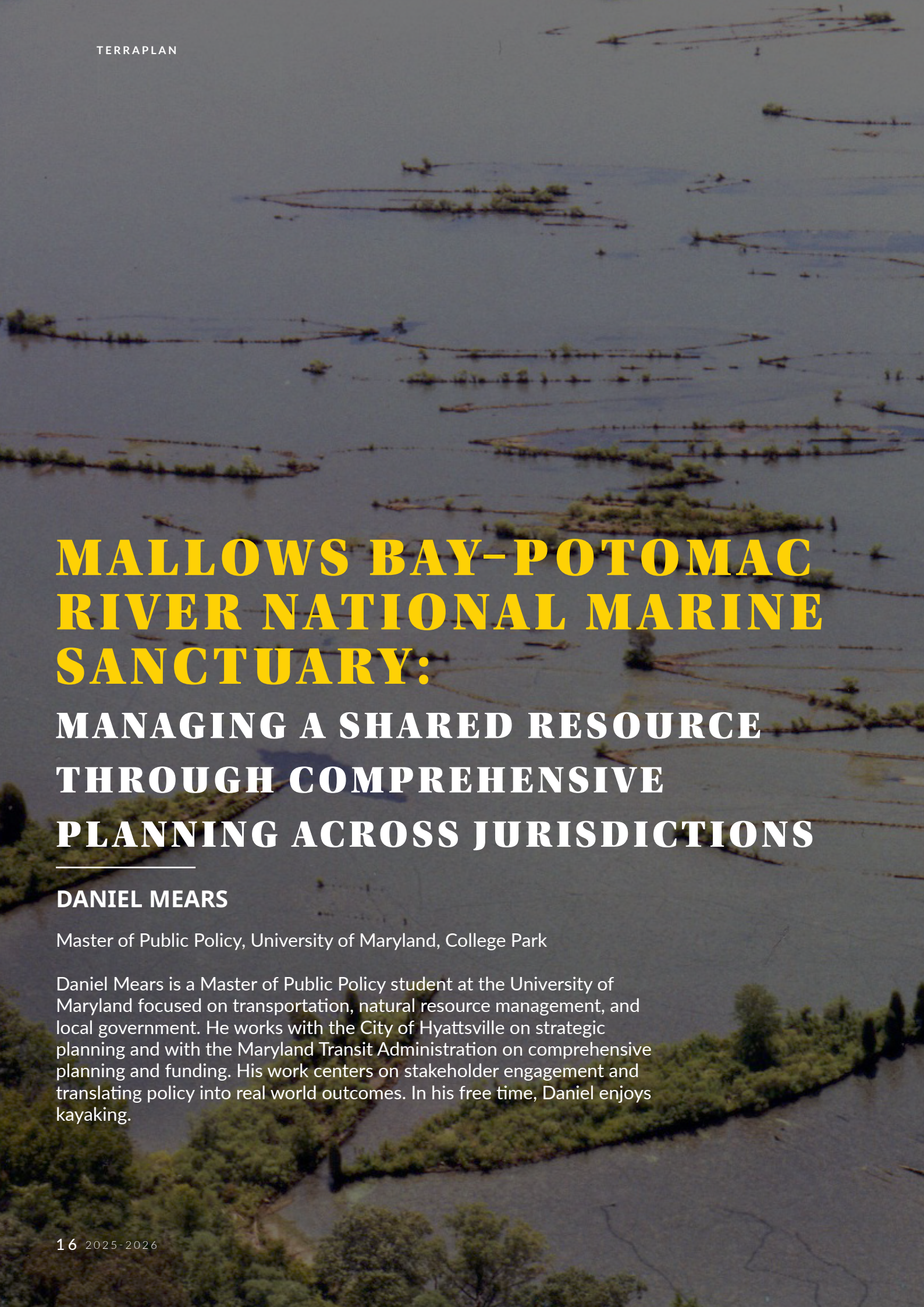


MALLOWS BAY–POTOMAC RIVER NATIONAL MARINE SANCTUARY:

MANAGING A SHARED RESOURCE THROUGH COMPREHENSIVE PLANNING ACROSS JURISDICTIONS

DANIEL MEARS

Master of Public Policy, University of Maryland, College Park

Daniel Mears is a Master of Public Policy student at the University of Maryland focused on transportation, natural resource management, and local government. He works with the City of Hyattsville on strategic planning and with the Maryland Transit Administration on comprehensive planning and funding. His work centers on stakeholder engagement and translating policy into real world outcomes. In his free time, Daniel enjoys kayaking.

Abstract

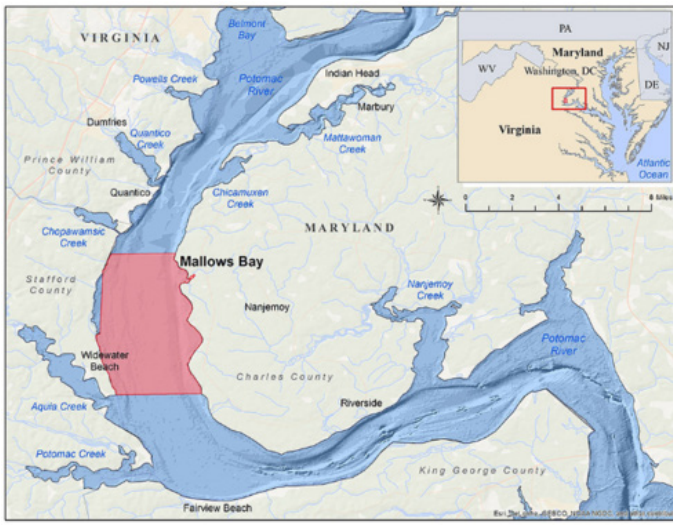
History, preservation, and planning intersect in the policies affecting Mallows Bay-Potomac River National Marine Sanctuary. Mallows Bay is a section of federally protected water situated along the Potomac River between Maryland and Virginia and contains one of the most unique marine landscapes in the United States including 108 World War I shipwrecks. The Sanctuary's management requires coordination among the National Oceanic and Atmospheric Administration (NOAA), the Maryland Department of Natural Resources, Charles County (MD), and Stafford County (VA).

