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Section I: Application Type

Check one:

- Education, Prevention & Planning Early Detection & Response Established Infestation Control

Legislative District Numbers		To determine your legislative district, go to http://165.189.139.210/WAML/ Type in complete address, next screen shows information.
Senate	Assembly	
12	34	

Section II: Applicant Information

Applicant Tomahawk Lake Association			Type of Eligible Applicants		
Waterbody Name Tomahawk Lake System			<input type="checkbox"/> County	<input type="checkbox"/> Tribe	<input type="checkbox"/> Other Gov't Unit
Project County/Township/Section/Range Oneida			<input type="checkbox"/> City	<input type="checkbox"/> Sanitary Dist.	<input type="checkbox"/> Nonprofit Org.
Authorized Representative Named by Resolution Paul Shain			<input type="checkbox"/> Village	<input type="checkbox"/> Dist.	<input type="checkbox"/> College, School, etc.
Authorized Representative Title President			<input type="checkbox"/> Town	<input checked="" type="checkbox"/> Assoc.	<input type="checkbox"/> Federal
Project Contact Name James Kavenmeier			Project Contact Title CLMP Committee Chair		
Address XX			Address XXX		
City XX	State WI	ZIP Code 00000	City	State WI	ZIP Code 00000
Daytime Phone (area code) (608) 827-6590	Evening Phone (area code)	Daytime Phone (area code) (262) 542-0212	Evening Phone (area code)		
E-mail Address paul@badgernorth.com			E-Mail Address jimkavemeier@me.com		

Mail Check to: (if different from applicant)

Name and Title	Address		
Organization	City	State	ZIP Code

For DNR Use Only

Application Type	Date Received	Date Reviewed (AIS/LC/RC)	AIS/Lake /River Coordinator Approval /Date	
Waterbody ID#	Adequate Public Access <input type="checkbox"/> Yes <input type="checkbox"/> No		Environmental Grants Specialist Approval / Date	
Eligible Project <input type="checkbox"/> Yes <input type="checkbox"/> No	Eligible Applicant <input type="checkbox"/> Yes <input type="checkbox"/> No	Project Priority Rank	Research / Demo Project <input type="checkbox"/> Yes <input type="checkbox"/> No	
Prior Grant Award(s) <input type="checkbox"/> Yes <input type="checkbox"/> No	Fiscal Year(s)	Amount Received To Date \$	Project Awarded <input type="checkbox"/> Yes <input type="checkbox"/> No	

Aquatic Invasive Species (AIS) Control Grant Application
Form 8700-307 (12/11) Page 2 of 3

Section III: Project Information

Project Title CLMP Update Tomahawk Lake System	Proposed Ending Date 12/31/15
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Other Management Units	Letter of Support	Other Management Units	Letter of Support
1. Town of Minocqua	<input checked="" type="checkbox"/>	4. Town of Lake Tomahawk	<input checked="" type="checkbox"/>
2. Town of Woodruff	<input checked="" type="checkbox"/>	5. Town of Hazelhurst	<input checked="" type="checkbox"/>
3. Oneida County AIS	<input checked="" type="checkbox"/>	6.	<input type="checkbox"/>

Section IV: Public Access

Number of Public Vehicle Trailer Parking Spaces Available at Public Access Sites:	97
Number of Public Access Sites Including Boat Launches and Walk-ins:	4

Section V: Cost Estimate and Grant Request

Section V must be completed or application will be returned. Details in support of Section V are welcome.	Project Costs		
	Column 1 Cash Costs	Column 2 Donated Value	<i>DNR Use Only</i>
1. Salaries, wages and employee benefits		3,036.00	
2. Consulting services	54,551.70		
3. Purchased services--printing and mailing	3,288.52		
4. Other purchased services (specify):	200.00		
5. Plant material			
6. Supplies (specify)			
7. Depreciation on equipment			
8. Hourly equipment use charges			
9. State Lab of Hygiene (SLOH) Costs	138.00		
10. Non-SLOH Lab Costs			
11. Other (specify)			
12. Subtotals (sum each column)	58,178.22	3,036.00	
13. Total Project Cost Estimate (sum of column 1 plus sum of column 2)	61,214.22		
14. State Share Requested (up to 75% of total costs may be requested)	46,915.05		

- Subject to the following maximum grant amounts:
- Education, Prevention and Planning Projects--up to \$150,000
 - Early Detection and Response Projects--up to \$20,000
 - Established Infestation Control Projects--up to \$200,000

Use of Federal funding as match: (check box below if applicable)

We are using or planning to apply for Federal funds to be used as match.

