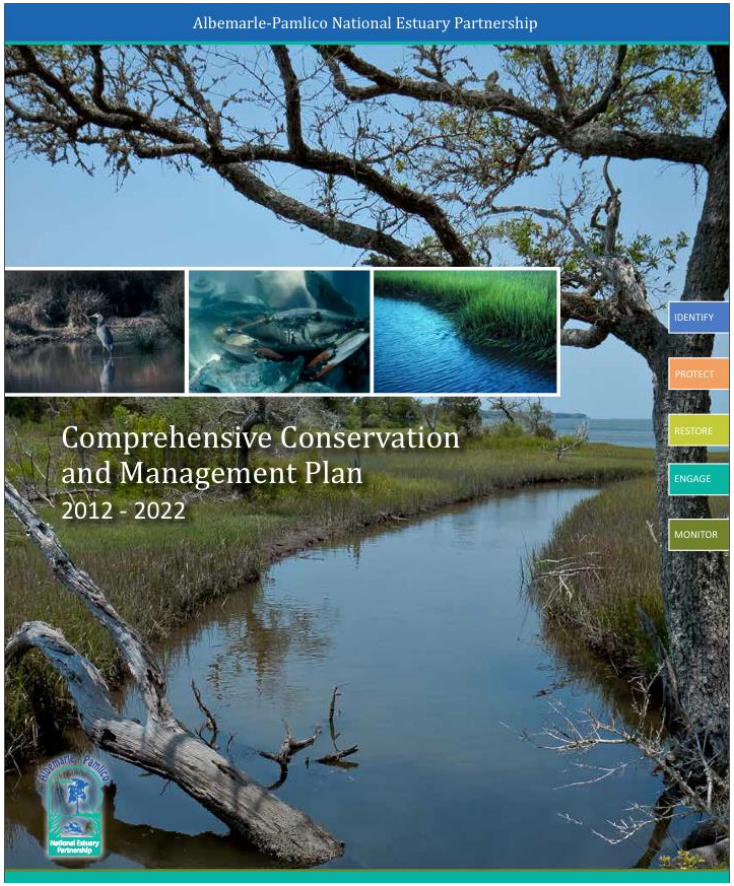
Implementing the 2012-2022 Comprehensive Conservation and Management Plan (CCMP)

Bill Crowell, Director

Albemarle-Pamlico National Estuary Partnership

EBM Track
Craven Boardroom
2:00 – 2:30pm

Comprehensive Conservation and Management Plan 2012-2022



Collaborative Actions for Protecting and Restoring the Albemarle-Pamlico Ecosystem

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APNEP Policy Board
APNEP Science and Technical Advisory Committee
APNEP Citizens' Advisory Committee
APNEP Management Advisory Committee
APNEP - EBM Steering Committee
Conservation Trust for North Carolina
East Carolina University
Elizabeth City State University
Environmental Defense Fund
National Oceanic & Atmospheric Administration
National Park Service
Nicholas Institute for Environmental Policy
NC Association of County Commissioners
NC Coastal Federation
NC Cooperative Extension
NC Department of Agriculture and Consumer Services
NC Department of Environment and Natural Resources
NC Division of Coastal Management
NC Division of Soil & Water Conservation
NC Division of Marine Fisheries
NC Division of Water Resources
NC Forest Service
NC League of Municipalities
NC National Estuarine Research Reserve
NC Office of Conservation, Planning, and Community Affairs
NC Office of Environmental Education & Public Affairs
NC Sea Grant
NC State University
NC Wildlife Federation
NC Wildlife Resources Commission
Partnership for the Sounds
Puget Sound Partnership
The Nature Conservancy - NC
The Nature Conservancy - VA
UNC Coastal Studies Institute
UNC-CH Institute for the Environment
UNC-CH Institute of Marine Sciences
US Environmental Protection Agency
US Fish & Wildlife Service
US Forest Service
US South Atlantic Landscape Conservation Cooperative
VA Department of Conservation and Recreation
VA Department of Environmental Quality
Virginia Institute of Marine Science
And many others…