Examining the governance structure and planning process of Mallows Bay provides insight on how multiple overlapping jurisdictions influence comprehensive planning of a location that holds a connection to the past. Using qualitative document analysis and comparative policy mapping of federal, state, and local plans, this paper evaluates how comprehensive plans function as the primary framework for coordinating natural resources management objectives at the local level. The analysis identifies areas of alignment, gaps, and tensions across the layers of plans that impact policy implementation and the integration of resource conservation with local economic development. The findings lead to six recommendations that will help overcome differing land-use priorities and a lack of cross-jurisdictional coordination that limits unified management of a historically important resource.

Introduction

Mallows Bay–Potomac River National Marine Sanctuary (Mallows Bay) illustrates the complexity of managing nationally significant natural and cultural resources across overlapping jurisdictions. The Sanctuary contains one of the most unique marine landscapes in the United States. The roughly one-square-mile bay holds 108 World War I shipwrecks, which have created a thriving ecosystem and space for community recreation (NOAA, 2019). Mallows Bay offers a valuable case study for understanding the interaction among federal, state, and local planning systems. Due to its multi-jurisdictional nature, the Sanctuary's governance integrates overlapping layers of plans, including NOAA's Sanctuary Management Plan, Maryland's state resource planning frameworks, and the comprehensive plans of Charles and Stafford Counties. With each plan representing a different layer of authority and priority, Mallows Bay offers insight into how comprehensive plans coordinate resource protection, economic development, and public access across administrative boundaries.

The complexity of Mallows Bay's governance stems from its geography and multi-jurisdictionality. The Sanctuary is located within Maryland's tidal waters, but its western edge on the Virginia shore necessitates coordination among NOAA, Maryland, and Virginia authorities (NOAA, 2019). Mallows Bay's management involves two interconnected resource sets; the 108 WWI shipwrecks, known as the "Ghost Fleet", and the surrounding environment (Maryland Department of Natural Resources, 2014). Planners and policy makers must effectively manage these cultural and ecological assets together to both protect and benefit from the wonders of Mallows Bay. Protection relies on federal sanctuary rules and policies, as well as comprehensive plans that guide development, recreation, and conservation of the water and land near the Sanctuary. These plans help local governments implement broader conservation efforts and enforce land-use policies.



[Image 1] NOAA, 2019. Mallows Bay–Potomac River National Marine Sanctuary Boundary Map

Context and Significance

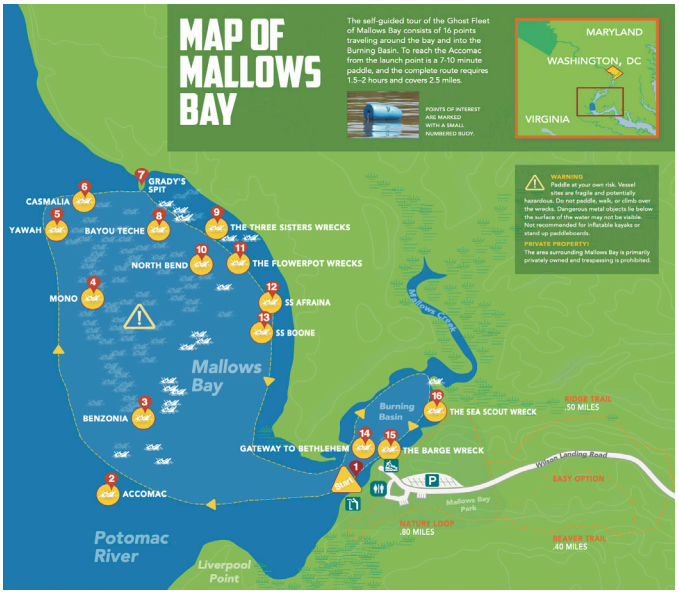
The Mallows Bay–Potomac River National Marine Sanctuary is one of the most distinctive protected areas in the United States. Mallows Bay is a one–square–mile embayment on the Potomac River off the Nanjemoy Peninsula in Charles County, Maryland. The National Marine Sanctuary encompasses roughly 18 square miles of the surrounding river (Fig. 1) (NOAA, 2019). It includes significant sites beyond the bay itself, including Widewater Beach, which formed part of the same World War I ship-scrapping operation that created the Ghost Fleet (Maryland Department of Natural Resources, 2014). The Sanctuary's cultural importance matches its biological diversity, exemplifying the coexistence of natural and cultural resources within a managed ecosystem. Its proximity to the Maryland–Virginia border adds complexity, as the Potomac River's legal and jurisdictional history requires cross-state coordination.

The most notable feature of Mallows Bay is the "Ghost Fleet," a collection of 108 sunken wooden steamships built for the U.S. Navy by the Emergency Fleet Corporation to carry cargo during World War I (Fig. 2) (NOAA, 2019). Along with a smaller group of scuttled vessels from the early twentieth century, the fleet forms the largest ship graveyard in the Western Hemisphere. The waters and marshes of Mallows Bay also hold deep significance as a Native American heritage landscape. Mallows Bay was an agricultural site used by the Piscataway Tribe extending back thousands of years (NOAA, 2019).

