

Justification for Class SA Designation: Documentation of Chandler Bay as an Outstanding Natural Resource through Geographic, Conservation, and Public Use Analysis

By

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Date: October 19, 2025

Amended: February 20, 2026

1. Introduction

This analysis is provided to definitively address previous testimony to the Department of Environmental Protection (DEP), where it was indicated that the Chandler Bay Region lacked extension surrounding conserved land and protected resources typically associated with an Outstanding Natural Resource designation and the corresponding Class SA water quality standard.

The primary purpose of this report is to compile and present a comprehensive, GIS-derived inventory of the conserved land, protected uplands and high-value recreational sites adjacent to and within the immediate watershed of Chandler Bay. This documentation quantitatively demonstrates the overwhelming presence of permanent conservation projects, including state-owned lands, municipal parks and high-protection of private easements in the vicinity of the proposed reclassification area.

This evidence confirms that the existing land-use pattern and the resulting high ecological integrity of the Chandler Bay watershed meet and exceed the statutory requirements for designation as an Outstanding Natural Resource. The data presented in the following sections establishes a clear and undeniable compatibility between the conserved terrestrial environment and the proposed Class SA water quality classification.

2. Purpose and Regional Setting Overview

This supporting appendix provides detailed, GIS-derived documentation of the conservation lands, surrounding habitats, and recreational resources associated with Chandler Bay to support the proposed water reclassification from **Class SB to Class SA**.

The analysis focuses specifically on **land ownership, habitat connectivity, and the ecological and social value** of adjacent protected areas within three defined impact tiers, based on proximity and hydrologic influence. This data serves as critical supporting evidence that the region's existing land-use pattern meets the statutory requirement of being an "outstanding natural resource."

Regional Context: Chandler Bay is located on the Downeast coast of Washington County, a region characterized by a vast interconnected network of conserved coastal ecosystems. The area's ecological integrity is guaranteed by extensive land protection, including state-owned lands, municipal parks, and numerous private conservation easements. This high level of terrestrial protection, combined with multiple public access points and recreational sites, underpins the region's pristine water quality.

3. Ecological Significance and Considerations

The Downeast coast of Maine, specifically within the Wohoa Bay, Roque Bluffs, and Great Wass Archipelago Focus Areas, represents a unique and highly productive concentration of ecologically significant habitats. These areas are characterized by a rare assemblage of coastal plateau bogs, expansive eelgrass meadows, and productive tidal marshes of statewide significance.

Ecological Significance & Focus Area Overview

While these focus areas sit adjacent to the direct project site, current hydraulic models indicate that nitrogen and other discharge components would move into these Tier 2 and Tier 3 zones based on tidal currents and shared watershed borders

- **Wohoa Bay:** Dominated by expansive eelgrass beds and tidal mudflats, it serves as a critical nursery for fish and shellfish. It features a Coastal Plateau Bog Ecosystem, a peatland type found nowhere else in North America except a narrow strip of the Maine coast.
- **Roque Bluffs:** Notable for its 230-acre Englishman River Tidal Marsh and intact peatlands. The lack of human disturbance over the last 60 years and high species composition make it a critical ecological resource of statewide significance.
- **Great Wass Archipelago:** Defined by heavy fog and low temperature variations, it contains one of the state's finest collections of coastal plateau bogs and Maine's two largest jack pine woodlands. It is identified as one of the richest intertidal marine systems in the state.

Conservation Considerations and Ecological Services

The ecological services provided by these focus areas are essential for maintaining the regional biodiversity and the local economy.

- **Ecological Services and Contributions:** The Maine Department of Inland Fisheries and Wildlife (MDIFW) identifies these areas as vital for both ecological stability and regional economic interests. These habitats provide:
 - **Shoreline Stabilization and Nutrient Cycling:** Eelgrass beds dampen wave energy, stabilize sediments, and buffer the shoreline against erosion while cycling essential nutrients.
 - **Nursery and Foraging Grounds:** The intertidal mudflats and eelgrass meadows serve as essential nursery grounds for fish and shellfish.
 - **Commercial Resources:** The area supports productive mudflats for commercially harvestable bloodworms and sandworms, providing significant value to the local marine economy.
- **Conservation Considerations (Maine State Recommendations):** To maintain the ecological integrity of these focus areas, the state provides specific management recommendations:
 - **Hydrologic Integrity:** Maintain the natural hydrologic regime by avoiding the drainage or impoundment of wetlands, streams, or adjacent water bodies.
 - **Pollution Prevention:** Limit the use of pesticides and manage nutrient enrichment to prevent the degradation of fragile intertidal systems.
 - **Buffer Maintenance:** Maintain intact forested buffers along water bodies and wetlands to protect sensitive features and water quality.
 - **Resource Protection:** Because eelgrass is highly sensitive to nutrient enrichment and pollution, conservation of this resource is paramount for the health of regional fish populations.