If known, indicate source of funding:

Section VI: Attachments (check all that are included)

A. For all applicants: (Refer to instructions for applicability.)

- 1. Authorizing resolution
- 2. Letters of support
- 3. Map of project location and boundaries
- 4. Lake map or river segment with public access sites identified (per Section IV of this application and page 20 of the guidelines)
- 5. Itemized breakdown of expenses
- 6. For projects that entail sending samples to the State Laboratory of Hygiene (SLOH) only: a completed SLOH Projected Cost Form
- 7. Project scope/description:
 - a. Description of project area
 - b. Description of problem to be addressed by project
 - c. Discussion of project goals and objectives
 - d. Description of methods and activities
 - e. Description of project products or deliverables
 - f. Description of data to be collected, if applicable
 - g. Description of existing and proposed partnerships
 - h. Discussion of role of project in planning and/or management of lake
 - i. Timetable for implementation of key activities
 - j. Plan for sharing project results
 - k. Other information in support of project not described above

B. For applicants that are Lake Management Organizations (LMOs), River Management Organizations (RMOs) or Qualified Non-profit Organizations:

- 1. For first time applicant LMOs/RMOs only: A completed Form 8700-226 (Lake Association Organizational Application) or 8700-287 (River Management Organization Application)
- 2. For first time applicant Qualified Nonprofit Organizations only: Copy of IRS 501(c)(3) determination letter and copies of your Articles of Incorporation and Bylaws
- 3. List of national and/or statewide organizations with which you are affiliated
- 4. List of board members' names, including municipality and county of residence. Designate officers
- 5. Documentation of current financial status
- 6. Brochures, newsletters, annual reports or other information about your organization

C. Education, Prevention and Planning Projects: (No additional attachments required.)

D. Early Detection and Response Projects:

- 1. APM Permit application

E. Established Infestation Control Projects:

- 1. Management Plan
- 2. APM Permit application

Section VII: Certification

I certify that information in this application and all its attachments are true and correct and in conformity with applicable Wis. Statutes.

Print/Type Name of Authorized Representative Paul Shain	Title of Authorized Representative President
Signature of Authorized Representative <i>Paul S. Shain</i>	Date Signed 1/28/14

RESOLUTION of the Tomahawk Lake Association

County of Oneida, Wisconsin

WHEREAS Tomahawk Lake is an important resource used by the public for recreation and enjoyment of natural beauty; and

WHEREAS public use and enjoyment of Tomahawk Lake is best served by protecting Tomahawk Lake from infestation of aquatic invasive species; and

WHEREAS we recognize the need to provide information and education about aquatic invasive species; and

WHEREAS we are qualified to carry out the responsibilities of the aquatic invasive species project.

NOW, THEREFORE, BE IT RESOLVED THAT the Tomahawk Lake Association requests the funds and assistance available from the Wisconsin Department of Natural Resources under the "Aquatic Invasive Species Grant Program;" and

BE IT FURTHER RESOLVED THAT the Tomahawk Lake Association authorize the President, to act on behalf of Tomahawk Lake Association to: submit an application to the State of Wisconsin for financial aid for aquatic invasive species grant purposes; sign documents; take necessary action to undertake, direct, and complete an approved planning grant; and submit reimbursement request claims along with necessary supporting documentation with six months of project completion date.

BE IT FURTHER RESOLVED that the Tomahawk Lake Association will meet the obligations of the planning project including timely publication of the results and meet the financial obligations under this grant including the prompt payment of our 25% commitment to aquatic invasive species control project costs.

Adopted this 18th day of January 2014.
By a vote of _____ (9) in favor, _____ (0) against, _____ (0) abstain.

By Margo M Oppaku
Secretary
Tomahawk Lake Association

"The Island City"

TOWN OF MINOCQUA

MARK P. HARTZHEIM, Chairman
BRYAN P. JENNINGS, Supervisor
JOHN L. THOMPSON, Supervisor
SUSAN M. HEIL, Supervisor
WILLIAM J. FRIED, Supervisor

415 Menominee Street, Suite A
Minocqua, Wisconsin 54548
Phone: 715.356.5296
Fax: 715.356.1132
www.townofminocqua.org

ROBEN A. HAGGART, Clerk
LAURA R. MENDEZ, Treasurer
ROBERT S. WELCH, Supt. Public Works
DAVID J. JAEGER, Lieutenant of Police
ANDREW J. PETROWSKI, Fire Chief

December 16, 2013

Mr. Kevin Gauthier, Lake Coordinator
Wisconsin Department of Natural Resources
107 Sutliff Avenue
Rhineland, Wisconsin 54501

Dear Mr. Gauthier:

The Town of Minocqua has had a very productive and successful relationship with the Tomahawk Lake Association (TLA) in controlling and combating aquatic invasive species (AIS) in the Tomahawk Lake watershed.