[Image 2] Maryland Department of Natural Resources, n.d. Aerial Photo of Mallows Bay

Mallows Bay is also a biologically rich ecosystem where the shipwrecks have become integrated into the environment. Over time, the submerged hulls have trapped sediments and supported plant life, creating artificial islands and reef habitats (Fig. 2). The sunken ships provide crucial spawning and nursery grounds for species such as striped bass and blue crabs. At the same time, the surrounding wetlands and forests host migratory waterfowl, bald eagles, and aquatic mammals such as beavers and otters (Charles County, 2022). The Maryland Department of Natural Resources designates the area as a Targeted Ecological Area under the GreenPrint program. The designation recognizes the Bay's importance for biodiversity and habitat connectivity (Charles County, 2016).

The Sanctuary also functions as a major recreational and tourism resource in Charles County. Mallows Bay Park serves as the access point to the Sanctuary and is managed by Charles County under a lease agreement with Maryland DNR (Charles County, 2022). Mallows Bay's recent national recognition has made it a destination for heritage and eco-tourism, supported by guided paddling tours and scenic trails (Charles County, 2022). Hosting recreational activities, including kayaking, hunting, fishing, and birding, reinforces the Sanctuary's dual role as both a protected ecosystem and a community asset that contributes to recreation, tourism, and economic development (Fig. 3)



[Image 3] Charles County, 2018. A Paddler's Guide to Mallows Bay Map

Structure of Sanctuary Designation and Management

The Sanctuary was designated in 2019 under the authority of the National Marine Sanctuaries Act. The enabling legislation authorizes NOAA to identify, designate, and protect areas of special national significance and requires that such designations complement existing state and local regulatory authorities (NOAA, 2019). This approach is especially relevant to Mallows Bay. NOAA's mandate to protect maritime cultural heritage resources overlaps with Maryland's jurisdiction over submerged lands and natural resources. The Sanctuary's Final Management Plan formalizes this structure. It emphasizes a collaborative approach that supports rather than replaces existing state and local authorities (NOAA, 2019).

A central feature of the governance model is the Memorandum of Agreement (MOA) among NOAA, the State of Maryland, and Charles County. The MOA defines roles and responsibilities, establishes shared management principles, and affirms Maryland's sovereignty over its submerged lands and natural resources (NOAA, 2019). The creation of the agreement institutionalizes coordination between levels of government in the management of Mallows Bay. The MOA ensures that federal actions align with state policy objectives and that local governments maintain their authority over land-use decisions and public access facilities (NOAA, 2019).

Mallows Bay was also the first national marine Sanctuary designated through a community-led nomination, and that origin continues to shape its governance (Maryland Department of Natural Resources, 2014). Public participation plays a central role in management through NOAA's Sanctuary Advisory Council (SAC). The SAC's membership includes representatives from government, academia, local organizations, and community members. The council advises the Sanctuary Superintendent, provides a structured venue for stakeholder input, and links formal planning processes with community priorities (NOAA, 2019). This participatory model complements the statutory framework and reinforces transparency.

Governance Challenges and the Role of Comprehensive Plans

The Potomac River's legal geography compounds the governance complexity for Mallows Bay. The Sanctuary is entirely within Maryland waters; its western boundary lies along the Virginia shoreline (NOAA, 2019). The Sanctuary's proximity to Virginia requires coordination not only between NOAA and Maryland but also with Stafford County's land-use planning framework. Development decisions on the Virginia shore have direct implications for water quality and recreation for the Maryland-based Sanctuary.

Comprehensive plans serve as the key mechanism for bridging jurisdictional divides. NOAA's Sanctuary Management Plan provides the federal-level framework, focusing on the protection, interpretation, and access of maritime cultural heritage resources. The Maryland Department of Natural Resources provides a state-level planning and regulatory framework with documents including PlanMaryland and the Chesapeake Bay Critical Area Program. These plans from the State of

Maryland establish resource conservation goals that shape local implementation. At the county level, Charles County's Comprehensive Plan integrates sanctuary-related objectives into local land-use policy. At the same time, Stafford County's Comprehensive Plan governs shoreline use and development across the Potomac River. These documents together form the operational backbone of Mallows Bay's governance. The Sanctuary operates through nested interconnected plans: a federal management plan, state strategies, and local plans that guide land use, recreation, and infrastructure.

There are three interconnected layers of government associated with the planning and management of Mallows Bay. This results in extremely slow progress as management depends on agreement across all levels of governance, projects are slowed by restrictive procedural steps. A clear example of this bureaucratic inefficiency is the ongoing effort to establish a visitor center at Mallows Bay Park. Despite broad alignment among partners, the project has advanced slowly due to permitting requirements, coordination with NOAA, shoreline protections, and the need to balance cultural resource conservation with expanded infrastructure. In park planning documents Charles County notes that any facility must be reviewed for consistency with the Sanctuary's federal management goals, state environmental rules, and local zoning, making even modest construction a multi-year undertaking (Charles County, 2024). The visitor center effort shows how necessary but overlapping plans create a slow, coordination-dependent governance environment that makes progress in Mallows Bay contingent on aligning multiple slow-moving jurisdictions.