Impact of Nutrient Enrichment and Nutrient Movement

The proposed Kingfish Maine facility is projected to discharge 28.7 million gallons per day (mgd) of treated wastewater into Chandler Bay. This volume introduces substantial nitrogen loads into a sensitive environment that is hydrologically connected to the focus areas.

- Macroalgal Proliferation: Research by Shaw et al. (2018) demonstrates that opportunistic macroalgae (*Ulva spp.*) accumulate in response to nitrogen enrichment. When total nitrogen (TN) levels exceed 0.48 mg/L, bottom coverage often exceeds 20%, shifting dominance from rooted plants to drift macroalgae.
- Eelgrass Mortality: Studies by Short and Burdick (1996) and Goldsborough (1997) quantify the loss of eelgrass habitat in relation to nitrogen loading. High nutrient levels facilitate algal blooms that block light and alter sediment chemistry, leading to significant eelgrass mortality.
- Biotic Degradation: Kennish (1997/1998) notes that land-based aquaculture discharge can result in harmful algal blooms (HABs) that degrade the nursery habitats and biotic communities identified as significant within these focus areas.

Rare Plants, Animals, and Habitat Types in Surrounding Areas (Tier II and III)

These focus areas support a variety of rare plants and animals that rely on undisturbed, high-water-quality environments.

Area	Rare Animals	Rare Plants & Significant Wildlife Habitats	Rare & Exemplary Natural Communities
Wahoa Bay	Bald Eagle Crowberry Blue	Inland Wading Bird and Waterfowl Habitat Tidal Wading Bird and Waterfowl Habitat Shorebird Areas	Coastal Plateau Bog Ecosystem
Roque Bluffs	Crowberry Blue Purple Sandpiper	Gaspé Arrow-grass Tidal Wading Bird and Waterfowl Habitat Shorebird Area	Brackish Tidal Marsh Coastal Plateau Bog Ecosystem Maritime Huckleberry Bog
Great Wass Archipelago	Crowberry Blue Harlequin Duck Purple Sandpiper Rambur's Forktail Razorbill Spot-winged Glider	Bird's-eye Primrose Blinks Marsh Felwort Nova Scotia False-foxglove Tidal Waterfowl and Wading Bird Habitat Seabird Nesting Island	Black Spruce Woodland Coastal Plateau Bog Ecosystem Downeast Maritime Shrubland Jack Pine Woodland Maritime Slope Bog Maritime Spruce - Fir Forest Open Headland

Ecological Impact of Neglect

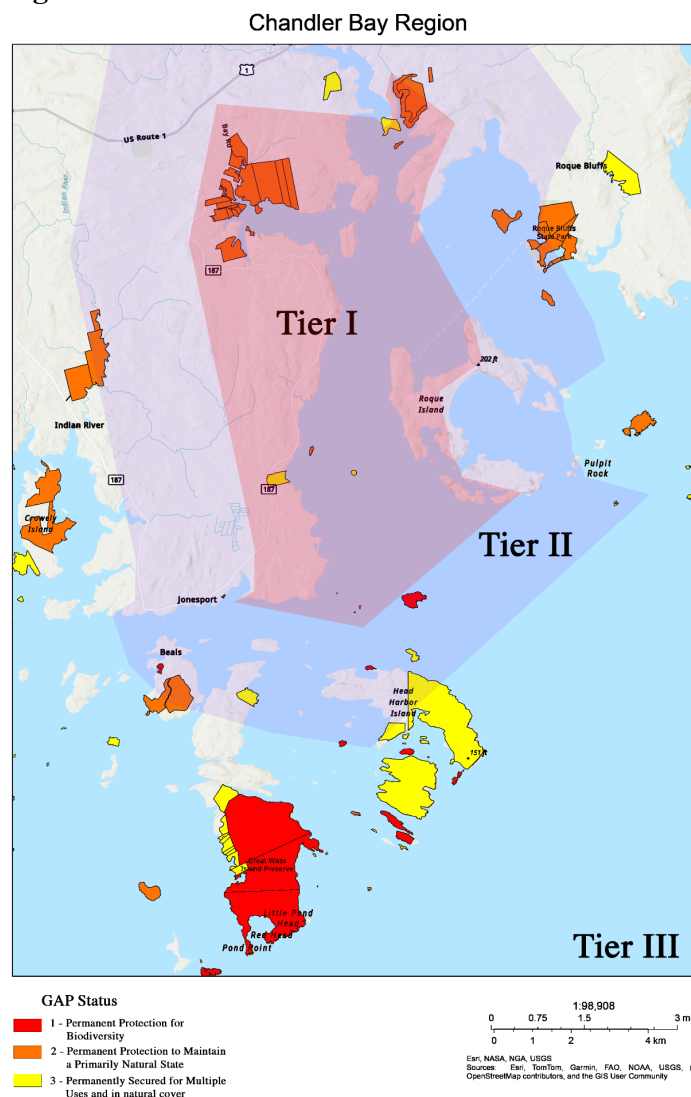
Failing to maintain the chemical and hydrologic integrity of these areas results in quantifiable ecological degradation. The introduction of nutrient-rich discharge into these Tier 2 and Tier 3 zones risks the irreversible alteration of Coastal Plateau Bog Ecosystems, which are globally rare. Increased nitrogen levels trigger a phase shift in primary production, where productive eelgrass meadows are replaced by opportunistic macroalgae. This shift leads to sediment instability and the loss of essential fish habitat (EFH) for species such as Atlantic cod and American lobster. Furthermore, habitat degradation threatens the survival of the Crowberry Blue butterfly, a specialist species restricted to the coastal heathlands of these specific focus areas. Industrial-scale nutrient enrichment effectively undermines established state conservation goals and the long-term biological integrity of the Downeast coastal ecosystem.

