

**REQUEST FOR QUALIFICATIONS FOR TECHNICAL SERVICES TO ASSIST IN THE
DEVELOPMENT OF
GREGG LAKE WATERSHED MANAGEMENT PLAN
FOR THE TOWN OF ANTRIM, NEW HAMPSHIRE**

Contact: Joan Gorga, (603) 588-2569, jgorga2@gorga.org
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Deadline: March 30, 2018 at 5:00 p.m. (EST)

I. INTRODUCTION

Gregg Lake (NHLAK700030108-02-1), in the Town of Antrim, NH, was added to the New Hampshire Department of Environmental Services (NHDES) 303(d) list in 2004 as impaired for aquatic life due to elevated levels of phosphorus and chlorophyll-*a*. In 2015 and 2016 the lake experienced unprecedented algal blooms. Dissolved oxygen saturation levels are currently rated “Cautionary,” and the lake is rated “Slightly Bad” for supporting aquatic life. NHDES considers Gregg Lake to have high potential for recovery from these impairments. A group of concerned citizens formed the Gregg Lake Watershed Management Plan Committee (GLWMPC) and successfully submitted a proposal to NHDES for funding to complete a watershed-based management plan.



Figure 1. Gregg Lake, Antrim, NH. Photo, Jay Smith

II. PROJECT DESCRIPTION

This project will identify factors contributing to the declining health of Gregg Lake and develop a watershed-based management plan to mitigate those factors, with the goal of removing Gregg Lake from New Hampshire’s 303(d) List of Impaired Waters. The Gregg Lake Watershed Management Plan will fulfill the nine elements established by the U.S. Environmental Protection Agency. The work is funded

under Section 319 of the Clean Water Act and is administered by NHDES. Near-term results expected from the project include setting an in-lake threshold for phosphorus, identifying and prioritizing site-specific BMPs to reduce sediment and nutrient loading, and landscape, stormwater and septic management through education and outreach to property owners.

III. BACKGROUND

Gregg Lake is 195 acres in area and its roughly 3,000-acre watershed is largely undeveloped (Table 1). Two major streams enter from the northwest, and the outlet, Great Brook, is dam-controlled. The maximum depth of the lake is 36 feet (Figure 2). The Gregg Lake watershed is part of the Contoocook River watershed in New Hampshire's Monadnock Region. Gregg Lake is valued by residents and visitors alike for its long stretches of wooded shoreline and surrounding conservation land. With its large parcels of intact forest and high quality wildlife habitat, the Gregg Lake watershed is a key link in an extended conservation corridor. The watershed immediately to the southwest includes New Hampshire Audubon's Willard Pond, and the dePierrefeu-Willard Pond Sanctuary extends into the Gregg Lake watershed. To the northwest, over the Willard Mountain-Tuttle Hill Ridge, is the North Branch River watershed, which includes The Nature Conservancy's Loverens Mill Cedar Swamp, considered the highest quality boreal cedar swamp in New Hampshire. The Harris Center for Conservation Education recently acquired a 184-acre parcel within the Gregg Lake watershed to be part of the SuperSanctuary of protected lands in southwestern New Hampshire. Much of the Gregg Lake watershed is considered "highest rank habitat" by the NH Fish and Game Department. A nine-turbine wind farm is planned for the Willard Mountain-Tuttle Hill Ridge.