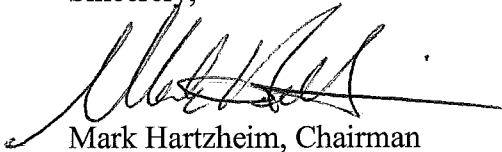
Mindful of the many benefits of this partnership, the Town of Minocqua offers its strongest endorsement for TLA's request for a State of Wisconsin Cost Sharing Grant to develop and implement a second 5-year Comprehensive Lake Management Plan (CLMP) for the years 2014 through 2019.

Over the past decade and a half, TLA has dedicated itself to the preservation and improvement of the Tomahawk Lake watershed; those efforts will help enable future generations to enjoy a quality resource. From monitoring the health of the watershed, to fighting AIS and educating the public, TLA has a solid and successful foundation on which to continue to build.

TLA's second 5-year CLMP will facilitate continuation and improvement on the original CLMP which began in 2009. The plan will outline new and continuing goals for the watershed and provide an action plan for achieving those goals. The plan will incorporate the interests of a broad cross section of stake holders (public and private) in the interest of sustaining the long-term quality of the resource.

The Town of Minocqua requests that the Wisconsin Department of Natural Resources give its approval for the Comprehensive Lake Management Plan Development Grant for the Tomahawk Lake Association.

Sincerely,



Mark Hartzheim, Chairman
Town of Minocqua



Conservation & UWEX
Education Committee
Tom Rudolph, Chair
Bob Martini, Vice
Greg Berard
Jim Intrepidi
Bob Mott
Clint Zimbeck, FSA
Members



Land & Water Conservation Department
3375 Airport Rd # 10
Rhineland, Wisconsin 54501
Phone (715) 365-2750
Fax (715) 365-2760

Jean Hansen
County Conservationist

Michele Sadauskas
AIS Coordinator

Kerri Ison
Administrative Assistant

December 30, 2013

Mr. Kevin Gauthier
Lakes Management Coordinator
Wisconsin Dept. of Natural Resources
8770 HY J
Woodruff, WI 54568

Dear Kevin,

As the Oneida County Aquatic Invasive Species (AIS) Coordinator, it gives me great pleasure to write a letter of support for the Tomahawk Lake Association (TLA) and their proposed AIS Control/Lake Management Project. I fully support their goals and long-term vision for Lake Tomahawk and feel their application for a WDNR AIS Control Grant is a worthwhile and extremely important proposal.

Since I took the position of Oneida County AIS Coordinator, TLA has worked closely with our AIS program in a number of different ways. For example, the Oneida County AIS team has been invited yearly to participate in the TLA Lake Fair and has also been fortunate to have obtained a charismatic and knowledgeable TLA speaker for an Oneida County lake management workshop. Members of the Association have been proactive, engaged, and open to a wide variety of methods to prevent and/or manage AIS. I fully support their use of both mechanical and chemical management methods, and commend them for having looked into a Eurasian water-milfoil bio-control opportunity in 2013. TLA has also been a steady partner in the Fourth of July Landing Blitz Campaign, Clean Boats Clean Waters program, and in early-detection monitoring of AIS.

Without continued WDNR support, the Oneida County Land & Water Conservation Department will most certainly lose one of its strongest partners in the field of AIS educational outreach and management. I am certain that the efforts of TLA increase AIS awareness, protect all of Oneida County's lakes and rivers from AIS, and create a stronger and more connected community.

I am excited about and look forward to working with TLA on a number of proposed projects for 2014. I highly recommend them for a WDNR grant. Without strong partners such as TLA, Oneida County will have a much more difficult time combating and winning the war against AIS!

Sincerely,

Michele Sadauskas
Oneida County AIS Coordinator
3375 Airport Road #10
Rhineland, WI 54501
Phone: 715-365-2750
Email: msadauskas@co.oneida.wi.us

COPY

January 20, 2014

Mr. Kevin Gauthier
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, Wisconsin 54568

Dear Mr. Gauthier.

The Tomahawk Lake Association and the Town of Lake Tomahawk have enjoyed a long and beneficial partnership in fighting the extent and effects of Aquatic Invasive Species in the Tomahawk Lake Watershed. It is because of this joint effort that the Town of Lake Tomahawk highly endorses and supports the Tomahawk Lake Association's request for a State of Wisconsin Cost Sharing Grant to develop and implement a second five year "Comprehensive Lake Management Plan" (CLMP) for 2014 through 2019.