4. Geographic Scope and Tiered Analysis

For clarity and management purposes, the Chandler Bay region has been divided into three tiers of ecological and administrative relevance (Figure 1). This tiered framework employs a rigorous geographic analysis to spatially define the area of influence of the surrounding watershed on the bay's water quality, ensuring comprehensive ecological protection.

Tier	Definition	Description / Significance
Tier I	Within the proposed Chandler Bay reclassification polygon	Represents the immediate area proposed for SA designation; includes sensitive habitats, extensive eelgrass beds, and critical salmon-supporting waters, demanding the highest water quality standard.
Tier II	Within two miles of the Chandler Bay polygon	Encompasses adjacent coves, islands, and shorelines hydrologically connected to Chandler Bay. These areas provide essential ecological buffering, nursery habitats, and filter runoff.
Tier III	Beyond two miles, including connected bays	Represents the larger coastal system affected by currents, nutrient exchange, and the broader watershed. This tier is important for assessing cumulative habitat protection and long-term land-use stability

Figure 1.



5. Appendix A: Conservation Lands Data Summary (GIS-Derived Totals)

This table summarizes the total conserved acreage and protection status within each tier, demonstrating the overwhelming land-use compatibility with SA standards.

Data Field	Tier 1: Immediate Zone (Within Reclassification Polygon)	Tier 2: Intermediate Zone (Within 2 Miles)	Tier 3: Extended Zone (Potential Impact Zone)
Total Projects	30	22	46
Total Acres (by GIS)	938.76 acres	1353.58 acres	2877.28 acres
Projects with GAP Status 1 or 2 (High Protection)	26 (87% of Projects)	14	23
Interest Type: Private	25	14	30
Interest Type: State	10	9	24
Interest Type: Federal	0	1	1
Interest Type: Municipal	0	1	0

GAP Status Definitions:

GAP Status 1: Areas managed for biodiversity where natural disturbances are allowed to proceed (Highest Protection).

GAP Status 2: Areas managed for biodiversity where natural disturbance is suppressed.

GAP Status 3: Areas protected from land cover conversion but subject to extractive uses such as logging and mining.

6. Detailed Conservation Lands Parcel Data

The comprehensive, parcel-by-parcel data for all conservation lands, including Landholder, GIS Acreage, Tier, GAP Status, and Interest Type, is provided in a separate, complete table located at the end of the main report (Appendix B).

7. Public Recreation Sites in the Area of Influence (Near Kingfish Site)

These recreational sites highlight the social value of the area and the necessity of the SA designation. They are situated in the area of influence of the proposed reclassification and near the Kingfish Maine project site.

Recreation Site/ Public Access Opportunities	Ownership / Management	Description /Relation to Chandler Bay
Roque Bluffs State Park & Beach	State of Maine, MBPL	Key protected natural resource providing beaches (including Roque Bluffs Beach), trails, and conserved uplands. Represents a primary public

		destination for swimming and coastal access.
Englishman's River	MDIFW	A critical recreational corridor for small craft navigation and wildlife viewing. The river's discharge directly influences the northern reaches of the bay's water chemistry and serves as a vital entry point for coastal exploration
Sandy River Beach & Picnic Area	Municipally Owned (Town of Jonesport)	Highly utilized public access point for swimming, picnicking, and hand-carry boat launching on the adjacent shorefront.
Little Pond Beach/ Pobblestone Cove	Municipally Owned (Town of Jonesport)	Two additional locally-known beach and swimming areas, demonstrating high utilization of the nearshore coastal environment.
Henry Point	Municipally Owned (Town of Jonesport)	Coastal site used for public camping and fishing access, with permanent facilities and shorefront access.
Beals Town Park	Municipally Owned (Town of Beals)	A local community park and public access point that contributes to the regional recreational network.
Sawyer Cover Boat Ramp	State / Town	Primary public boat launch providing recreational access to Chandler Bay.
Chandler Bay & Alley Bay Launches	Various / Local Access	Additional public and private boat launch points providing critical water access for commercial fishing, recreation, and regional navigation.
Crowley Island, Inner Goose Island	MDIFW	State-managed islands and shorelines that support nature-based recreation, birdwatching, and primitive coastal exploration in a largely undisturbed environment.
Indian River Island	MBPL	A state-owned island providing a "wild" coastal experience for the regional boating community while protecting the viewshed and water quality of the Indian River estuary.
Great Wass Island Preserve	The Nature Conservancy (Private conservation)	Large, permanently conserved area offering miles of hiking trails and undeveloped shorefront adjacent to the proposed SA waters.
Black Island Preserve, Knight Island Preserve, & Mistake Island	The Nature Conservancy (Private conservation)	Private conservation islands that allow for public coastal access, offering unique hiking and wildlife viewing opportunities within the regional archipelago

Appendix B.