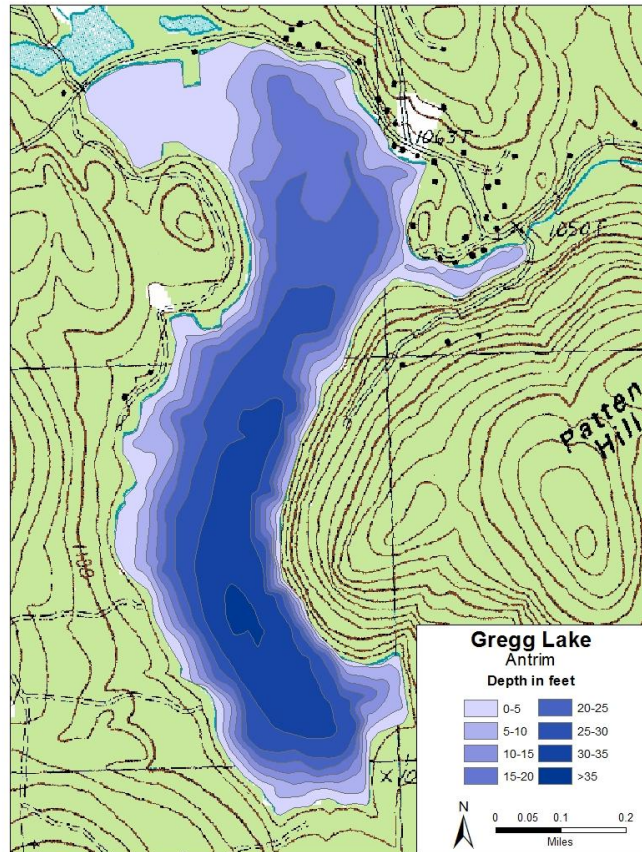


Figure 2. Gregg Lake bathymetric data collected by GLWMPC, Summer 2017.

Table 1. Gregg Lake Watershed

Watershed Area	2944 Acres
Developed lands	2%
Forested Lands	84%
Woody and Emergent Wetlands	4.7%
Open Water	7.4%
Gregg Lake Area	195 Acres

IV. SCOPE OF WORK

The Town of Antrim (TOA) and GLWMPC seek an expert in watershed-based management plans to provide guidance to GLWMPC in the development of a watershed-based management plan for Gregg Lake. GLWMPC is a diverse group, with a wide range of relevant backgrounds and skills (Table 2), committed to performing much of the required work themselves. The GLWMPC believes that the more they can contribute to the development and completion of the plan, the better they will understand the actions necessary to achieve the desired results.

Table 2. Background and qualifications of GLWMPC Core Group members

Responsibility	Background/Qualifications
Project Manager	Antrim Parks & Recreation Commission Chair, Weed Watch, VLAP, Watershed landowner, PhD Biochemist
Technical Project Manager	Watershed landowner, Certified GIS Professional
Project QA/QC Manager	Antrim Water & Sewer Commissioner, VLAP, PhD Hydrologist with USGS
Outreach Coordinator, Document Preparation	Gregg Lake Assn, VLAP, Lake Host, Weed Watch, Summer resident, MSc in Natural Resources and the Environment
Outreach Coordinator, Document Preparation	Chesapeake Bay Foundation and Smithsonian Environmental Research Center volunteer, Watershed landowner
Outreach, Ground-Truthing	Antrim Conservation Commission Chair, NH Coverts, Geologist at NHDES
Data Collection, Town Regulations	Antrim Treasurer, Gregg Lake Assn, NH Coverts, NHSPE state Mathcounts Director, Gregg Lake Road resident, Professional Engineer
Town Regulations	Antrim Town Clerk & Tax Collector, Gregg Lake Assn, Gregg Lake Road resident

GLWMPC has a modest amount of grant funding available (maximum \$23,000) for hiring an environmental consultant. The consultant will work collaboratively with GLWMPC, providing technical advice or services to complete selected tasks (Table 3). All project tasks are listed in Table 4; tasks are described fully in the proposal entitled “Gregg Lake Watershed Management Plan Development,” submitted January 31, 2017. Please note that the task number corresponds to the Grant Agreement between NHDES and TOA. Both documents are available from NHDES.

Table 3. Contractor Tasks

Contractor Tasks	GLWMPC and Contractor Roles
Objective 2: Prepare Site Specific Project Plan (SSPP).	