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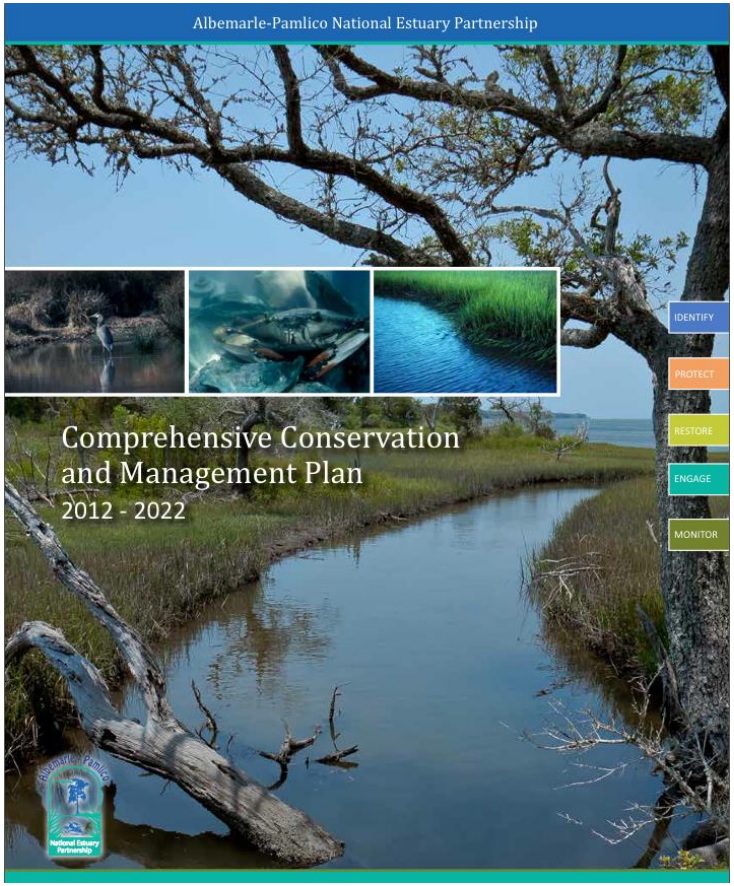

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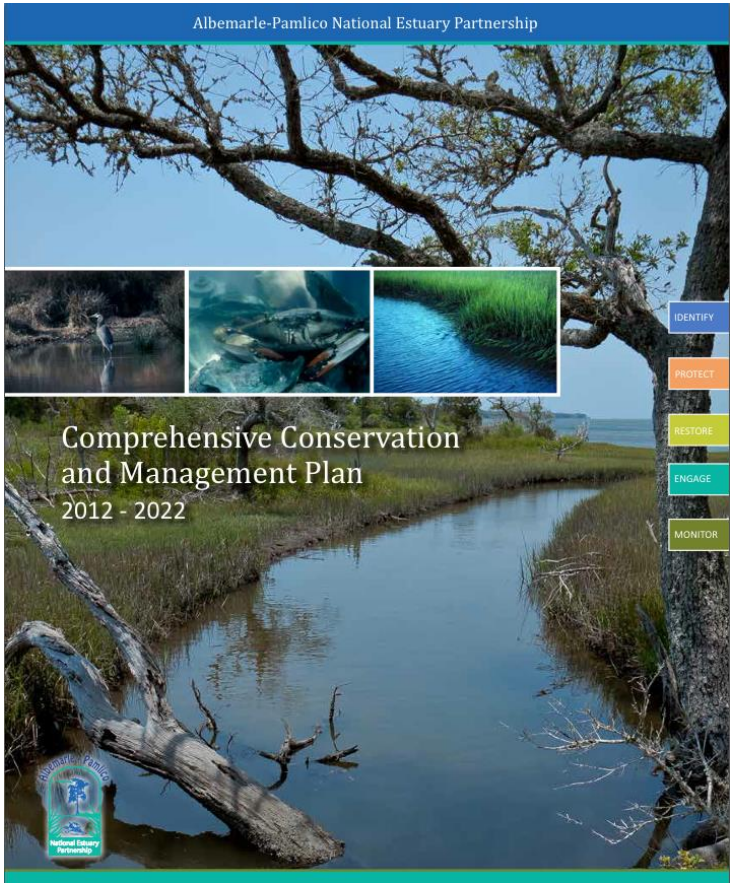