Tier	Object ID	Project	Parcel Name	Designation	Interest 1 Name	Interest 1 Type	GIS Acreage	GAP Status	Public Access	Purpose 1	Purpose 2	Interest 2 Name	Interest 2 Type
1	132	Virgin's Breast			DCC	Private	0.28	2	Contact landowner				
1	337	Alan E. Hutchinson WMA	Ballast Island Farnsworth Lot	State Wildlife Management Area	MDIFW	State	3.47	3	Contact landowner	Conservation/ Wildlife			
1	400	Mason Bay	LaBelle-Upper White	Private Conservation Lands	MCHT	Private	26.95	2	Allowed for general uses	Conservation/ Wildlife	Open Space		

1	580	Mason Bay	Gardner	Private Conservation Lands	MCHT	Private	16.07	2	Allowed for general uses	Conservation/Wildlife	Open Space		
1	861	Windrise Farm			DCC	Private	33.12	3	Contact landowner				
1	2943	Mason Bay	Waite-Southwest Creek	Private Conservation Lands	MCHT	Private	70.30	2	Allowed for general uses	Conservation/Wildlife	Open Space		
1	4255	Mason Bay	Dougherty	Private Conservation Lands	MCHT	Private	2.19	2	Contact landowner	Conservation/Wildlife	Open Space		
1	4542	Mason Bay	Virginia Beal	Private Conservation Lands	MCHT	Private	18.69	2	Allowed for general uses	Conservation/Wildlife	Open Space		
1	5022	Tide Mill Creek		Nature Preserve / Reserve / Sanctuary	DCC	Private	112.26	2	Allowed for general uses				
1	5043	Mason Bay	Blueberry Shores	Private Conservation Lands	MCHT	Private	2.24	2	Contact landowner	Conservation/Wildlife	Open Space		
1	5257	Mason Bay	Kennedy-Meadow Brook	Private Conservation Lands	MCHT	Private	26.17	2	Allowed for general uses	Conservation/Wildlife	Open Space		
1	7365	Virgin Island		Coastal Island	BPL	State	0.12	3					
1	8219	Mason Bay	Bernard Beal	Private Conservation Lands	MCHT	Private	21.47	2	Allowed for general uses,	Conservation/Wildlife	Open Space		
1	8432	Mason Bay	B Beal Shorefront	Private Conservation Lands	MCHT	Private	3.84	2	Allowed for general uses	Conservation/Wildlife	Open Space		
1	9641	Mason Bay	LaBelle-Jonesboro Beaver Meadows	Private Conservation Lands	MCHT	Private	49.65	2	Allowed for general uses	Conservation/Wildlife	Open Space		
1	30482	Popplestone Beach	Popplestone Beach		MCHT	Private	38.62	3	Allowed for general uses	Recreational	Conservation/Wildlife		
1	54715	Tide Mill Creek	Poverty Island		DCC	Other	4.25	2	Contact landowner for additional information				
1	54717	Virgin's Breast			DCC	Other	0.56	2	Contact landowner				

1	59734	Mason Bay	Dowling	Private Conservation Lands	MCHT	Private	59.98	2	Allowed for general uses	Conservation/Wildlife	Open Space	MDIFW	State
1	59924	Tide Mill Creek		Nature Preserve / Reserve / Sanctuary	DCC	Private	73.13	2	Allowed for general uses			MDIFW	State
1	59944	Mason Bay	Bronfeld	Private Conservation Lands	MCHT	Private	54.42	2	Allowed for general uses	Conservation/Wildlife	Open Space	MDIFW	State
1	59966	Mason Bay	Chartier-Clay Point	Private Conservation Lands	MCHT	Private	7.01	2	Allowed for general uses	Conservation/Wildlife	Open Space:	MDIFW	State
1	59977	Mason Bay	Cormo	Private Conservation Lands	MCHT	Private	103.87	2	Allowed for general uses	Conservation/Wildlife	Open Space	MDIFW	State
1	60058	Mason Bay	Boncore	Private Conservation Lands	MCHT	Private	151.15	2	Allowed for general uses	Conservation/Wildlife	Open Space	MDIFW	State
1	65343	Mason Bay	Spakowski	Private Conservation Lands	MCHT	Private	8.80	2	Allowed for general uses	Conservation/Wildlife	Open Space		
1	65344	Mason Bay	Elsner-Skillin	Private Conservation Lands	MCHT	Private	26.28	2	Allowed for general uses	Conservation/Wildlife	Open Space		
1	65345	Mason Bay	Harris	Private Conservation Lands	MCHT	Private	5.38	2	Allowed for general uses	Conservation/Wildlife	Open Space		
1	65346	Mason Bay	Elsner	Private Conservation Lands	MCHT	Private	8.91	2	Allowed for general uses	Conservation/Wildlife	Open Space:		
1	68578	Mason Bay	Rowse-Bay Ridge Point	Private Conservation Lands	MCHT	Private	5.91	2	Allowed for general uses	Conservation/Wildlife	Open Space:	MDIFW	State
1	75472	Bar Island Jonesport	Bar Island Jonesport	Private Conservation Lands	MCHT	State	3.67	2	Allowed	Community	Conservation/Wildlife		
2	2169	Little Hardwood Island Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	5.24	1	Contact landowner for additional information	Conservation/Wildlife			
2	4697	Tide Mill Creek Preserve	Tide Mill Creek 2		DCC	Private	8.14	2	Allowed for general uses				