Methodology

This paper uses a qualitative policy analysis and comparative policy mapping approach to evaluate how comprehensive plans function as coordination tools for managing Mallows Bay. The methodology examines how federal, state, and county planning documents articulate goals for conservation, recreation, and development, and how those goals align or diverge across jurisdictions. It also assesses the coordination mechanisms and stakeholder engagement processes embedded in each plan. The analysis includes a comparative case study of the Thunder Bay National Marine Sanctuary. Thunder Bay provides a structured example of how federal, state, and local planning systems can be aligned through formal planning instruments and institutional coordination. Although Thunder Bay operates entirely within a single state jurisdiction, its governance structure offers a useful reference point for evaluating how coordination mechanisms function in practice. The contrast between Thunder Bay's single-state governance model and Mallows Bay's multi-state structure strengthens the analysis by highlighting how additional jurisdictional boundaries introduce complexity into comprehensive planning systems.

The concept of network governance is central to analyzing Mallows Bay's planning documents. Network governance recognizes that managing shared natural and cultural resources requires collaboration among autonomous but interdependent actors operating across different levels of authority (Scarlett & McKinney, 2016). In the case of Mallows Bay, this network includes federal, state, and local governments, as well as advisory councils and community organizations. Comprehensive plans serve as the primary policy instruments through which these actors articulate and align their objectives.

Overview of Relevant Plans

Federal Planning Framework: NOAA's Sanctuary Management Plan

At the federal level, the primary document is the Mallows Bay–Potomac River National Marine Sanctuary Final Management Plan (2019). This document defines the Sanctuary's purpose, scope, and management strategies. It outlines goals related to resource protection, recreation, education, and research, while establishing NOAA's regulatory focus on maritime cultural heritage resources (NOAA, 2019). The plan complements existing state authorities rather than supplanting them, emphasizing a cooperative management model anchored in an MOA. The Final Management Plan effectively serves as a comprehensive plan in the federal system. It performs many of the same functions as the county plans it interacts with, including setting a long-term vision, outlining key program areas, and addressing implementation and collaboration (NOAA, 2019).

State Planning Framework: Maryland Department of Natural Resources

At the state level, Maryland has a collection of documents and programs that influence the Sanctuary's ecological management. Although the State of Maryland does not maintain a single plan specifically for Mallows

Bay, its planning framework is distributed across several complementary documents. These include PlanMaryland (2011), which articulates statewide goals for sustainable growth; the Chesapeake Bay Critical Area Program, which establishes land-use controls in ecologically sensitive zones; and the GreenPrint program (2011), which identifies Targeted Ecological Areas such as Mallows Bay for preservation. These state-level plans and programs collectively function as Maryland's framework for resource management. They define the conservation priorities and land-use standards that local governments must incorporate into their comprehensive plans.

County Planning Framework: Charles County, Maryland

The Charles County Comprehensive Plan (2016) serves as the central local planning document on the Maryland side of the river. It guides decisions about land use, resource conservation, and growth management. It implements the state's 12 planning visions, including those that emphasize environmental protection and quality of life (Charles County, 2016). Charles County's plan plays a pivotal role in translating sanctuary objectives into actionable policies. This includes protecting the Resource Protection Zone, conserving open space, and managing the Development District to limit sprawl (Charles County, 2016). The county's comprehensive plan functions as the operational link between higher-level policy frameworks and on-the-ground management. It governs public access to the Sanctuary through Mallows Bay Park and coordinates with the Maryland DNR under the lease agreement for park operations.

County Planning Framework: Stafford County, Virginia

The Stafford County Comprehensive Plan (2021) shapes land-use patterns along the Western shore of the Sanctuary. Stafford County's plan governs shoreline management through subdocuments, including the Chesapeake Bay Preservation Area Plan and the Shoreline Area Management Plan. These frameworks regulate development, stormwater management, and habitat conservation in areas directly influencing the Potomac River (Stafford County, 2021). Stafford County's approach emphasizes directing growth toward designated Urban Services Areas and Targeted Development Areas. Development decisions on the Virginia side have direct implications for water quality, recreational access, and the visual character of the Sanctuary (Stafford County, 2021).

Stafford County Participation in Sanctuary Designation

Stafford County Participation in Sanctuary Designation Historical records from the sanctuary designation process provide insight into Stafford County's limited engagement during early planning stages. In formal comments submitted during the federal rulemaking period, the Stafford County Board of Supervisors stated that the County had not been directly consulted during development of the proposal. The County reported that "Stafford County was not consulted during the development of this proposal and official comments were not directly solicited from any of our government agencies," noting that local officials became aware of the proposal only shortly before the public comment period (Milde, 2017). This statement indicates that county-level participation occurred late in the process rather than during formative planning stages.

The Stafford County correspondence also emphasized the geographic importance of the Virginia shoreline to the proposed sanctuary boundaries. The County noted that its shoreline was immediately adjacent to three proposed sanctuary alternatives and raised concerns about how designation could affect recreational access, shoreline management, and coordination with Marine Corps Base Quantico (Milde, 2017). Due to limited time to evaluate the proposal, the County formally requested an extension of the public comment period and indicated that, if concerns could not be addressed, it would support Alternative A, which proposed no sanctuary designation (Milde, 2017). These concerns reflect uncertainty regarding regulatory implications and highlight the practical planning considerations facing the county.

In contrast, correspondence from the Commonwealth of Virginia reflects support for the sanctuary designation at the state level. The Secretary of Natural Resources expressed support for preserving the historic shipwrecks and promoting tourism and education, while also requesting assurances that sanctuary regulations would not interfere with military operations or national security functions (Ward, 2017). This difference between state-level support and county-level uncertainty illustrates uneven engagement across governance levels during the designation process.