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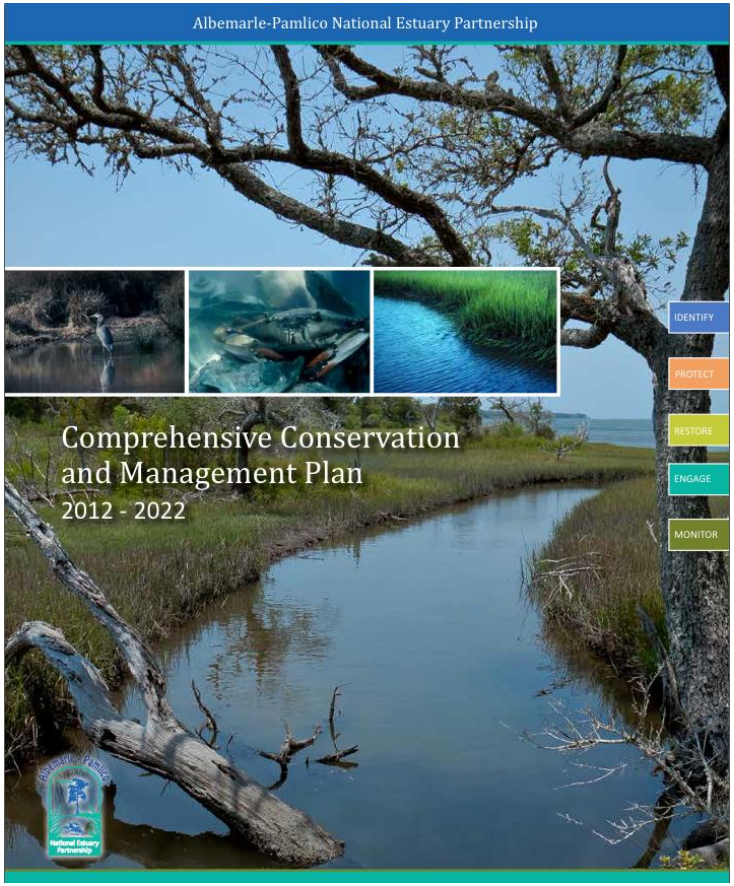

3 Goals

12 Ecosystem Outcomes

58 Actions

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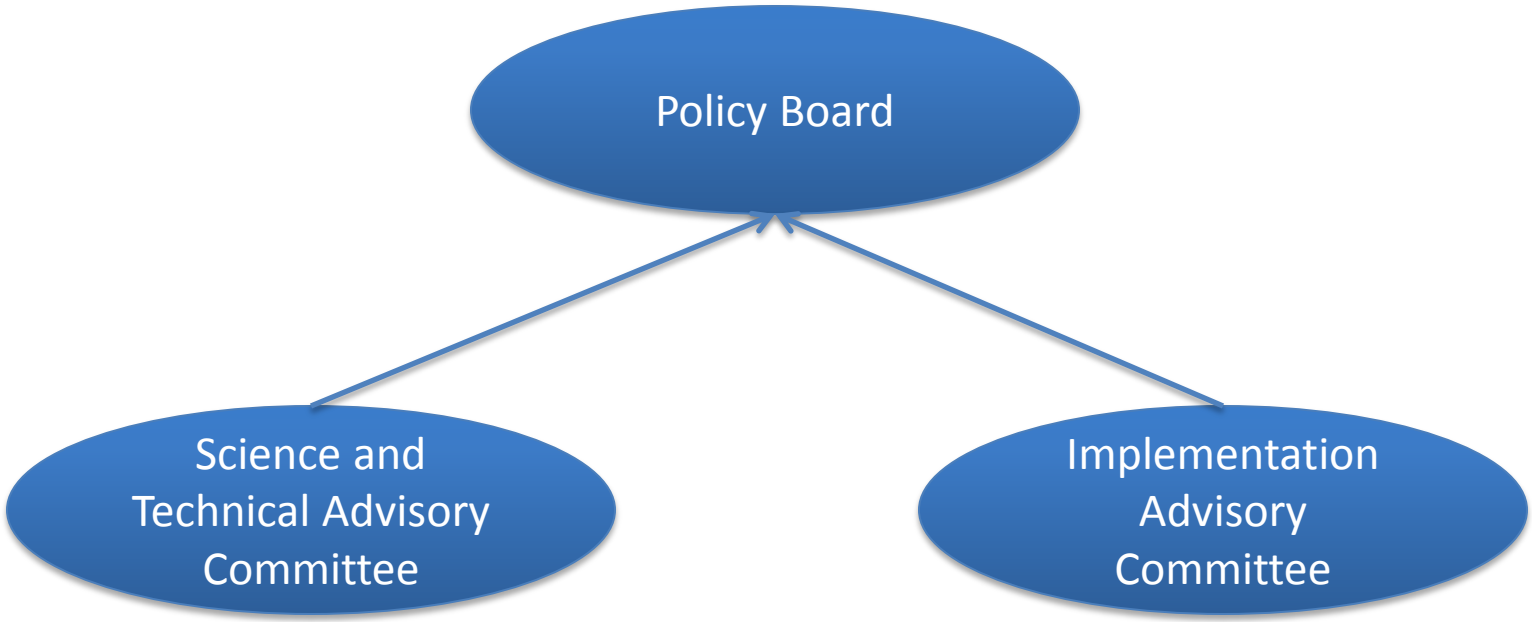
Table 1. Management goals, ecosystem outcomes, supporting CCMP actions and candidate indicators.

