

Development of a 5-Year Implementation Strategy for the Management of Chautauqua Lake and Its Watershed

Draft
April 2018



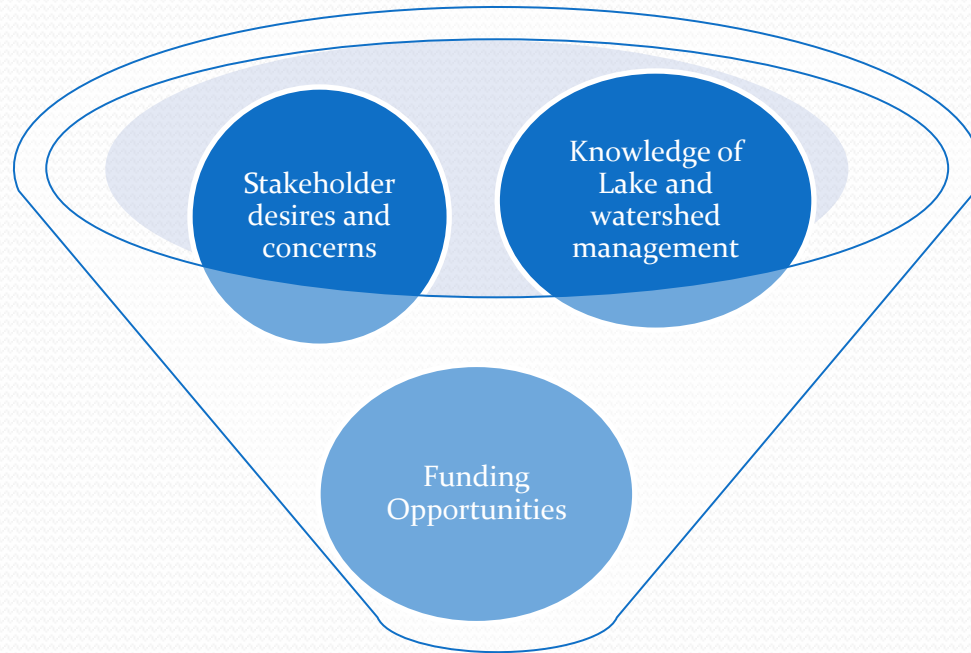
Presentation Outline

- Challenge
- Approach
- Multi-criteria analysis tool
- Application of the tool
- Implications for managers

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Alliance Mission



Priority Actions

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Local Voices: Priorities

Focus Group	Stakeholders Represented (# participants)
1	Municipalities (11)
2	Agriculture and Parks (6)
3	Business and Tourism, including realtors (11)
4	Scientists (8)
5	Chautauqua Lake Association (9)
6	Chautauqua Lake Partnership (4)
7	Conservation and Environmental Groups (9)
8	Foundations (12)
9	Chautauqua Institution (5)

Local Voices: Priorities

- Human health concerns
- Protect recreational access- economic driver
- Need for collaboration and coordination
- Fear that lake has reached a tipping point
- Need to document and communicate progress