Taken together, these records suggest that Stafford County's limited institutional involvement did not result solely from opposition to sanctuary designation, but rather from procedural timing and incomplete early engagement. The absence of sustained county-level participation during initial planning contributed to a governance structure centered primarily on Maryland-based institutions. This historical pattern of delayed engagement provides a structural explanation for the limited institutional alignment observed between Maryland and Virginia planning frameworks in subsequent years. Stafford County is not formally represented as a local government member on the Sanctuary Advisory Council, further reinforcing the institutional gap created during the designation process.

Comparative Policy Mapping

Comparative policy mapping assesses how the four planning frameworks align and diverge across three domains central to sanctuary management: conservation objectives, land-use and development patterns, and economic drivers. Mapping these relationships clarifies the extent to which comprehensive plans reinforce or conflict with one another and highlights how they function within the structure of multi-level governance.

Conservation goals are most strongly aligned between the NOAA and Maryland planning frameworks. NOAA's Final Management Plan prioritizes the protection, interpretation, and long-term stewardship of maritime cultural heritage resources (NOAA, 2019). Maryland's legal and planning framework reinforces these objectives by emphasizing ecological restoration, water-quality improvements, and habitat protection in the Chesapeake Bay Watershed (Maryland Department of Natural Resources, 2011). Charles County's comprehensive plan operationalizes both federal and state goals by designating Resource Protection Zones and designating the Nanjemoy Peninsula as part of a priority conservation landscape (Charles County, 2021). These elements collectively anchor the Sanctuary within a conservation-oriented policy environment on the Maryland side of the Potomac.

Stafford County's plan introduces a contrasting planning philosophy. Although it recognizes the Potomac River as a natural resource, the comprehensive plan organizes growth around Targeted Development Areas that include land bordering the Sanctuary, including a proposed residential housing development along Wide Water Beach. (Stafford County, 2021). Stafford County's Comprehensive Plan was created with development in mind, stating "(The Plan) Serve as a comprehensive source of information that can be used to … market the area to potential developers" (Stafford County, 2021 pg. 1.3) This growth-oriented priority creates potential upstream pressures, including stormwater runoff and shoreline alteration, that may conflict with the Sanctuary's conservation goals rather than support them. This reveals a clear divergence with Charles County's planning and embeds protection of the Sanctuary's ecological and cultural assets, while Stafford's plan emphasizes redevelopment and economic expansion within the watershed.

There is alignment and friction regarding development and tourism. NOAA and Charles County share a consistent vision for managed public access, heritage tourism, and low-impact recreational use. NOAA's management plan identifies recreation and interpretation as core strategies, supported by non-regulatory programs such as guided paddles, public history initiatives, and collaborative tourism marketing (NOAA, 2019). Charles County expands this vision through policies that prioritize eco-tourism, protect rural landscapes, and promote water-based recreation as part of its economic strategy (Charles County, 2016). In contrast, Stafford County's plan locates tourism development within broader heritage corridors and recreational trail systems but fails to explicitly reference Mallows Bay as a cultural resource (Stafford County, 2021). This asymmetry reinforces how comprehensive plans shape what aspects of a shared resource are recognized, valued, or omitted across borders.

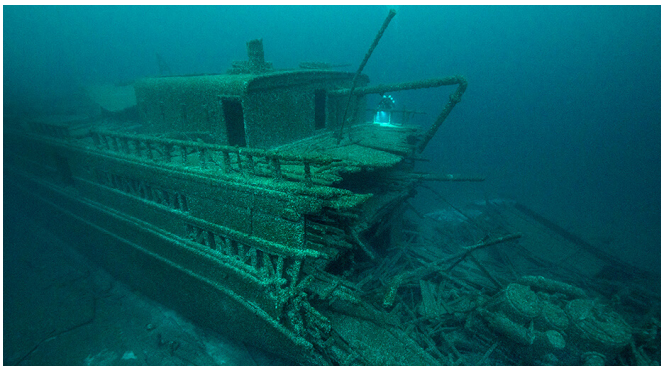
Regional collaboration is also strong on the Maryland side of the river. NOAA's Memorandum of Agreement with Maryland and Charles County establishes the core governance structure, clarifying that Maryland retains authority over submerged lands while NOAA supplements existing protections with Sanctuary-specific programs (NOAA, 2019). Charles County's plan mirrors this collaboration by referencing state and regional coordination requirements, including the Chesapeake Bay Critical Area Program and partnerships with neighboring jurisdictions (Charles County, 2021). Stafford County's plan also contains provisions for regional collaboration, but none that address Mallows Bay directly (Stafford County, 2021). This gap reflects how Stafford County and Virginia have been largely left out of the formal management structure.

Stakeholder engagement varies by jurisdiction. NOAA's Sanctuary Advisory Council involves diverse interests in site management (NOAA, 2019). Charles County and Maryland mandate public participation through hearings, workshops, and advisory committees, with Charles County acting as a joint management partner for Mallows Bay. Stafford County has extensive public engagement during its planning process but does not have ongoing formal participation (Stafford County, 2021). These differences show that participatory processes align with jurisdictional priorities. There is formal engagement in Maryland, where the Sanctuary is a shared concern, and peripheral engagement in Virginia, where Mallows Bay is secondary.

Taken together, the analysis shows that comprehensive plans are not just background documents but active documents that shape how each jurisdiction defines, manages, and interacts with Mallows Bay. While the NOAA, Maryland, and Charles County plans align strongly around preservation and public access, Stafford County's plan reveals the structural limits of cross-jurisdictional planning for a resource that sits entirely within one state's waters but whose watershed and access points span two states.