2	6699	Head Harbor Island 1 and 2 Easements		Private Conservation Lands	The Nature Conservancy	Private	564.79	3	Contact landowner	Conservation/Wildlife			
2	7195	GWI Archipelago, Seguin Island Easement		Private Conservation Lands	The Nature Conservancy	Private	13.15	3	Contact landowner	Conservation/Wildlife			
2	7586	Frost Homestead			DCC	Private	6.55	3	Contact landowner				
2	8641	Head Harbor Island 1 and 2 Easements		Private Conservation Lands	The Nature Conservancy	Private	47.04	3	Contact landowner	Conservation/Wildlife			
2	8772	Great Wass Island Macrosite, Mark Island Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	39.17	1	Contact landowner	Conservation/Wildlife			
2	9432	Helliwell Park		Nature Preserve / Reserve / Sanctuary	Maine Minor Civil Division	Municipal	37.79	3	Allowed for general uses			The Nature Conservancy	Private
2	10769	Head Harbor Island Preserve	Maine Coast Heritage Trust		The Nature Conservancy	Private	4.35	1	Contact landowner				
2	21104	Seaduck Point	Seaduck Point.(E)	Private Conservation Lands	MCHT	Private	112.49	2	Allowed for general uses. Restricted	Ecological		Recreational	
2	21105	Seaduck Point	Seaduck Point.(W)	Private Conservation Lands	Maine Coast Heritage Trust	Private	60.62	2	Allowed for general uses. Restricted	Ecological		Recreational	
2	67372	Pond Cove Island	Pond Cove Island	State Park Property	BPL	State	52.64	2	Allowed for general uses				
2	76167	Dowling	Dowling	Conservation Easement	DCC	Private	48.53	3	Contact landowner for additional information: Do not promote/publish without permission				
2	76168	Dowling	Dowling	Conservation Easement	DCC	Private	1.21	3	Contact the landowner. Do not promote /publish without permission			BPL	State

2	7656	Roque Bluffs State Park	Delia Houghton	State Park	BPL	State	143.39	2	Allowed for general uses					
2	8777	Roque Bluffs State Park	Robert Adam	State Park	BPL	State	25.61	2	Allowed for general uses					
2	7818	Roque Bluffs State Park	Barbara Messer	State Park	BPL	State	1.64	2	Allowed for general uses					
2	8916	Roque Bluffs State Park	Clayton and Paula Morse	State Park	BPL	State	0.37	2	Allowed for general uses					
2	9101	Roque Bluffs State Park	Pine Acres Inc	State Park	BPL	State	2.09	2	Allowed for general uses					
2	3764	Maine Coastal Islands NWR	Tract 304	National Wildlife Refuge	US Fish and Wildlife Service	Federal	16.57	2	Contact landowner					
2	8476	Alan E. Hutchinson WMA	Pulpit Rock	State Wildlife Management Area	MDIFW	State	1.65	3	Contact landowner	Conservation /Wildlife		BPL	State	
2	68981	Indian River Conservation Area	Farnsworth		DCC	Private	141.09	2						
2	68983	Indian River Conservation Area	Farnsworth North		DCC	Private	19.46	2						
3	1132	Treasure Devils Island		Coastal Island	BPL	State	0.30	3						
3	1450	GWI Macrosite, Mistake Island Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	20.90	1	Contact landowner	Conservation /Wildlife				
3	1898	Great Wass Island Archipelago, Cows Yard Easement		Private Conservation Lands	The Nature Conservancy	Private	3.56	3	Contact landowner	Conservation /Wildlife				
3	2733	Great Wass Island Preserve	Little Cape Point	Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	410.64	1	Allowed for general uses	Conservation /Wildlife				
3	2748	Little Cape		Coastal Island	BPL	State	0.41	3						
3	2888	Great Wass Island Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	441.46	1	Allowed for general uses	Conservation /Wildlife				
3	3720	Great Wass Island Archipelago, Cows Yard Easement		Private Conservation Lands	The Nature Conservancy	Private	3.89	3	Contact landowner	Conservation /Wildlife				
3	4283	GWI, Inner and Outer Man Islands Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	0.04	1	Contact landowner					