Goal	Ecosystem Outcome	CCMP Supporting Actions	Candidate Indicator
1: Human Communities A region where human communities are sustained by a functioning ecosystem	1a: Waters are safe for personal contact.	A1.1, 1.2, 2.3, 3.3; B1.2; C1.1,1.2, 1.4; D1.1, 1.2, 2.3,3.1,3.3; E1.1, 1.2, 2.1, 2.2	Beach action days/closings by water body type (sounds, freshwater river, lake, brackish river)
	1b: Designated surface and ground water supplies are safe for human consumption.	A1.1, 1.2, 2.3, 3.3; B1.2; C1.1,1.2, 1.4; D1.1, 1.2, 2.3,3.1,3.3; E1.1, 1.2 , 2.1, 2.2	WQ standard violations (surface waters)
			Drinking water standard violations (aquifers)
	1c: Surface hydrologic regimes sustain regulated human uses.	A 1.1, 1.2, 1.2, 2.3, 3.4; D 1.2, 2.2, 3.2; E1.1, 1.2, 2.1 2.2	Severity and frequency of droughts
	1d: Fish and game are safe for human consumption.	A1.1, 1.2, 2.3, 3.3; B1.2; C1.1,1.2; D 1.1, 1.2, 2.3,3.1,3.3; E1.1, 1.2, 2.1, 2.2	Fish consumption advisories
			Shellfish area closures
	1e: Opportunities for recreation and access to public lands and waters are protected and enhanced.	A 1.1, 1.2, 2.3; D 1.1, 1.2, 1.5, 2.2, 3.3; E1.1, 1.2, 2.1 2.2	Total distance of land and paddle trails
			Water access points: number & location
2: Native Species A region where aquatic, wetland, and upland habitats support viable populations of native species	2a: The biodiversity, function, and populations of species in aquatic, wetland, and upland communities are protected, restored, or enhanced.	A1.1, 1.2, 2.2, 3.1, 3.4: B 1.3, 2.1, 2.3, 2.4, 2.5, 3.3; C 1.3, 1.4, 2.2, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4; D1.1, 1.2, 1.4, 2.1, 2.2, 3.1, 3.3; E 1.1, 1.2, 2.1, 2.2	Oyster bed extent
			River herring abundance
			King rail, Swainson's warbler population /occurrences
			Box Turtle population /occurrences
			Longleaf Pine extent, location
			Firefly population
	2b: The extent and quality of upland, freshwater, estuarine and near-shore marine habitats fully support biodiversity and ecosystem function.	A 1.1, 1.2, 2.3, 3.1, 3.2, 3.4; B 1.1, 1.2, 1.3, 1.4, 1.5, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3; C 1.3, 1.4, 1.5, 2.1, 2.2, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3; D 1.2, 1.4, 2.2, 3.1, 3.3; E1.1, 1.2, 2.1, 2.2	SAV extent and composition
			Quality & extent of anadromous fish spawning/nursery areas
	2c: Non-native invasive species do not significantly impair native species' viability or function, nor impair habitat quality, quantity, and the processes that form and maintain habitats.	A 1.2, 2.1, 2.3; B 2.6; C 3.1; D 1.2, 1.3, 2.2, 3.3; E 1.1, 1.2, 2.1, 2.2	Hydrilla population status/occurrences
			Phragmites australis extent (common reed)
			Kudzu population status/occurrences
3: Water Quantity & Quality A region where water quantity and quality maintain ecological integrity	3a: Appropriate hydrologic regimes support ecological integrity.	A 1.2, 2.1, 2.3; B 2.6; C 3.1; D 1.2, 1.3, 2.2, 3.3; E 1.1, 1.2, 2.1, 2.2	Dissolved oxygen concentration
			Major river flows
	3b: Nutrients and pathogens do not harm species that depend on the waters.	A 1.1, 1.2, 2.3; B 1.2, 1.3, 1.4, 1.5; C 1.2, 2.1, 2.3, 2.4; D 1.1,1.2, 1.4, 2.1,2.2, 3.3, E1.1, 1.2, 2.1, 2.2	Amount and extent of impaired waters
			Chlorophyll-a concentration
	3c: Toxics in waters and sediments do not harm species that depend on the waters.	A 1.1, 1.2, 2.3, 2.4; B 1.1; C 1.2; D 1.2, 3.1, 3.3; E 1.1, 1.2, 2.1, 2.2	Amount and extent of impaired waters
			Dissolved metals concentrations
	3d: Sediments do not harm species that depend on the waters.	A 1.1, 1.2, 2.3; B 1.3, 1.4, 1.5, 2.3, 2.6, 3.1, 3.2; C 1.3, 1.5, 2.1, 2.3, 3.1, 3.2; D 1.2, 3.1, 3.3; E 1.1, 1.2, 2.1, 2.2	Amount and extent of impaired waters
			Average secchi disk depth