Comparative Case Study: Thunder Bay National Marine Sanctuary

The Thunder Bay National Marine Sanctuary (Thunder Bay) in Michigan provides a structured comparison for understanding how comprehensive planning supports coordination among federal, state, and local institutions. Designated in 2000, Thunder Bay was the first national marine sanctuary located entirely within state waters (NOAA, 2009). Thunder Bay features over 200 sunken ships fully submerged under the waters of Lake Huron (Fig. 4). Unlike Mallows Bay, which spans jurisdictional boundaries between two states, Thunder Bay operates within a single-state governance environment. This distinction is important because it allows the case to function as a controlled reference point. By examining how coordination functions in a single-state system, the analysis identifies governance mechanisms that may be transferable to more complex multi-state settings such as Mallows Bay.



[Image 4] NOAA, n.d. Underwater photo of a shipwreck in Thunder Bay

Thunder Bay's success is closely tied to the ability of Alpena County to embed the Sanctuary's goals into its local master planning framework. The Alpena County Master Plan (2019) serves as a comprehensive guide for land use, economic development, and resource conservation. It recognizes the Sanctuary as a defining feature of the region's identity and explicitly links its preservation to the county's broader vision for sustainable economic growth (Alpena County, 2019). The plan's language positions Lake Huron and Thunder Bay as essential community assets that anchor both natural resource management and tourism development. This alignment ensures that federal sanctuary objectives such as the protection and interpretation of maritime heritage resources are reinforced at the local level through zoning, infrastructure investment, and tourism policy.

Coordination among layers of government is institutionalized through a joint management model established by NOAA and the State of Michigan (NOAA, 2009). The Sanctuary is co-managed by NOAA's Office of National Marine Sanctuaries and the Michigan Historical Center. This model integrates federal scientific and interpretive expertise with state-level heritage management and education initiatives. The partnership is mirrored at the local level through Alpena County's planning and economic development structures, which prioritize collaboration with the Thunder Bay's leadership to ensure consistency between land-use policy and the sanctuary's objectives (Alpena County, 2019).

Thunder Bay illustrates how comprehensive planning can extend beyond environmental management to include infrastructure. Alpena County's Master Plan prioritizes investments that support the Thunder Bay's educational

and interpretive mission. One example is the fiber optic consortium created by NOAA, Alpena County, and Alpena Community College. This partnership expands digital connectivity among local institutions, improving data sharing, supporting classroom and field programs, and strengthening sanctuary research capacity (Alpena County, 2019). The consortium demonstrates how a comprehensive plan can guide capital projects to complement federal science and education efforts.

The Sanctuary's collaboration with Alpena Community College also reflects the integration of planning, education, and economic development. NOAA's engagement has helped establish an associate degree in Marine Technology, which trains students in underwater robotics, remote sensing, and maritime archaeology (Alpena County, 2019). This partnership links sanctuary management to workforce readiness, providing a model for how local educational institutions can reinforce the goals outlined in both the Sanctuary's management plan and the county's comprehensive plan.

Thunder Bay shows how heritage preservation can strengthen a local economy. The Sanctuary and its partners branded Alpena as home to the "Sanctuary of the Great Lakes," using national visibility to draw visitors and new investment. This strategy directly supports the county's tourism and economic priorities outlined in its master plan, which identifies waterfront revitalization and heritage-based tourism as central to long-term growth (Alpena County, 2019). Public and private investments have improved trails, waterfront areas, and visitor services, creating a more accessible and attractive destination. The Great Lakes Maritime Heritage Center plays a central role. It is open year-round, attracts thousands of visitors, and hosts exhibitions and public programs that encourage longer stays and local spending (Alpena County, 2019). These efforts link cultural preservation to economic activity by advancing the county's strategic goals for waterfront renewal and small business development.

Thunder Bay's governance structure also offers lessons for multi-jurisdictional management at Mallows Bay. A Joint Management Committee made up of NOAA and state officials oversees policy and budget decisions to keep federal and state priorities aligned (NOAA, 2009). The Sanctuary Advisory Council adds a second layer of input by bringing together local officials, educators, historians, and business leaders. Together, these bodies create a transparent system that supports public trust and adaptive management (NOAA, 2009). Thunder Bay also uses an interpretive enforcement approach emphasizing education over penalties. The Sanctuary collaborates with charter operators and tourism businesses to promote responsible behavior and voluntary stewardship. This aligns with Alpena County's public education and community partnership goals, demonstrating how local planning can support non-regulatory conservation strategies. The contrast between Thunder Bay's integrated planning structure and the historically uneven engagement observed in Stafford County reinforces the importance of early stakeholder inclusion in multi-jurisdictional resource management.

Lessons for Mallows Bay

The applicability of Thunder Bay's governance model to Mallows Bay requires consideration of jurisdictional context. Thunder Bay operates within a single state, allowing for streamlined coordination between federal and state agencies. In contrast, Mallows Bay spans two states with independent legal frameworks and planning priorities. This difference introduces additional procedural complexity, particularly in shoreline regulation and land-use authority. Despite this structural distinction, Thunder Bay demonstrates how clearly defined coordination mechanisms and formal planning integration can strengthen multi-level governance systems.

Thunder Bay's experience provides several lessons for Mallows Bay. First, local comprehensive plans are most effective when they explicitly integrate sanctuary goals into land-use and economic development frameworks, creating a shared vision that transcends administrative boundaries (University of Delaware, 2018). Second, joint management structures and advisory councils can serve as stable platforms for coordination, provided that their roles are clearly defined in formal planning instruments (Morin, 2001). Third, economic and educational partnerships rooted in comprehensive planning demonstrate how conservation can serve as an engine for local capacity-building and regional identity (NOAA, 2009).

