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ScottMadden Insights on Natural Resource Planning

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Contact: rmcadams@scottmadden.com

Introduction

- Natural resource planning is becoming increasingly important for utilities
- In addition to social pressures for more sustainable business practices, it is an essential element of obtaining licenses for electric, hydroelectric, and transmission operations
- Applicants seeking an exemption, original license, new license, or a license amendment for a project must consult with relevant federal, state, and interstate resource agencies, Native American tribes, and non-governmental agencies
- In many cases, these consultations result in agreements on programs that benefit threatened or endangered species, cultural resources, recreation areas, and other natural resources
- Proactive planning can help ensure a smooth process, avoid costly delays, and create public goodwill
- This document provides a brief overview of ScottMadden's perspective

What is Natural Resource Planning?

- Natural resource planning is a strategic framework designed to guide future environmental stewardship decisions
  - It integrates with other strategic exercises such as integrated resource planning and annual business planning
- Natural resource planning addresses stewardship issues that are in the public eye such as:
  - Sustainable development
  - Protection of sensitive resources
  - Benefits provided by access to public and private lands
- Programs may include protecting threatened and endangered species, improving water quality, creating recreation sites for public use, and protecting cultural and archeological sites
- The natural resource planning process evaluates a broad range of program alternatives
  - It includes development of multiple strategies for proactive stewardship
  - Strategies are assessed against potential future business environment scenarios to determine the optimal program mix
- The final plan lays out an immediate course of action and a road map with options for leaders to use when making future strategic decisions

Examples of Natural Resource Programs

Resource Area	Example Activities
 **Biological Resources**	◆ Threatened and Endangered Species Protection ◆ Natural Areas Management ◆ Non-Native Invasive Plant Management ◆ Conservation Planning
 **Water Quality**	◆ Water Quality Improvement ◆ Shoreline Stabilization ◆ Aquatic Ecology ◆ Public Outreach and Education
 **Recreation**	◆ Public Day-Use Areas ◆ Campgrounds ◆ Stream Access Sites ◆ Hiking Trails Management
 **Cultural Resource Protection**	◆ Archeological Resources Protection Act Compliance ◆ Native American Graves Repatriation Act Compliance ◆ National Historic Preservation Act Section 106 Compliance ◆ Public Outreach and Education

Why is Natural Resource Planning So Important Today?

Proactive natural resource planning helps address a number of challenges facing utilities today.

Challenge	Potential Benefits
Increased Environmental Pressures	Recent economic and legislative climates have shown a shift toward sustainable operations and higher environmental standards. Proactive planning helps utilities stay ahead of the curve.
Licensing Requirements	When utilities apply for licenses for new projects, FERC and state utility commissions require environmental impact statements to be developed that weigh environmental impacts against mitigation activities. Natural resource planning alleviates the threat of surprises and helps avoid costly delays.
Relationships with External Stakeholders	Involving external stakeholders such as agencies and environmental groups in the planning process can help ease tensions and create mutually beneficial relationships and outcomes.
Costs	Proactive planning helps smooth the licensing process, avoid costly delays, alleviate stakeholder concerns, and can work to deter future lawsuits.
Public Goodwill	Environmental stewardship and the development of natural resource and recreation programs for public benefit create significant goodwill in an effective and efficient manner.

Licensing Requirements Create Multiple Challenges

Applicants seeking an exemption, original license, new license, or an amendment to a license for a project must consult with relevant federal, state, and interstate resource agencies, Native American tribes, and non-governmental agencies.

- To gain support, utilities must prove to each group that they are addressing their concerns
- In many cases, this results in a negotiated settlement to create or fund new natural resource programs

Example: FERC Recommended Initial Consultation List For a Georgia Hydropower Project		
Advisory Council on Historic Preservation	U.S. Department of Commerce	Trout Unlimited
Bureau of Indian Affairs (U.S. Dept. of Interior)	U.S. Environmental Protection Agency	Georgia Department of Agriculture
Federal Emergency Management Agency	U.S. Fish and Wildlife Service	Georgia Department of Natural Resources – Environmental Protection Division
Federal Energy Regulatory Commission	U.S. Forest Service	Georgia Department of Natural Resources – Historic Preservation Division
National Oceanic and Atmospheric Administration	United States Geological Survey	Georgia Department of Natural Resources – State Parks and Historic Sites Division
National Park Service	American Canoe Association	Georgia Department of Natural Resources – Wildlife Resources Division
U.S. Army Corps of Engineers	American Whitewater	Georgia Soil and Water Conservation Commission
U.S. Bureau of Land Management (U.S. Dept. of Interior)	Appalachian Trail Conservancy	Cherokee Nation
U.S. Bureau of Reclamation (U.S. Dept. of Interior)	Front for Environmental Action	Eastern Band of Cherokee Indians
U.S. Coast Guard	Georgia River Network	United Keetoowah Band of Cherokee Indians
U.S. Department of Agriculture – Forest Service	Hydropower Reform Coalition	Upper Tallapoosa Watershed Group