This table illustrates the linkage between the CCMP goals and ecosystem outcomes, the CCMP management actions and example ecosystem indicators by which success can be measured.

Advisory Committee Structure



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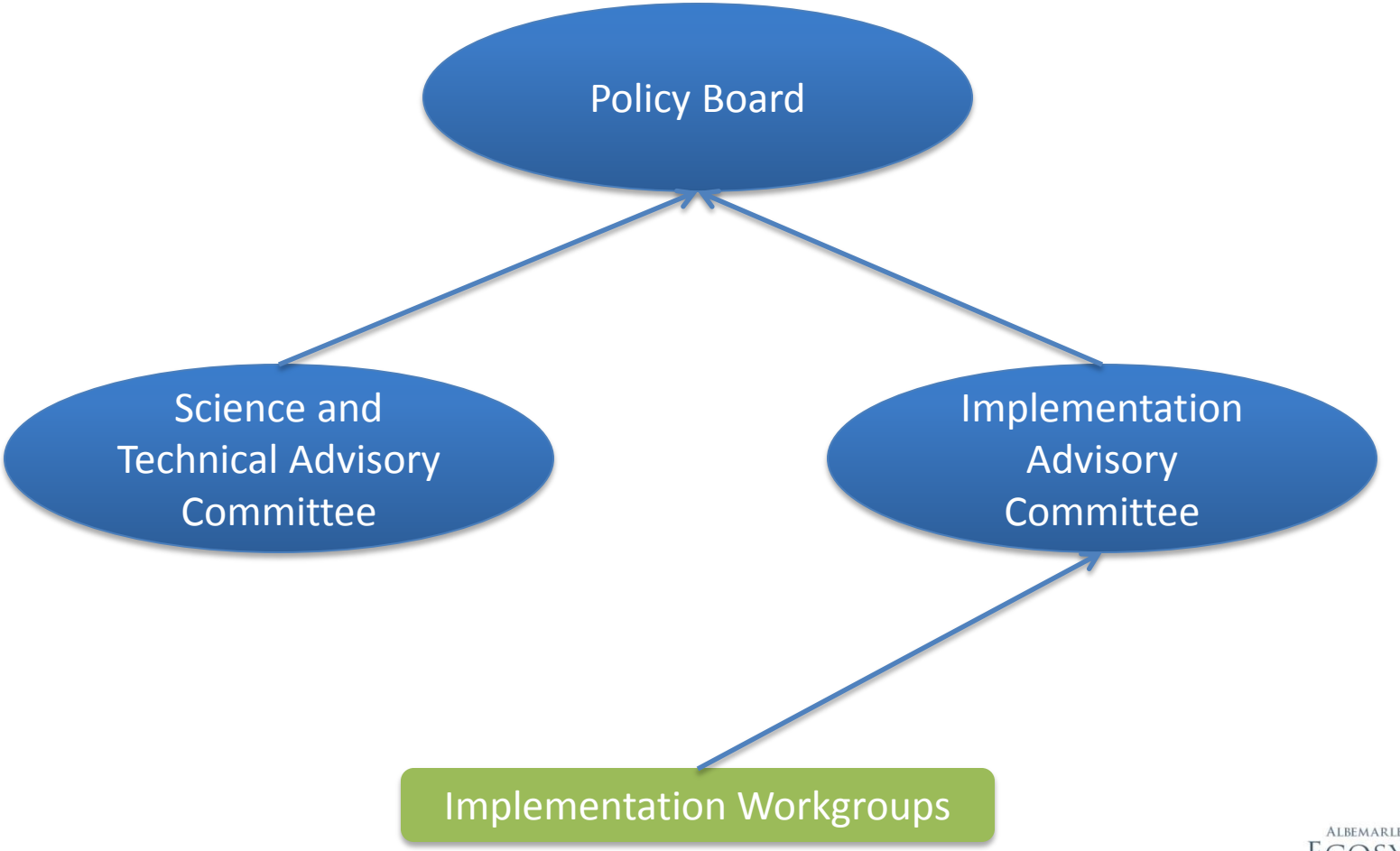