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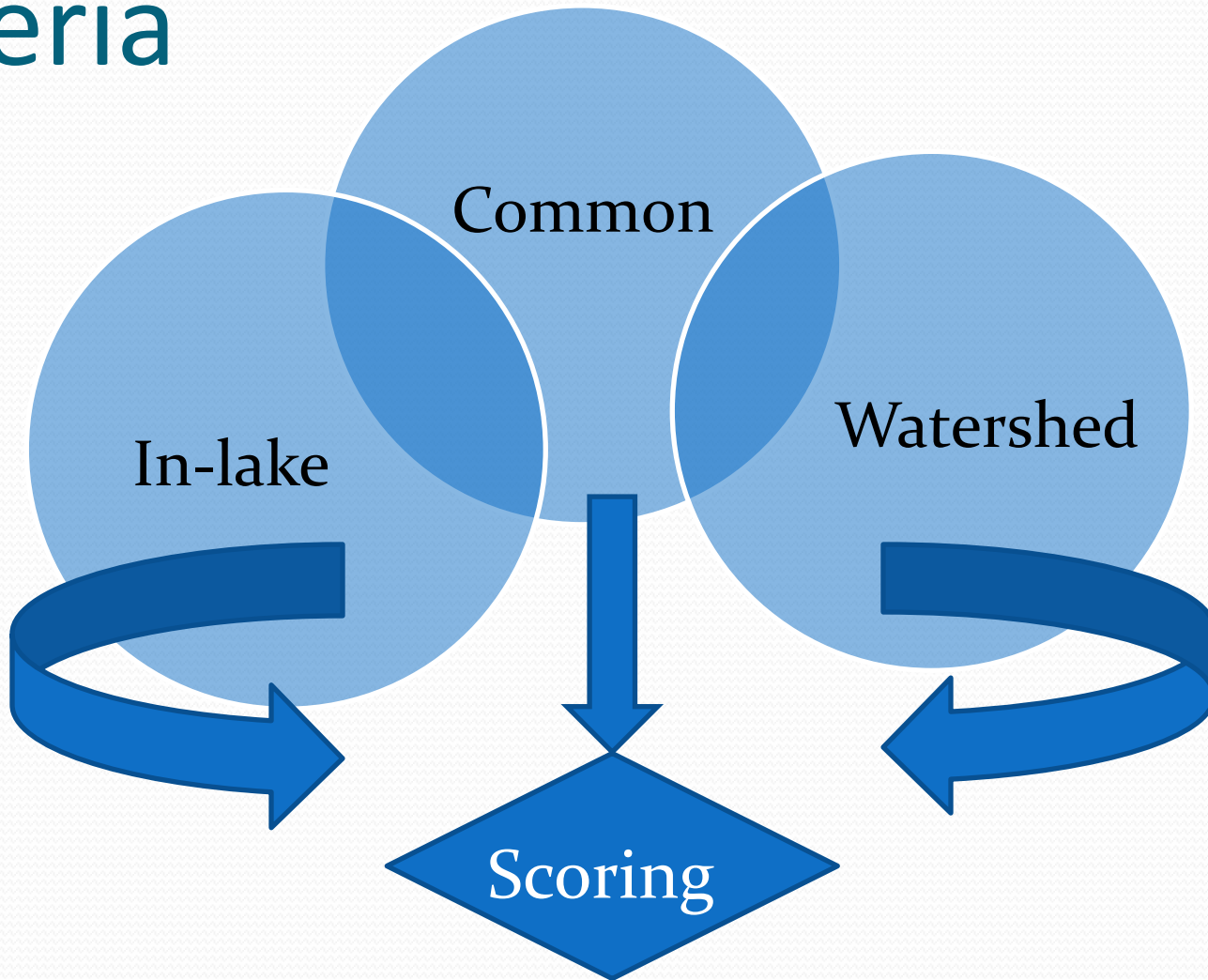
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Multi-criteria Analysis (MCA)

- Set up an evaluation matrix (project alternatives and evaluation criteria)
- Assign weighting factors to each criterion
 - Indicates relative importance compared with other criteria
- Assign scores for 'desirability' under each criterion for each alternative

Criteria



Criteria: All Projects

- Consistent with plans, strategies, or successes
- Broadly supported
- Costs are understood
- Magnitude of costs
- Potential for outside funding
- O&M requirements
- Plan to measure and report effectiveness