3	4793	Head Harbor Island Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	2.40	3	Contact landowner	Conservation /Wildlife			
3	5361	GWI Archipelago, Black Island Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	10.62	1	Contact landowner	Conservation /Wildlife			
3	5777	GWI, Inner and Outer Man Islands Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	4.44	1	Contact landowner				
3	5888	Great Wass Island Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	600.52	1	Allowed for general uses	Conservation /Wildlife			
3	5927	Island		Coastal Island	BPL	State	0.79	3					
3	6895	Steele Harbor Island Easement		Private Conservation Lands	The Nature Conservancy	Private	422.82	3	Contact landowner	Conservation /Wildlife			
3	7566	GWI, Inner and Outer Man Islands Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	2.86	1	Contact landowner				
3	8286	Alan E. Hutchinson WMA	Freeman Rock	State Wildlife Management Area	MDIFW	State	1.52	3	Contact landowner	Conservation /Wildlife		BPL	State
3	8327	Little Water Island	Little Water Island	Public Land	BPL	State	1.21	3					
3	8333	Island		Coastal Island	BPL	State	2.76	3					
3	8541	Great Wass Island Archipelago, Cows Yard Easement		Private Conservation Lands	The Nature Conservancy	Private	0.43	3	Contact landowner	Conservation /Wildlife			
3	8786	GWI, Inner and Outer Man Islands Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	0.16	1	Contact landowner				
3	8984	Great Wass Island Easements (Pres.)		Private Conservation Lands	The Nature Conservancy	Private	57.30	3	Contact landowner	Conservation /Wildlife			
3	9003	Brownney Island	Brownney Island	Coastal Island	DCC	Private	39.76	2	Contact landowner	Ecological		MCHT	Private
3	9584	GWI Macrosite, Knight Island Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	29.17	1	Contact landowner	Conservation /Wildlife			
3	9789	Great Wass Island Archipelago, Cows Yard Easement		Private Conservation Lands	The Nature Conservancy	Private	1.77	3	Contact landowner	Conservation /Wildlife			

3	10297	Little Cape		Coastal Island	BPL	State	0.10	3						
3	68178	Green Island	Green Island	Private Conservation Lands	MCHT	Private	3.75	2	Allowed for general uses	Conservation /Wildlife	Open Space			
3	2915	Roque Bluffs State Park	Unice Watts	State Park	BPL	State	0.62	2	Allowed for general uses					
3	1123	Roque Bluffs State Park	Howard Watts	State Park	BPL	State	1.54	2	Allowed for general uses					
3	7757	Roque Bluffs State Park	William Parker	State Park	BPL	State	42.15	2	Allowed for general uses					
3	417	Englishman's River	Duck Cove Lot	State Wildlife Management Area	MDIFW	State	132.89	3	Allowed for general uses					
3	3703	Maine Coastal Islands NWR	Halifax	National Wildlife Refuge	US Fish and Wildlife Service	Federal	59.62	2	Contact landowner	Conservation /Wildlife	Ecological	The Nature Conservancy	Private	
3	10017	Alan E. Hutchinson WMA	Green Island	State Wildlife Management Area	MDIFW	State	1.97	3	Contact landowner	Conservation /Wildlife		BPL	State	
3	1213	Alan E. Hutchinson WMA	West Brothers Island	State Wildlife Management Area	MDIFW	State	15.48	3	Contact landowner	Conservation /Wildlife				
3	9657	Alan E. Hutchinson WMA	Inner (Little) Ram Island	State Wildlife Management Area	MDIFW	State	13.09	3	Contact landowner	Conservation /Wildlife				
3	9003	Browney Island	Browney Island	Coastal Island	DCC	Private	39.76	2	Contact landowner	Conservation /Wildlife		MCHT	Private	
3	10856	Alan E. Hutchinson WMA	Crumple Island Ledge	State Wildlife Management Area	MDIFW	State	0.53	1	Contact landowner	Conservation /Wildlife		BPL	State	
3	7169	GWI Macrosite, Crumple Island Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	1.39	1	Contact landowner	Conservation /Wildlife				
3	4864	GWI Macrosite, Crumple Island Preserve		Nature Preserve / Reserve / Sanctuary	The Nature Conservancy	Private	24.29	1	Contact landowner	Conservation /Wildlife				
3	9741	Alan E. Hutchinson WMA		State Wildlife Management Area	MDIFW	State	0.68	3	Contact landowner]	Conservation /Wildlife		BPL	State	
3	2170	Alan E. Hutchinson WMA	Sea Duck Rock	State Wildlife Management Area	MDIFW	State	0.72	3	Contact landowner	Conservation /Wildlife		BPL	State	
3	8861	Alan E. Hutchinson WMA	Sevens Island Ledge	State Wildlife Management Area	MDIFW	State	0.64	3	Contact landowner	Conservation /Wildlife		BPL	State	
3	8896	Jerdens Island			DCC	Private	3.30		Contact landowner					
3	2988	Crowley Island			DCC	Private	60.84	3	Contact landowner					