Proactive natural resource planning helps satisfy many requirements ahead of time and eliminates costly delays

Source: www.ferc.gov

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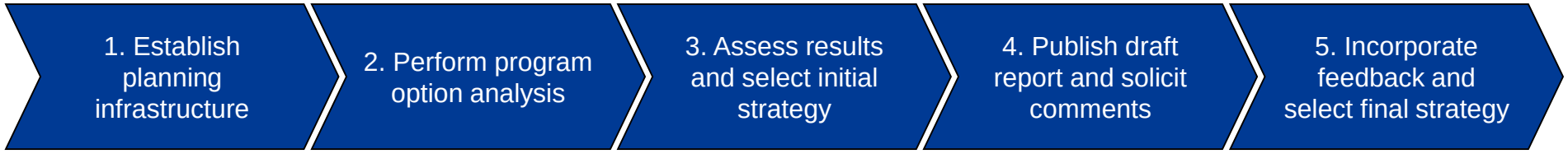
Proven ScottMadden Natural Resource Planning Process

Creating a natural resource plan requires a structured process with standardized tools, defined decision rights, specific criteria, and analytics.



- Work with leadership to set goals for the planning process
- Define scenarios
- Build strategies
- Create programs and identify options for level of support

- Define primary analysis metrics
- Define strategic analysis metrics
- Complete cost estimates
- Perform benefit analysis
- Determine benefit weightings
- Finalize benefit scorecard

- Rank elements based on overall benefit-to-cost score (by strategy)
- Complete planning matrix
- Score the strategies
- Select the preferred mix of programs

- Draft initial resource plan
- Draft supporting environmental impact statement (as required)
- Publish documents
- Solicit feedback from the public, agencies, and NGOs

- Update strategy based on feedback
- Finalize and publish the completed plan

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Multiple Tools Work Together in a Structured Approach

ScottMadden has created a proven natural resource planning approach that marries various perspectives and analysis to provide the optimal mix of programs.

Program Options

Program Category	Program	Goal / Activity	Program Options			
			Current Mgmt	Option 1	Option 2	Option 3
Aquatic Monitoring and Management	Aquatic Ecology Management	Partner and actively participate in restoring aquatic biological communities.			-	-
		Develop and evaluate public outreach opportunities to raise public awareness (consistent with Executive Order 13112).			-	-
	Stream and Tailwater Monitoring Program	Conduct __ stream assessments per year.	110	50	70	150
		Share stream and reservoir data.	as requested	as requested	online	online data (interactive)
Partnership Programs	Case Study / Research Initiative	__ case studies / research projects implemented and exported.			2	3
	Strategic Partnership Planning	Maintain existing relationships, partnerships and third party agreements.	-	-	-	-
		Develop new or enhance existing relationships, partnerships and third party agreements.			-	-
Public Outreach	Clean Marina Program	Maintain certification for 80 marinas.	-	-	-	-
		Certify __ new marinas per year.			1	2
	Water Efficiency Program	Deliver __ educational products per year.	10			
	Water Resource Outreach Campaign	Deliver __ stakeholder products per year.		20	50	70
Water Resource Improvement Programs	Quality Growth Program	Deliver __ communication products (including [illegible], new training products, various awards, and/or conferences per year.	25			
	Reservoir Shoreline Stabilization /	Stabilize __ miles of critical eroding shoreline per year.			3	8
	Targeted Reservoir Initiative Program	Prioritize and develop reservoir improvement plans.				-
		Reduce phosphorus by 5,000 pounds per year.				-
	Targeted Watershed Initiative Program	Reduce suspended sediment reaching streams by __ tons per year.	234			1,300
		Reduce phosphorus reaching streams by __ pounds per year.	350			2,000
		Deliver __ stakeholder products per year.	50			75
		Improve __ HUI every __ year.	1 / 5			1 / 3
	Water Resource Grant Program	Develop and implement evaluation, management, and implementation processes.				-
	Water Resource Improvement Campaign	Reduce suspended sediment reaching streams by __ tons per year.		720	1,080	360
		Reduce phosphorus reaching streams by __ pounds per year.		1,100	1,650	550