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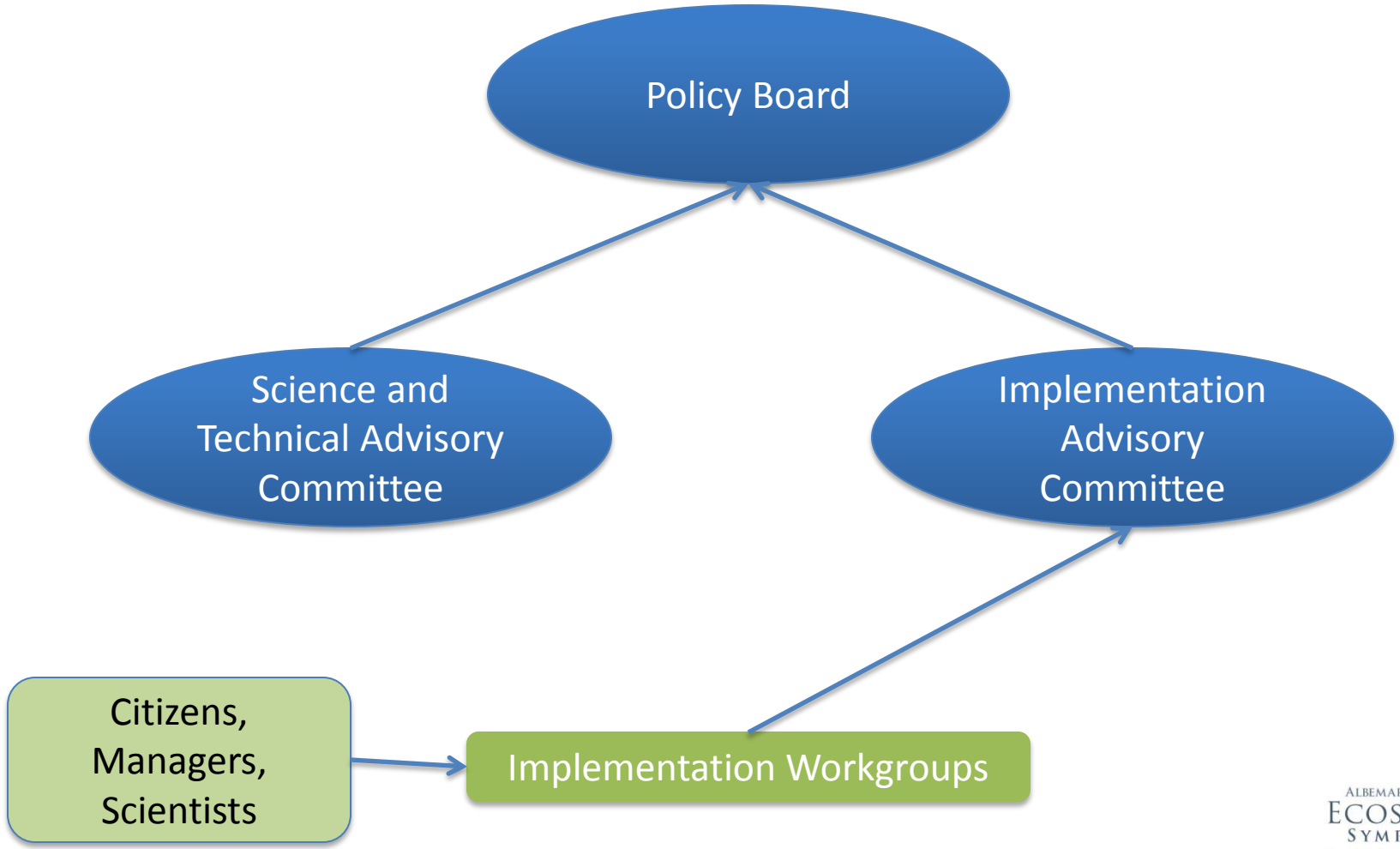