3	59827	Crowley Island	Crowley Lot 98	Nature Preserve / Reserve / Sanctuary	Pleasant River Wildlife Foundation	Private	180.10	2	Allowed for general uses	Conservation /Wildlife:		MDIFW	State
3	59814	Crowley Island Phase II	Crowley Island Lot 90	Nature Preserve / Reserve / Sanctuary	Pleasant River Wildlife Foundation	Private	119.13	2	Allowed for general uses	Conservation /Wildlife		DEP	State
3	68980	Indian River Conservation Area	Crowley		DCC	Private	114.96	2					

Key of Abbreviations and Shortened Text

Interest name:

- DCC Downeast Coastal Conservancy
- DEP Maine Department of Environmental Protection
- MDIFW Maine Department of Inland Fisheries and Wildlife
- MCHT Maine Coast Heritage Trust
- BPL Maine Bureau of Parks and Lands

Public Access:

- Allowed for general uses Allowed for general uses, contact owner for details: Certain restrictions may apply - time, activity
- Allowed for general uses. Restricted allowed for general use, contact owner for details: Restricted by time of year - seasonal use, wildlife breeding seasons, environmental degradation during spring or wet season,

Purpose:

- Open Space: Provides open space in developed area
- Ecological: Ecological preservation
- Conservation/Wildlife: Seeks to protect ecosystem or specific wildlife
- Recreational: Used for outdoor recreation, including hiking, water activities, hunting, ATVs, or Snowmobiles

References

Focus Areas and Regional Conservation

- Maine Department of Agriculture, Conservation and Forestry. (n.d.). *Great Wass Archipelago Focus Area: Focus Areas of Statewide Ecological Significance*. Maine Natural Areas Program. https://www.maine.gov/dacf/mnap/focusarea/great_wass_archipelago_focus_area.pdf
- Maine Department of Agriculture, Conservation and Forestry. (n.d.). *Roque Bluffs Focus Area: Focus Areas of Statewide Ecological Significance*. Maine Natural Areas Program. https://www.maine.gov/dacf/mnap/focusarea/roque_bluffs_focus_area.pdf
- Maine Department of Agriculture, Conservation and Forestry. (n.d.). *Wohoa Bay Focus Area: Focus Areas of Statewide Ecological Significance*. Maine Natural Areas Program. https://www.maine.gov/dacf/mnap/focusarea/wohoa_bay_focus_area.pdf
- Maine Department of Inland Fisheries and Wildlife. (n.d.). *High value plant & animal habitats: East Machias*. Beginning with Habitat Map 2. <https://www.maine.gov/ifw/fish-wildlife/wildlife/beginning-with-habitat/maps/pdf/East%20Machias/East%20Machias%20Map%202.pdf>
- Maine Department of Inland Fisheries and Wildlife. (n.d.). *Maine conservation priorities: Statewide focus area map*. https://www.maine.gov/ifw/docs/reports_statewideFocus_areaMap.pdf
- U.S. Geological Survey. (n.d.). *GAP Status Code frequently asked questions*. Gap Analysis Project. <https://www.usgs.gov/programs/gap-analysis-project/gap-status-code-frequently-asked-questions-faq>

Nutrient Loading and Ecological Research

- Kennish, M. J. (1997). *Pollution impacts on marine biotic communities*. CRC Press. <https://doi.org/10.1201/9781003069003>
- Rose, K. A., Breitburg, D. L., Nixon, S. W., Enberg, K., Agostini, V. N., Boyer, J. N., ... & Zhang, J. (2011). Hypoxia, nitrogen, and fisheries: Integrating effects across local and global landscapes. *Marine and Coastal Fisheries*, 3(1), 153-174. <https://pubmed.ncbi.nlm.nih.gov/21141040/>
- Shaw, K. C., Howes, B. L., & Schlezinger, D. (2018). Macroalgal composition and accumulation in New England estuaries. *Journal of Environmental Management*, 206, 246-254. <https://pubmed.ncbi.nlm.nih.gov/29078118/>

Water Quality and Regulatory Submissions

- Eastern Maine Conservation Initiative. (2024). *Proposal for water quality upgrade: Chandler Bay*. Submitted for the 2024-2026 Triennial Review. https://www.maine.gov/dep/water/wqs/ProposalDocs/2024-2026/2024-TR_Upgrade_EMCI_ChandlerBay_.pdf
- Maine Department of Environmental Protection. (2024). *2024 Triennial review of water quality standards: Upgrade proposals*. https://www.maine.gov/dep/water/wqs/ProposalDocs/2024-2026/TR_DEP-UpgradeProposals.pdf
- Maine Department of Environmental Protection. (2024). *Triennial review of Maine's water quality standards: 2024 through 2026*. <https://www.maine.gov/dep/water/wqs/triennial-review.html>
- Maine Department of Environmental Protection. (n.d.). *Water quality re-classification initiative*. <https://www.maine.gov/dep/water/monitoring/classification/reclassification.html>
- New York State Department of Environmental Conservation. (n.d.). *Water quality standards and criteria*. <https://dec.ny.gov/environmental-protection/water/water-quality/standards-classifications>