Cost Estimates

Program Category	Program	Current		Custodial		Enhanced		Flagship	
		FTE	Total Cost	FTE	Total Cost	FTE	Total Cost	FTE	Total Cost
Water Resource Improvement Programs	Water Resource Improvement Campaign	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Targeted Reservoir Initiative Program	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Targeted Watershed Initiative Program	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Water Resource Grant Program	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Quality Growth Program	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Reservoir Shoreline Stabilization / Riparian Management	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Total FTE and Costs - Water Resource Improvement Programs	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
Aquatic Monitoring and Management	Aquatic Ecology Management	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Stream and Tailwater Monitoring Program	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Total FTE and Costs - Aquatic Monitoring and Management	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
Partnership Programs	Strategic Partnership Planning	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Case Study/Research Initiative	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Total FTE and Costs - Partnership Programs	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
Public Outreach	Clean Marina Program	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Water Efficiency Program	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Water Resource Outreach Campaign	0.00	$ -	0.00	$ -	0.00	$ -	0.00	$ -
	Total FTE and Costs - Public Outreach	**0.00**	**$ -**	**0.00**	**$ -**	**0.00**	**$ -**	**0.00**	**$ -**
	Total O&M - All Programs	**0.00**	**$ -**	**0.00**	**$ -**	**0.00**	**$ -**	**0.00**	**$ -**

CapEx / One-Time Cost Breakdown	Program	Current		Custodial		Enhanced		Flagship	
		FTE	Costs	FTE	Costs	FTE	Costs	FTE	Costs
	None	-	$ -	-	$ -	-	$ -	-	$ -
	Total - CapEx / One-Time Costs[1]	**0.00**	**$ -**	**0.00**	**$ -**	**0.00**	**$ -**	**0.00**	**$ -**

Planning Matrix

Planning Strategies	Scenarios				Total Score (by scenario
	Economy Recovers Dramatically	Environmental Focus is a National Priority	Prolonged Economic Malaise	Carbon Legislation Creates Economic Downturn	
Resource conservation					
Recreation focus					
Balanced management					

Benefits

Recreation Program	Recreation / Visitor Use Benefit	Water Resource Benefit	Species / Habitat Conservation and Abundance	Cultural Resource Preservation	Management Data and Scientific Knowledge / Reduced Compliance Costs	Public Perception, Partnerships, Outreach
Boating Density Assessments	Potential increased value of recreation experience from improved management	Potential resource benefit from improved management (shoreline erosion related to boating for example)	Potential aquatic habitat benefit from improved management	Potential resource benefit from improved management (shoreline erosion)	Increased knowledge for enhanced management	Positive perception of proactive data gathering and recreation management
Developed Recreation Inventory and Surveys	4.3 million recreationists at surveyed reservoirs may benefit from improved reservoir management; field recommissance can lead to enhanced recreation conditions	Potential resource benefit from field assessments	Potential [illegible] benefit to field assessments	Potential [illegible] benefit from field assessments	Increased knowledge for enhanced management	Positive perception of proactive data gathering and recreation management
Recreation Design Principles	Potential value of improved recreation experience from improved resource quality at recreation sites	[illegible] resource benefit from better compliance with visitor guidelines	Potential resource benefit from better compliance with visitor guidelines	Potential resource benefit from better compliance with visitor guidelines		Positive perception of recreation management
Recreation Planning, Assistance, and Technical Support	$16[illegible],000,000 recreation [illegible]	Potential benefit to resources from enhanced data sharing and technical support	Potential benefit to resources from enhanced data sharing and technical support	Potential benefit to resources from enhanced data sharing and technical support	Data sharing and technical support for increased recreation opportunities and enhanced management	Positive public perception for new campgrounds
Clean and Green Campground Initiative						
Conservation Foundation and Trust Fund	Potential benefit to recreationists from recreation projects or improvement in water quality or biological resources and conservation.	Potential benefit to water quality	Potential benefit to habitat			Positive perception from funding projects benefiting the public

Benefit Weightings

Environmental Stewardship Metric	Metric Weights		
	Conservation	Recreation	Balanced
Recreation/ Visitor Benefit Use	1%	44%	17%
Water Resource Benefit	9%	24%	17%
Species/ Habitat Conservation and Abundance	40%	10%	17%
Cultural Resource Preservation	10%	1%	17%
Management Data and Scientific Knowledge/ Reduce Compliance Costs	5%	1%	16%
Public Perception, Partnerships, Outreach	5%	20%	16%
Total	**100%**	**100%**	**100%**