<i>Deliverable 2: Completed SSPP to address assimilative capacity, watershed load modeling, and NPS load reduction management measures.</i>	
Task 7: Prepare and submit draft SSPP for watershed plan development work to the consultant for review and comment.	GLWMPC will prepare SSPP; consultant will review and provide feedback and comments.
Task 10: Address draft SSPP comments and submit final SSPP to NHDES.	After DES review, Consultant will advise; GLWMPC will make revisions.
Objective 3: Water quality data will be assembled and assimilative capacity determined for phosphorus.	
<i>Deliverable 3: Memo detailing the calculation of the current water quality criteria for phosphorus and chlorophyll-a and determination of the impaired status of Gregg Lake.</i>	
Task 12: Gather all available water quality data and determine if acceptable for use in analysis of assimilative capacity.	GLWMPC will gather data; Consultant will review and advise.
Task 13: Determine the historical and current total phosphorus and chlorophyll-a levels for Gregg Lake.	Consultant will advise GLWMPC in performing analyses.
Task 14: Determine the assimilative capacity of Gregg Lake for phosphorus and prepare summary of water quality criteria. Include examination of resulting chlorophyll-a and dissolved oxygen as it relates to existing impairments.	GLWMPC will perform calculations and prepare summary; Consultant will check calculations and advise.
Objective 4: Establish the water-quality goal for phosphorus for Gregg Lake.	
<i>Deliverable 4: Documentation of the process required for formally arriving at the water-quality goal for phosphorus and its effects on Gregg Lake's water quality impairments.</i>	
Task 16: Establish process for determining the water quality goal for phosphorus, which includes consideration of resulting dissolved oxygen, chlorophyll-a and total phosphorus impairments.	GLWMPC will convene WQ Advisory Committee and lead efforts to establish process; Consultant will check process established and advise.
Objective 5: Identify current and future pollution sources.	
<i>Deliverable 5: Report identifying the current and future pollution source loads by land use type and source group by subwatershed for each parameter, along with refined pollution source loads for each subwatershed based upon site-specific knowledge using field ground-truthing methods.</i>	
Task 18: Determine annual pollution source loads for the watershed using the ENSR-developed Lake Loading Response Model (LLRM) or other approved method as detailed in the SSPP. Coordinate with the consultant to use aerial photography and Landsat imagery to characterize the watershed (NOAA; C-CAP; NH GRANIT mapper, etc.). Submit summary memo of current annual pollution source load estimates.	GLWMPC will determine annual pollution source loads and write summary memo; Consultant will provide guidance and check the process.
Task 19: Conduct watershed pollutant source, land use and septic survey to identify and document potential pollution	GLWMPC will perform survey; Consultant will ensure validity of

sources and ground-truth the available imagery. Methodology shall be reviewed and approved by NHDES.	methods.
Task 20: Estimate in-lake phosphorus concentration and associated chlorophyll- <i>a</i> concentration, Secchi transparency and probability of algal blooms using in-lake response models, including Vollenweider (or appropriate in-lake conversion model), in combination with empirical data and following approved QAPP and SSPP. Include determination of internal loading contribution. Submit to NHDES for review/approval.	GLWMPC will perform calculations with Consultant guidance.
Task 21: Complete watershed build-out analysis.	GLWMPC will perform calculations in collaboration with Consultant.
Task 22: Run modelling scenarios to predict future pollutant loading, including natural background, build-out under current zoning, near-term development, future development, and others to meet water quality goals under those scenarios.	GLWMPC will perform calculations in collaboration with Consultant.
Objective 6: Estimate pollution reduction and determine actions needed to maintain the water quality goal and future watershed conditions.	
<i>Deliverable 6: Report describing and prioritizing the NPS management measures that will be used to achieve the load reduction estimated, as well as other watershed goals identified in the watershed-based plan, and identifying the critical areas in which those measures will be needed to implement the plan.</i>	
Task 23: Determine pollutant load reductions needed in order to achieve water quality goals.	GLWMPC will perform calculations in collaboration with Consultant.
Task 24: Complete BMP identification, including locations needing BMPs, documentation of sites including photos of problem areas as applicable, and rough conceptual BMP design with cost estimate for each location.	Consultant will prepare rough conceptual BMP design with cost estimate for each location.
Task 25: Estimate pollutant load reduction attributable to each site specific BMP.	GLWMPC will perform calculations in collaboration with Consultant.
Objective 9: Publish a Watershed Management Plan for Gregg Lake.	
<i>Deliverable 9: Completed Gregg Lake Watershed Management Plan.</i>	
Task 38: Compile work completed in above tasks into a draft Gregg Lake Watershed Management Plan.	GLWMPC will prepare document; Consultant will review and comment.
Task 40: Provide final draft of the Watershed Management Plan to NHDES for review and approval, and compile any last changes to finalize the Watershed Management Plan document.	GLWMPC will prepare document; Consultant will review and advise.