Essential Fish Habitat (EFH) and National Marine Fisheries

- Mid-Atlantic Fishery Management Council. (2025). *2025 MAFMC EFH Review summary report*. https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/68557e99ff0e517354b80c69/1750433434172/2025_MAFMC_EFHReviewSummaryReport_Final.pdf
- National Marine Fisheries Service (NOAA Fisheries). (2022). *Habitat Council Correspondence re: Kingfish Maine, Inc. NAE-2020-1651*. Greater Atlantic Regional Fisheries Office. <https://d23h0vhs2606d.cloudfront.net/12.-220628-Habitat-Council-Correspondence.pdf>
- National Oceanic and Atmospheric Administration (NOAA). (n.d.). *Essential Fish Habitat designations: Omnibus Essential Fish Habitat Amendment 2*. https://d23h0vhs2606d.cloudfront.net/NEFMC_EFH_Designations.pdf
- National Oceanic and Atmospheric Administration (NOAA). (n.d.). *EFH and HAPC designations: Page 367-380*. https://www.habitat.noaa.gov/application/efhmapper/oa2_efh_hapc.pdf
- National Oceanic and Atmospheric Administration (NOAA). (n.d.). *Atlantic Salmon Essential Fish Habitat (EFH) map*. <https://www.habitat.noaa.gov/application/efhmapper/atlanticSalmonEFH.pdf>

Fisheries and Wildlife Management

- Hanson, C. H., White, J. R., & Li, H. W. (1977). Entrapment and impingement of fishes by power plant cooling-water intakes: An overview. *Marine Fisheries Review*, 39(10). <https://spo.nmfs.noaa.gov/sites/default/files/pdf-content/mfr39102.pdf>
- Maine Department of Marine Resources. (2023). *2022-2023 Maine scallop season overview*. <https://www.maine.gov/dmr/fisheries/commercial/fisheries-by-species/scallops/2022-23-maine-scallop-season-overview>

Maine Department of Marine Resources. (2024). *Maine 2023 commercial fisheries value increases more than \$25 million*.

<https://www.maine.gov/dmr/news/fri-03012024-1200-maine-2023-commercial-fisheries-value-increases-more-25-million>

Maine Department of Marine Resources. (n.d.). *Englishman Bay chart*. <https://www.maine.gov/dmr/sites/maine.gov/dmr/files/inline-files/Englishman%20Bay.jpg>

McKenzie, D. J., et al. (2003). The effects of acute hypoxia and hypercapnia on oxygen consumption of the freshwater European eel. *Journal of Fish Biology*.

<https://www.researchgate.net/publication/229443184> *The effects of acute and hypercapnia on oxygen consumption of the freshwater European eel*

Sargasso Sea Commission. (2015). *American Eel biological species report*. U.S. Fish and Wildlife Service.

[https://www.sargassoseacommission.org/storage/American Eel Biological Species Report USFWS 2015.pdf](https://www.sargassoseacommission.org/storage/American_Eel_Biological_Species_Report_USFWS_2015.pdf)

U.S. Fish and Wildlife Service. (n.d.). *Species profile for American Eel (Anguilla rostrata)*. Environmental Conservation Online System.

<https://ecos.fws.gov/ecp/species/7759>

Aquaculture Industry and Public Record

FirstNet Authority. (2025). *Nationwide Public Safety Broadband Network draft programmatic environmental impact statement: Chapter 6, Maine*.

https://broadbandusa.ntia.gov/sites/default/files/2025-07/Ch_6_ME_FN_East_Region.pdf

Fletcher, R. (2024). Kingfish farmer defeats latest legal bid to block RAS facility in Maine. *Land-Based AQ*.

<https://www.landbasedaq.com/kingfish-maine/kingfish-farmer-defeats-latest-legal-bid-to-block-ras-facility-in-maine/1812095>

Holland, J. (2023). Public, NGO resistance stiffens to RAS farms in France. *SeafoodSource*.

<https://www.seafoodsource.com/news/aquaculture/public-ngo-resistance-stiffens-to-ras-farms-in-france>

Ramsden, N. (2024). Land-based fish farming – Is the fish better off? *Deep Sea Reporter*.

<https://www.deepseareporter.com/land-based-fish-farming-is-the-fish-better-off/>

SeaWestNews. (2023). Aquaculture: Land-based salmon farms don't make dollars or sense say experts.

<https://seawestnews.com/aquaculture-land-based-salmon-farms-dont-make-dollars-or-sense-say-experts/>

Wolf, M. (2021). The Kingfish Company wants to lead a tech revolution in aquaculture. *The Spoon*.

<https://thespoon.tech/the-kingfish-company-wants-to-lead-a-tech-revolution-in-aquaculture/>