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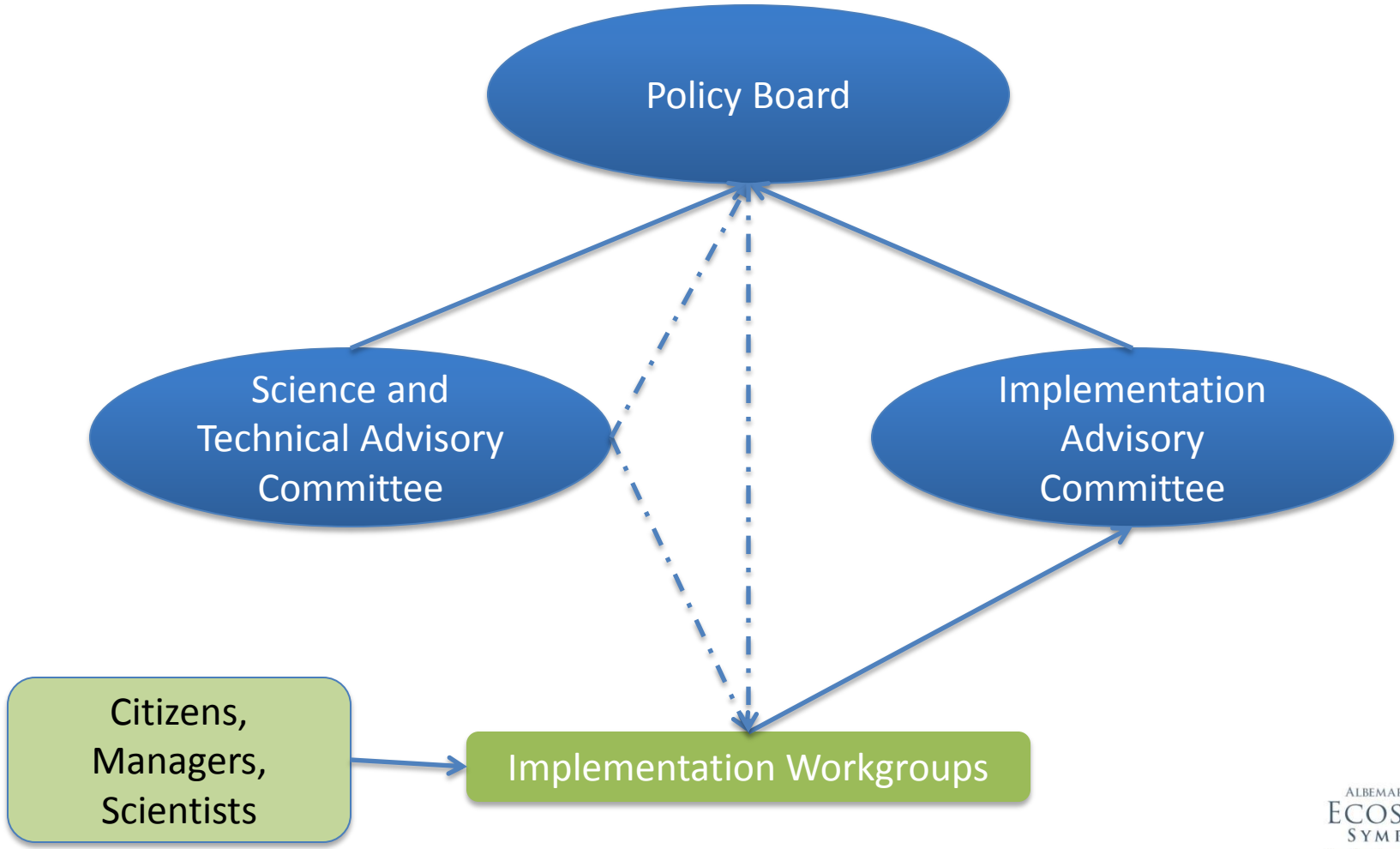