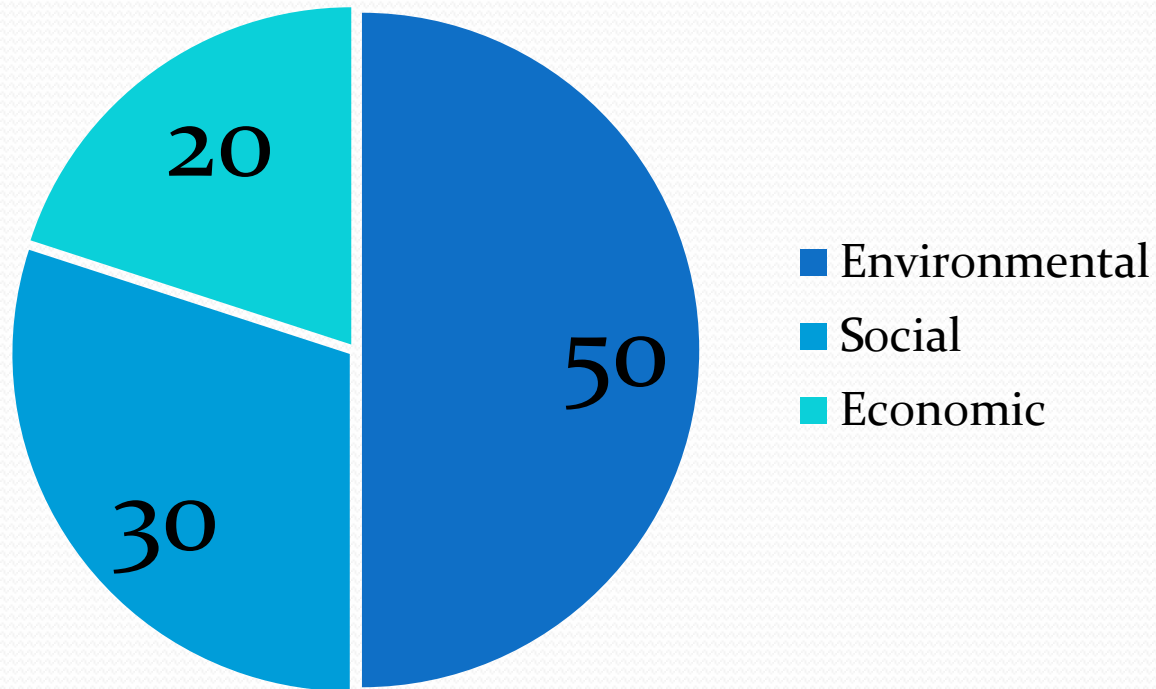
Criteria: In-lake Projects

- Protective of human health
- Protective of ecosystem health
- Longevity of effectiveness
- Reduce nutrients in ecosystem
- Manage invasive species
- Enhance recreational uses

Criteria: Watershed Projects

- Reduction in nutrient loading
- Reduction in sediment loading
- Resilience

Weighting Factors



Scoring

- Scaled as 0,3,6,9
- Specific guidelines
- Potential role for scientific advisors for technical scoring

Example of Watershed *Environmental* Criteria

Criteria	Scoring Values
Reduction in nutrient loading (weight: 50)	0: No impact on nutrient loading 3: Plan addresses a source estimated to contribute <10% of total nonpoint source TP load per TMDL (septic, streambanks) 6: Plan addresses a source estimated to contribute 10-25% of total nonpoint source TP load per TMDL (stormwater, forest practices) 9: Plan addresses a source estimated to contribute >25% of total nonpoint source TP load per TMDL (agriculture)

Example of General *Social* Criteria

Criteria	Scoring Values
Commitment to stakeholder collaboration (weight: 30)	0: Only one organization involved 3: Multiple organizations involved, specific roles undefined 6: Multiple collaborators, with project role and inputs (e.g., staff time, equipment/materials) defined for each 9: Multiple collaborators, with expected project outputs (e.g., outreach products, data/information, nutrient reduction actions) defined for each

Example of In-Lake *Environmental Criteria*

Criteria	Scoring Values
Protective of human health (weight: 50)	0: Probable toxic or carcinogenic effect 3: Lack of scientific consensus regarding toxic or carcinogenic effect (weight of evidence points to low risk) 6: Classified as “not likely” to be toxic or carcinogenic 9: Scientific consensus of no harmful human health impacts

Example of General *Environmental* Criteria

Criteria	Scoring Values
<p data-bbox="144 505 571 1093">Consistency with existing plans and strategies and/or consideration of emerging solutions</p> <p data-bbox="144 1176 426 1229">(weight: 40)</p>	<p data-bbox="624 505 1663 619">0: Proposed action inconsistent with existing plans or strategies</p> <p data-bbox="624 662 1649 776">3: Proposed action is not listed in plans or strategies but is consistent with objectives</p> <p data-bbox="624 819 1740 933">6: Proposed action is listed in an existing plan or strategy</p> <p data-bbox="624 976 1707 1276">9: Proposed action is listed as approvable for specific application in an existing plan or strategy, and has been demonstrated to hold promise based on research or use in other lakes/watersheds</p>