V. PROJECT SCHEDULE

It is expected that work on this project will begin during the spring of 2018 and continue until the spring of 2020 (Table 4). Qualifications packages should include a generalized schedule for conducting and completing the activities described in the Scope of Work. It is understood that final scheduling will depend upon completion of many tasks by GLWMPC.

Table 4. Gregg Lake Watershed Management Plan Development Schedule

Objectives and Tasks	Responsible *	2018												2019												2020				
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M		
Objective 1: Consultant																														
T1: Draft RFQ	CG/DES	■	■																											
T2: Select consultant	CG/DES			■	■	■																								
T3: Draft contract	CG					■	■	■																						
T4: DES approval	CG/DES																													
T5: Execute contract	CG/DES																													
T6: Kick-off meeting	GLMPC/Con																													
Objective 2: SSPP																														
T7: Draft SSPP	CG/Con			■	■	■	■	■																						
T8: Revise SSPP	CG																													
T9: DES review	CG/DES																													
T10: Final SSPP	CG/DES																													
Objective 3: Water Quality Data																														
T11: Additional sampling	CG																													
T12: Evaluate data quality	GLWMPC/Con/DES			■	■	■	■	■	■	■	■	■	■	■																
T13: Historical and current TP & Chl-a	GLWMPC/Con																													
T14: Assimilative capacity, WQ summary	GLWMPC/Con																													
Objective 4: Water Quality Goal																														
T15: WQ Advisory Committee; Set goal	GLWMPC																													
T16: WQ goal process	GLWMPC/Con																													
T17: Implement and document process	GLWMPC/DES																													
Objective 5: Pollution Sources																														
T18: Current pollution source loads	GLWMPC/Con																													
T19: Survey watershed; Ground-truth	GLWMPC/Con/DES																													
T20: In-lake response models-TP, Chl-a, etc	GLWMPC/Con/DES																													
T21: Build-out analysis	GLWMPC/Con/DES																													
T22: Model future pollutant loading	GLWMPC/Con/DES																													
Objective 6: Required Pollution Reduction and Action																														
T23: Determine required load reduction	GLWMPC/Con																													
T24: BMP Identification	GLWMPC/Con																													
T25: Site-specific load reduction	GLWMPC/Con																													
T26: Prioritized BMP options	GLWMPC																													
T27: Public meeting on BMPs	GLWMPC																													
Objective 7: Future Assessment and Tracking																														
T28: BMP implementation schedule	GLWMPC																													
T29: Interim milestones	GLWMPC																													
T30: WQ monitoring strategy	GLWMPC																													
T31: Assess TP loading targets	GLWMPC																													
Objective 8: Watershed Outreach																														
T32: Outreach strategy	GLWMPC																													
T33: Online stormwater survey	GLWMPC																													
T34: Septic maintenance education	GLWMPC																													
T35: Gravel roads education	GLWMPC																													
T36: Stormwater BMPs; Soak up the Rain	GLWMPC/DES																													
T37: Watershed management outreach	GLWMPC																													
Objective 9: Watershed Management Plan																														
T38: Draft GLWMP	GLWMPC																													
T39: Review draft plan	GLWMPC/Con																													
T40: GLWMP to DES; final draft	GLWMPC/DES																													
T41: GLWMP published	GLWMPC																													
T42: Public meeting	GLWMPC																													
Objective 10: Reports																														
T43: Semi-annual reports	CG/DES																													
T44: Final report	CG/DES																													