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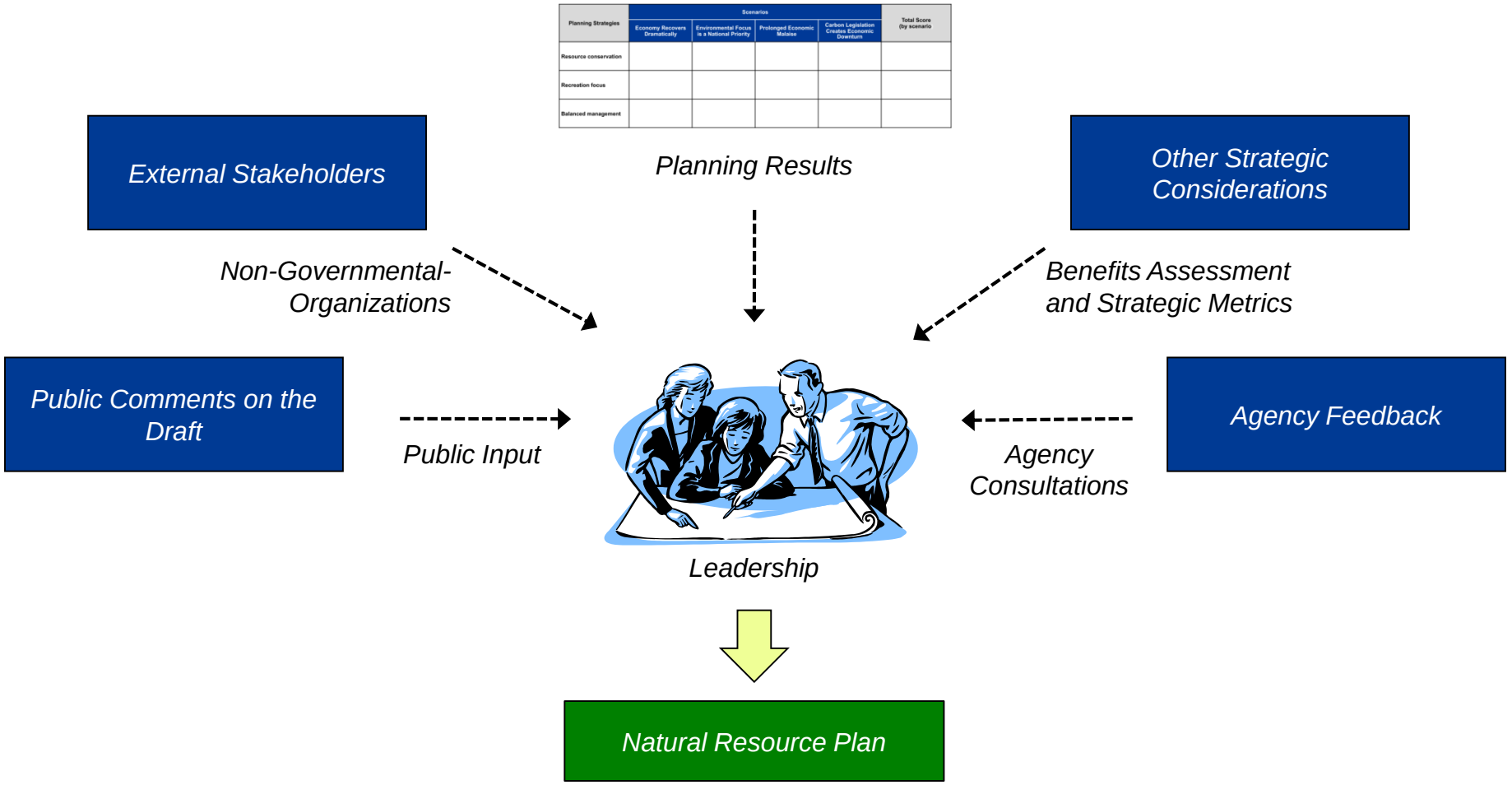
External Stakeholder Input is Critical

In addition to the planning analysis, input from the public, agencies, and other stakeholders is essential to ensure the development of a robust plan that can satisfy all future requirements and gain support from the public.



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Why ScottMadden?

We have recent and relevant experience in natural resource planning

- We have developed a first-of-its-kind natural resource plan for the largest public power utility in the country
- We have led multiple stakeholder engagement groups to secure buy-in for strategic planning efforts
- We have assisted numerous utilities with all areas of strategic planning
- We have substantial experience in sustainability-related projects, and we understand how to integrate them with natural resource planning

- We have developed a standardized approach and evaluation tools that we can deploy to assist companies in performing natural resource planning
- We have worked with hundreds of energy clients over nearly 30 years including 90% of the top 20

Contact Us

For more information on natural resource planning, please contact us.

Randy McAdams
Partner

SCOTTMADDEN
Management Consultants

ScottMadden, Inc.
2626 Glenwood Ave
Suite 480
Raleigh, NC 27608

Phone: 919-781-4191
rmcadams@scottmadden.com