The Tomahawk Lake Association has devoted the past twenty five years to preserving and enhancing the natural state of the Tomahawk Lake Watershed, and ensuring that the environmental health of this resource is passed on to future generations. Their efforts in combating the scourge of AIS, in educating the public on good stewardship practices, in monitoring the health of the watershed, and in developing and putting into place environmental programs that carry long term positive effects into the future, have built a strong foundation for the health and beauty of the watershed going forward.

It is for these reasons that the Tomahawk Lake Association is developing a second 5 year Comprehensive Lake Management Plan, which will provide continuity and improvements on the initial CLMP which was implemented in 2009. The plan will among other things, identify new and on-going goals for the watershed, and provide the action plan for the attainment of those goals. The interests of all watershed stakeholders including public as well as private entities will be respected with an eye to the long term well being of the resource.

It is for these reasons that the Town of Lake Tomahawk requests the Wisconsin Department of Natural Resources give full consideration and approval for a Cost Sharing "Comprehensive Lake Management Plan" Development Grant for the Tomahawk Lake Association, Inc.



Richard Mazurczak, Chairman
Town of Lake Tomahawk
P. O. Box 396, Lake Tomahawk WI 54539

TOWN OF WOODRUFF

AT THE CROSSROADS OF THE NORTHWOODS

**1418 1st Avenue
PO Box 560
Woodruff WI 54568**

**Phone 715-356-9421
Fax 715-358-2677
Email info@townofwoodruff.org**



December 13, 2013

Mr. Kevin Gauthier
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, Wisconsin 54568

Dear Mr. Gauthier.

The Tomahawk Lake Association and the Town of Woodruff have enjoyed a long and beneficial partnership in fighting the extent and effects of Aquatic Invasive Species in the Tomahawk Lake Watershed. It is because of this joint effort that the Town of Woodruff highly endorses and supports the Tomahawk Lake Association's request for a State of Wisconsin Cost Sharing Grant to develop and implement a second five year "Comprehensive Lake Management Plan" (CLMP) for 2014 through 2019.

The Tomahawk Lake Association has devoted the past twenty five years to preserving and enhancing the natural state of the Tomahawk Lake Watershed, and ensuring that the environmental health of this resource is passed on to future generations. Their efforts in combating the scourge of AIS, in educating the public on good stewardship practices, in monitoring the health of the watershed, and in developing and putting into place environmental programs that carry long term positive effects into the future, have built a strong foundation for the health and beauty of the watershed going forward.

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It is for these reasons that the Town of Woodruff requests the Wisconsin Department of Natural Resources give full consideration and approval for a Cost Sharing "Comprehensive Lake Management Plan" Development Grant for the Tomahawk Lake Association, Inc.

Mr. Mike Timmons
Chairman
Town of Woodruff

		Harmony	Ecolnt	Travel	Growth Strat	
Executive Summary	6	\$ 480.00				
Introduction	2	\$ 160.00				
User Survey	8	\$ 640.00				
Resource Areas	8	\$ 640.00				
APM PI			\$ 19,617.00			
APM meetings	40	\$ 3,200.00		\$ 400.00		
APM plan write-up	30	\$ 2,400.00	\$ 600.00			
Water quality/train samples	4	\$ 320.00				
Water quality model			\$ 1,100.00			
Fisheries summary	4	\$ 320.00				
Shoreline assessment			\$ 7,277.00			
Watershed analysis	20	\$ 1,600.00		\$ 200.00		
Implementation plan	80	\$ 6,400.00	\$ 600.00	\$ 800.00		
Draft and final plan	40	\$ 3,200.00		\$ 200.00		
Survey consult					\$ 1,800.00	
	242	\$ 19,360.00	\$ 29,194.00	\$ 1,600.00	\$ 1,800.00	\$ 51,954.00
Contingency (5%)		\$ 968.00	\$ 1,459.70	\$ 80.00	\$ 90.00	\$ 2,597.70
SLOH						\$ 138.00
Sample mailing						\$30
Survey print mail						\$ 2,458.52
Plan printing						\$800
Meeting facility/refreshments						\$200
Volunteer Contributions						
Develop survey questions	8	\$ 96.00				
APM meetings 2X10X3	60	\$ 720.00				
CLMP meetings 4X10X3	120	\$ 1,440.00				
Review plan drafts	25	\$ 300.00				
Water samples	8	\$ 96.00				
Fisheries	4	\$ 48.00				
Implementation plan updates	20	\$ 240.00				
EWM treatment	8	\$ 96.00				
	253					\$ 3,036.00
						\$ 61,214.22