For Mallows Bay, these insights highlight the importance of aligning NOAA's Sanctuary Management Plan with Maryland's state resource strategies and county comprehensive plans. While Thunder Bay operates within a single state jurisdiction, its collaborative

governance model underscores how multi-level planning and stakeholder engagement can translate federal conservation into local benefits. By adapting these principles, Mallows Bay can strengthen its cross-jurisdictional coordination, improve public engagement, and ensure that comprehensive planning continues to serve as the central mechanism linking preservation, education, and sustainable development. The governance practices observed at Thunder Bay, particularly early stakeholder integration and formalized coordination mechanisms, provide a practical foundation for the recommendations that follow.

Recommendations for Strengthening Multi-Jurisdictional Management of Mallows Bay

Improving management of the Mallows Bay–Potomac River National Marine Sanctuary requires a coordinated system of actions that address both immediate administrative needs and longer-term institutional challenges. The following recommendations are organized to distinguish between short-term administrative actions that can be implemented within existing governance structures and longer-term structural changes that require sustained intergovernmental coordination.

Short-Term Administrative Actions:

1. Integrate Sanctuary Priorities Into Local Planning Frameworks

The first recommendation is to integrate Sanctuary priorities into local planning frameworks (Scarlett & McKinney, 2016). Future updates to the Charles County Comprehensive Plan provide the clearest opportunity to strengthen local implementation of sanctuary goals. The county already supports many of the Sanctuary's conservation and recreation objectives, but these links should be stated directly in the next plan update. Planners can incorporate references to the Final Management Plan in the environmental resources and cultural heritage sections, and update zoning and shoreline regulations to reflect NOAA's current research on shoreline stability and habitat trends. These refinements would give county decision-makers a stronger basis for evaluating new proposals that affect the shoreline, water quality, or access to the Sanctuary. Stafford County should also add a section to its comprehensive plan that acknowledges Mallows Bay's importance. While Stafford does not manage sanctuary resources, its shoreline development patterns influence water conditions, and the county has the opportunity to capitalize on recreational experience in Mallows Bay.

2. Strengthen Ongoing Public Participation

The second recommendation is to strengthen ongoing public participation. Public trust remains central to the Sanctuary's long-term success (Suman et al. 1999). NOAA's Sanctuary Advisory Council already provides a strong foundation. Still, it can play a more active role by forming short-term working groups on issues such as visitation management, cultural interpretation, or water quality (Suman et al. 1999). These groups can engage specific user communities and bring more detailed recommendations into the formal planning and management process. The county and state can reinforce this structure by referencing SAC input during plan updates and by involving community partners in shoreline and recreation planning.

3. Build a Coordinated Monitoring and Data System

The third recommendation is to build a coordinated monitoring and data system. A shared data system would give all partners a stronger foundation for decision-making (James & Pavia, 2025). The Sanctuary's GIS platform should be linked to Maryland DNR water-quality systems and local shoreline monitoring programs so that all partners can reference the same ecological and cultural data. Over time, partners can adopt a small set of shared performance indicators, such as habitat conditions or visitor trends, and include them in their respective planning documents. This would allow agencies to identify issues early and adjust policies without waiting for formal plan revisions (James & Pavia, 2025). Partnerships with institutions like the College of Southern Maryland (CSM) and higher education institutions in Stafford County can support this work by expanding research and data-collection capacity (Alpena County, 2019). Creating formal agreements between NOAA, CSM, and county agencies would help sustain long-term monitoring even as staffing and budgets change.

Long-Term Structural Changes:

4. Establish a Cross-Border Coordination Forum

The fourth recommendation is to establish a cross-border coordination forum (Moote & Lowe, 2008). The absence of a formal mechanism that includes Virginia remains one of the most significant gaps in sanctuary governance.

A standing coordination group focused on the Lower Potomac River would address this problem directly. Representatives from NOAA, Maryland DNR, Virginia DNR, Charles County, and Stafford County could meet regularly to review shoreline projects, trail proposals, large land-use changes, and other actions that may affect the Sanctuary's watershed or public access. Embedding this review process in both counties' comprehensive plans would give it a stable role in long-term planning rather than relying on informal communication.

5. Connect Heritage Tourism to Long-Term Economic Planning

The fifth recommendation is to connect heritage tourism to long-term economic planning (US Bureau of Land Management & Maryland Department of Natural Resources, 2004). Mallows Bay's national profile positions it as a long-term tourism asset for Southern Maryland and Northern Virginia. Charles County can use upcoming economic development and parks planning cycles to strengthen these ties. Incorporating NOAA's Recreation and Tourism Action Plan into future county planning documents would support unified marketing, coordinated interpretation, and responsible public access. Investments in wayfinding, enhanced parking, and small-scale amenities at Mallows Bay Park can be phased in as visitation grows (US Bureau of Land Management & Maryland Department of Natural Resources, 2004). Coordinating with Stafford County on regional paddling routes or heritage corridors would also improve the visitor experience while cutting down on regulatory burdens.

6. Approach Comprehensive Plans As Flexible And Evolving Tools

Finally, all partners should approach their comprehensive plans as flexible, evolving tools rather than static documents (Scarlett & McKinney, 2016). Regular updates, clear performance measures, and consistent communication across agencies would help maintain alignment as conditions change. Each plan should reference Mallows Bay directly, note shared priorities, and outline a process for reviewing potential conflicts. This approach would help ensure that land-use decisions, shoreline investments, and resource management efforts remain consistent across borders.