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Application

- Define the project
 - Document assumptions
 - Determine whether to include all criteria
- Assign scores for criteria
 - Matrix math to multiply weights; add and total
- Use totals as a guide to implementation
 - Build partnerships with land owners
 - Justify and request non-local cost sharing

Demonstration of Tool

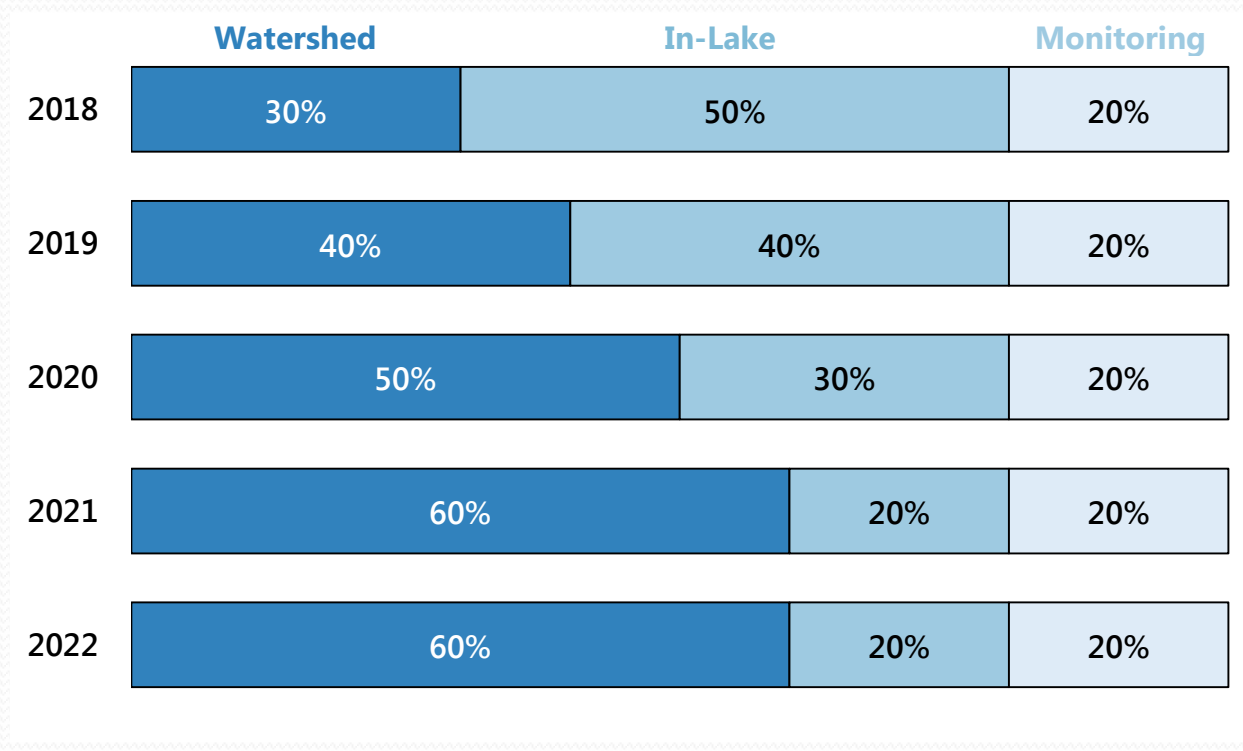
- Draft Chautauqua MCA Tool_2018-04-09.xlsx

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Balancing Cause and Symptoms

Figure 5-1
Resource Allocation, 2018-2022



Governor's HAB Initiative

- Invest \$65 million NYS funds to define and implement solutions to cyanobacterial blooms
- 12 priority lakes, including Chautauqua Lake
- Action Plans due end of May 2018
- Opportunity for progress

5-Year Strategy

- Outlines watershed initiatives, in-lake projects, and research & monitoring to address data gaps
- Ran top recommendations of the watershed management plan through the tool
- Recommendations will be affected by HAB action plans and funding

Questions and Discussion