*CG, GLWMP Core Group; Con, Consultant; DES, NHDES; GLWMPC, Gregg Lake Watershed Management Plan Committee

VI. REQUIRED QUALIFICATIONS SUBMISSIONS

Qualification packages shall include the following components:

1. Name, address, brief history, and description of the firm, including qualifications.
2. Related projects, areas of expertise, and experience.
 - a. Include a description of other projects this firm has done that are similar in nature to this one.
 - b. Provide a list of references including names, titles, and contact information.
3. Description of the firm's approach to performing the tasks detailed in the Scope of Work, including a timeline and discussion of the relative effort anticipated to be expended on each Objective and Task.
4. A list of any additional services not included in this RFQ that you recommend GLWMPC consider.

Responses should demonstrate and document that the individual/firm has the professional experience to proceed with the work tasks as described in the Scope of Work in this RFQ. A complete and timely submittal as described in this RFQ is required in order to be considered.

VII. SELECTION CRITERIA

Selection will be based on the assessment of the qualifications package to meet the following criteria.

1. Specialized Experience of the Project Team (35%)
 - a. Overall experience directly related to the successful completion of similar watershed planning projects that include incorporation of EPA's Nine Elements ("a – i"), data analysis, monitoring, outreach, and working with diverse stakeholders to achieve project goals
 - b. Demonstrated ability to identify structural and non-structural BMPs and generate pollutant load analyses for BMPs
 - c. Demonstrated ability to complete work within the available budget and schedule (do NOT provide a cost estimate, fee schedule, or any type of price proposal at this time)
 - d. Demonstrated ability to work with NHDES to develop Quality Assurance documents.
2. Project Personnel (30%)
 - a. Principal team members' roles and participation levels, availability, qualifications and experience (see detail in Section IV, 2).
3. Project Approach (35%)
 - a. Demonstrated strong understanding of the scope of work, project schedule, and expected deliverables outlined in the RFQ.

After the qualifications-based ranking and selection process is complete, TOA will request from the highest-ranked consultant a task-based cost proposal. TOA will proceed with contract negotiations with that consultant. If the parties cannot come to terms, TOA will request from the second-ranked consultant a task-based cost proposal and follow the same procedure, working with each of the next-ranked qualified candidate(s) in order of their scores, until a contract has been successfully negotiated.

VIII. REQUEST FOR QUALIFICATIONS QUESTIONS

Any questions about this RFQ raised by an individual/firm will be answered in a summary digest. The summary digest will be provided to those who contact TOA and request to be put on an email list to receive the digest. The cut-off date for questions and requests to be put on the email list to receive the summary of questions and answers is February 20, 2018. Please email Joan Gorga, Project Manager for TOA, at jgorga2@gorga.org to ask a question or to be put on the email list to receive responses. The summary digest will be provided via email on March 2, 2018 to all consultants on the response list.

IX. TIMELINE

February 12, 2018	Request for Qualifications release
February 20, 2018	Deadline for submittal of questions on this RFQ (5:00 p.m.)
March 2, 2018	Questions and answers digest distributed to contractors
March 30, 2018	Deadline for receipt of qualification packages to this RFQ (5:00 p.m.)
April 10, 2018	Anticipated final selection of contractor and notification to all firms. TOA reserves the right to conduct interviews with selected teams. The decision to conduct interviews may affect the specified time line.

Due Date: Complete submittals should be sent by email in digital format (pdf or Microsoft Word) to Joan Gorga, Project Manager, at jgorga2@gorga.org by 5:00 p.m. EST on **March 30, 2018**.

X. DISCLAIMER

This RFQ does not commit TOA to award a contract or pay any costs incurred during the preparation of any submittal. TOA reserves the right to reject any or all of the submittals while adhering to applicable laws. To participate in the project and receive payment, the selected firm will be required to enter into a contract which stipulates that the contractor is eligible to receive Federal funding and certifies compliance with State and Federal rules related to grant-funded projects.