If implemented together, these recommendations would help build a more coordinated system that connects federal policy, state resource management, and county land-use authority. Mallows Bay would become an example of how comprehensive planning can guide shared stewardship, protect cultural and ecological resources, and support community development within a complex jurisdictional landscape.

Conclusion

The Mallows Bay–Potomac River National Marine Sanctuary demonstrates how comprehensive plans serve as the backbone of intergovernmental coordination. The alignment of federal, state, and county planning frameworks has enabled significant progress in habitat protection, education, and heritage tourism, yet structural challenges remain. Stafford County is largely disconnected from the management and future planning of Mallows Bay. The Virginia county with direct access to the water does not currently address and plan for tourism and economic opportunities, while its development activity burdens the Sanctuary with increased risk of pollution and disruption of the natural landscape. To address these issues, Stafford County must be more engaged with Mallows Bay by embedding sanctuary objectives into comprehensive plan updates and institutionalizing cross-border collaboration. The key to a long-lasting sanctuary that balances conservation with recreation, tourism, and economic development is to overcome the multi-jurisdictional complexities of management and collaboratively plan for Mallows Bay in a way that balances conservation and community development, setting a precedent for integrated resource management nationwide.

References

Alpena County MI. (2019, July). Alpena County Master Plan 2019. https://www.discovernortheastmichigan.org/downloads/alpena_community_master_plan_ 0719_draft_sm.pdf

Charles County MD. (2016, July). The Charles County Comprehensive Plan. https://www.charlescountymd.gov/home/showpublisheddocument/3674/63795817784603 0000

Charles County MD. (2022, June). Charles County Land Preservation, Parks & Recreation Plan. https://dnr.maryland.gov/land/Documents/Stewardship/2022-LPPRP-Charles-County-Fin al.pdf

Charles County, MD. (2024). MALLOWS BAY POTOMAC RIVER NATIONAL MARINE SANCTUARY Feasibility Study for a new Visitor Center. https://www.charlescountyparks.com/home/showpublisheddocument/27035/6387366615 14000000

James, L., & Pavia, R. (2025). Examples of ecosystem-based management in national marine sanctuaries moving from theory to practice. Noaa.gov. https://repository.library.noaa.gov/view/noaa/10730

Joseph Ward, M. (2017, March 31). [Letter to John Armor & NOAA Office of National Marine Sanctuaries].

Maryland Department of Natural Resources. (2011). Green Infrastructure Mapping. Maryland Department of Natural Resources. https://dnr.maryland.gov/land/Pages/Green-Infrastructure-Mapping.aspx

Maryland Department of Natural Resources. (2014). Mallows Bay National Marine Sanctuary Nomination Package. https://nmsnominate.blob.core.windows.net/nominate-prod/media/documents/nomination _maryland_mallows_bay_potomac_river.pdf

Milde, P. (2017, March 31). Mallows Bay – Potomac River Marine Sanctuary Designation Proposal – NOAA-NOS-2016-0149-0001 [Letter to Paul Orlando & NOAA Chesapeake Bay Office].

Moote, A., & Lowe, K. (2008). What to Expect from Collaboration in Natural Resource Management: A Research Synthesis for Practitioners. https://openknowledge.nau.edu/id/eprint/1281/1/Moote_Lowe_2008_ERIWhitePaper_W hatToExpectFromCollaboration.pdf

Morin, T. (2001). Sanctuary Advisory Councils: Involving the Public in the National Marine Sanctuary Program. Coastal Management, 29(4), 327–339. https://doi.org/10.1080/089207501750475145

NOAA. (2009). Thunder Bay National Marine Sanctuary Management Plan. https://nmsthunderbay.blob.core.windows.net/thunderbay-prod/media/archive/pdfs/mana gement%20plan_final.pdf

NOAA. (2019). Mallows Bay -Potomac River National Marine Sanctuary Designation Final Environmental Impact Statement and Final Management Plan. https://nmssanctuaries.blob.core.windows.net/sanctuaries-prod/media/docs/2019-mallows -bay-potomac-river-nms-designation-feis-fmp.pdf

Scarlett, L., & McKinney, M. (2016). Connecting people and places: the emerging role of network governance in large landscape conservation. Frontiers in Ecology and the Environment, 14(3), 116–125. https://doi.org/10.1002/fee.1247

Stafford County, VA. (2021, November). Stafford County, VA, Comprehensive Plan. https://cdn.staffordcountyva.gov/Planning%20and%20Zoning/long%20range/COMP%20 PLAN%202023_05_16%20FINAL%20ENTIRE%20DOCUMENT.pdf?t=202307180917 540&t=202307180917540

State of Maryland. (2011). PlanMaryland Progress Report. https://planning.maryland.gov/Documents/Our-Engagement/773/2011/MDP_PlanMaryla ndProgressReport.pdf

Suman, D., Shivlani, M., & Walter Milon, J. (1999). Perceptions and attitudes regarding marine reserves: a comparison of stakeholder groups in the Florida Keys National Marine Sanctuary. Ocean & Coastal Management, 42(12), 1019–1040. https://doi.org/10.1016/s0964-5691(99)00062-9

University of Delaware. (2018). Parks and Recreation Master Planning | Planning for Complete Communities in Delaware. https://www.completecommunitiesde.org/parks-rec-master-planning/

US Bureau of Land Management, & Maryland Department of Natural Resources. (2004, September). Lower Potomac River Approved Coordinated Management Plan. https://eplanning.blm.gov/public_projects/106802/200252155/20047156/250053341/Low er_Potomac_River_ApprovedCMP_508.pdf