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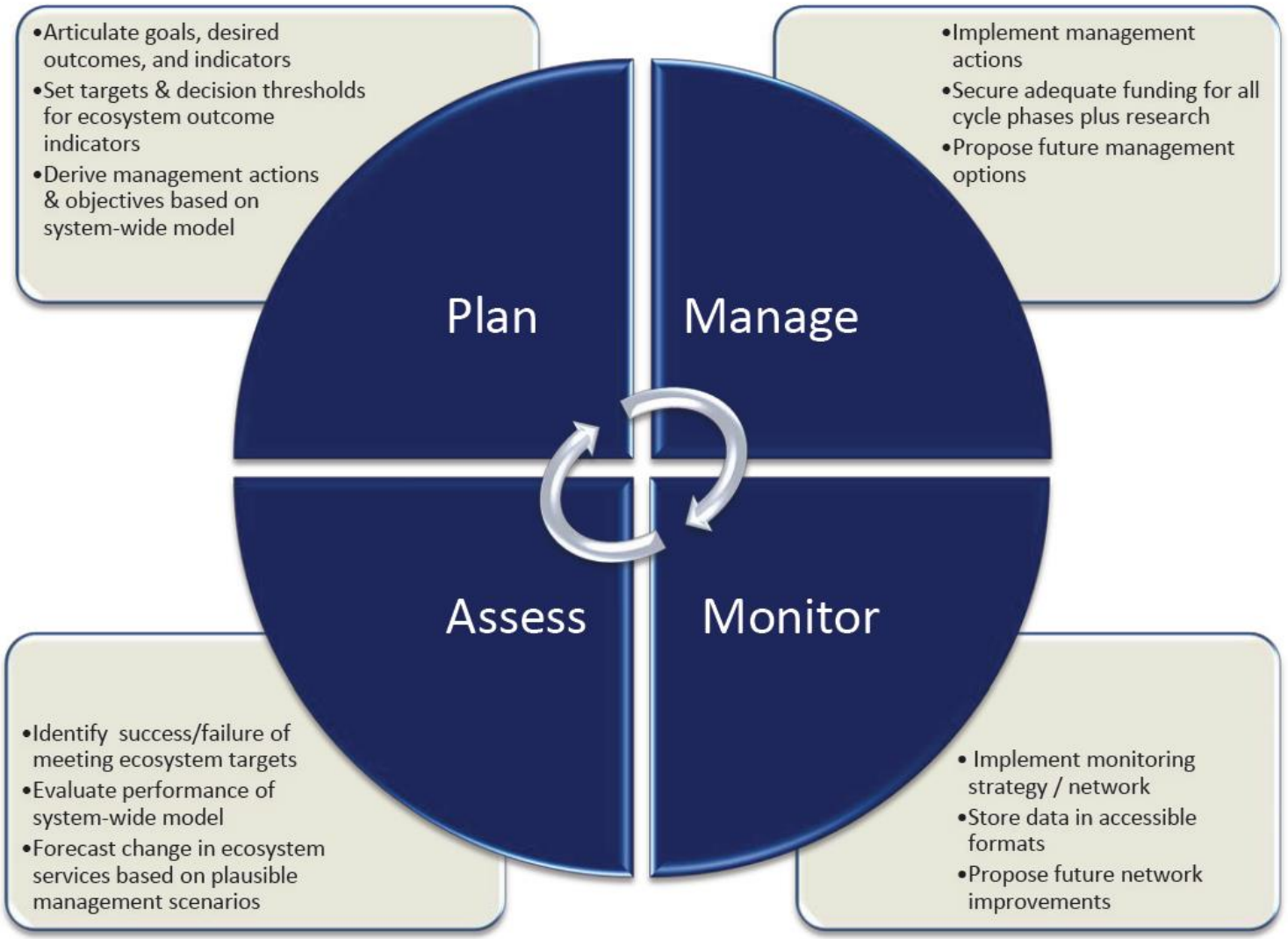
Workgroups

- Freshwater Habitats
- Policy & Economics
- Decision Support Tools
- Education & Engagement
- Water Quality Improvements
- Shorelines
- Contaminant Management
- Invasives
- Restoration Strategies
- Monitoring Networks
- Oysters
- Hydrologic Regimes
- Public Access
- Submerged Aquatic Vegetation

Workgroup	Number of Primary Actions	Primary Actions	Secondary Actions (Supporting)
Freshwater Habitats & Fish Passage	7	B2.1, B2.4, B2.5; C4.1, C4.2, C4.3, C4.4	
Policy & Economics	5	A3.1, A3.2; B2.3; D3.1, D3.3	B1.4, B3.1; D1.2
Decision Support Tools	5	A1.1, A1.2, A2.2; E2.1, E2.2	
Education & Engagement	4	D1.1, D2.1, D2.2, D2.3	D1.3, D1.4, D3.1; E2.2
Water Quality Improvements	8	A2.3, B1.1, B1.2, B1.4, B1.5; C1.4, C1.5, D1.4	
Shorelines	6	B1.3, B3.1, B3.2, B3.3; C1.3, C2.2	
Contaminant Management	4	A2.4, A2.5; C1.1, C1.2,	
Invasives	4	A2.1; B2.6; C3.1; D1.3	
Restoration Strategies	4	C2.1, C2.3, C3.2; D1.2	C1.3, C3.3, C4.1, C4.2, C4.3
Monitoring Networks	3	E1.1, E 1.2, E1.3	
Oysters	3	C5.1, C5.2, C5.3	
Submerged Aquatic Vegetation	2	B2.2; C3.3	
Hydrologic Regimes	2	A3.3; D3.2	
Public Access	1	D.1.5	D2.1

Adaptive Management



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