LAKE/RIVER PLANNING GRANTS PROJECTED LAB COSTS

Grand Total

Lake Name: Tomah
 Waterbody ID#:
 County: Oneida
 Applicant Name: Tor

Review Period:
 Application Period: 02

Parameter	Analyses For Grant	Grant Cost For Parameter
NUTRIENTS		
DISSOLVED REACTIVE P (ORTHO)	0	\$0.00
TOTAL PHOSPHORUS	1	\$24.31
TOTAL DISS PHOSPHORUS (AS P), (EPA 365.1)	0	\$0.00
TOTAL KJELDAHL NITROGEN	1	\$35.00
NITRATE+NITRITE (AS N), DISS (EPA 353.2)	1	\$28.64
AMMONIA-N, DISSOLVED	0	\$0.00
OTHER WET CHEMISTRY		
AUTOMATED CONDUCTIVITY, PH & ALKALINITY	0	\$0.00
ALKALINITY, GRAN TECHNIQUE	0	\$0.00
CHLORIDE	0	\$0.00
CHLOROPHYLL A, FLUORESCENCE, FIELD FILTERED	0	\$0.00
CHLOROPHYLL A, FLUORESCENCE LAB FILTERED	0	\$0.00
COLOR, TRUE, PT-CO	0	\$0.00
HARDNESS, CALCULATION METHOD (When Metals Done)	0	\$0.00
HARDNESS, CALCULATION METHOD (When Metals not Done)	0	\$0.00
SULFATE (EPA 375.2)	0	\$0.00
SUSPENDED SOLIDS	0	\$0.00
TOTAL DISSOLVED SOLIDS, 180 C	0	\$0.00
TOTAL VOLATILE SOLIDS	0	\$0.00
TURBIDITY	0	\$0.00
FIELD TESTS (For each lab slip with Field Testing Recorded)	0	\$0.00
TOTAL METALS		
CALCIUM, TOTAL RECOVERABLE, ICP	0	\$0.00
IRON, TOTAL RECOVERABLE, ICP	1	\$13.79
MAGNESIUM, TOTAL RECOVERABLE, ICP	1	\$13.79
MANGANESE, TOTAL RECOVERABLE, ICP	0	\$0.00
POTASSIUM, TOTAL RECOVERABLE, ICP	0	\$0.00
SODIUM, TOTAL RECOVERABLE, ICP	0	\$0.00
DIGESTION, TOT. RECOV. LOW LEVEL, ICP + ICP SETUP	1	\$22.76
WATER BACTI		
E COLI ENZYMATIC SUBTRATE QUANTITRAY MPN	0	\$0.00
Fecal Coliform (MFFCC)	0	\$0.00
Grand Total =		\$138.29

Tomahawk Lake Association, Oneida County, WI Comprehensive Lake Management Plan Update

**AIS Control Grants – Education, Prevention and Planning
February 1, 2014**

Overview

This grant application supports the update of the Tomahawk Lake Association Comprehensive Lake Management Plan. The project is eligible under the Aquatic Invasive Species Education and Planning grants because more than half of the project costs are from AIS activities including a point intercept survey, shoreline survey, and update of the aquatic plant management plan.

Project Area

The project area includes the Tomahawk Lake System (Tomahawk and Little Tomahawk Lakes, Mud Lake, Paddle Pond, Inkwell, and the Tomahawk Thoroughfare to the Thoroughfare Bridge) in the Minocqua Chain in Oneida County. Information about project lakes is included in the table below. This project is especially significant because the Minocqua Chain is designated as a Statewide AIS Source Water. **(Point B1a)**

	Tomahawk Lake	Little Tomahawk	Thoroughfare	Mud Lake	Paddle Pond	Inkwell
Surface area (acres)	3,392	160	115	41	5	14
Max Depth (ft.)	84	48	13	26	16	32
Average Depth (ft.)	33	28	N/A	N/A	N/A	N/A
Shoreline Length (miles)	30.2	2.25	N/A	1.1	N/A	N/A

Tomahawk Lake, Little Tomahawk Lake and the Thoroughfare have good plant diversity as evidenced by the sheer number of plants and the Floristic Quality Index (Bonestro 2009). These FQI results are more than the median FQI of 24.3 for the Northern Lakes and Forest Region (Nichols 1999). **(Point C2)**. The point intercept surveys for these results are from 2006 and 2007.

Aquatic Plant Diversity Summary

Waterbody	Number of Species	FQI
Tomahawk	34	41.2
Little Tomahawk	27	32.1
Tomahawk Thoroughfare	24	32.5

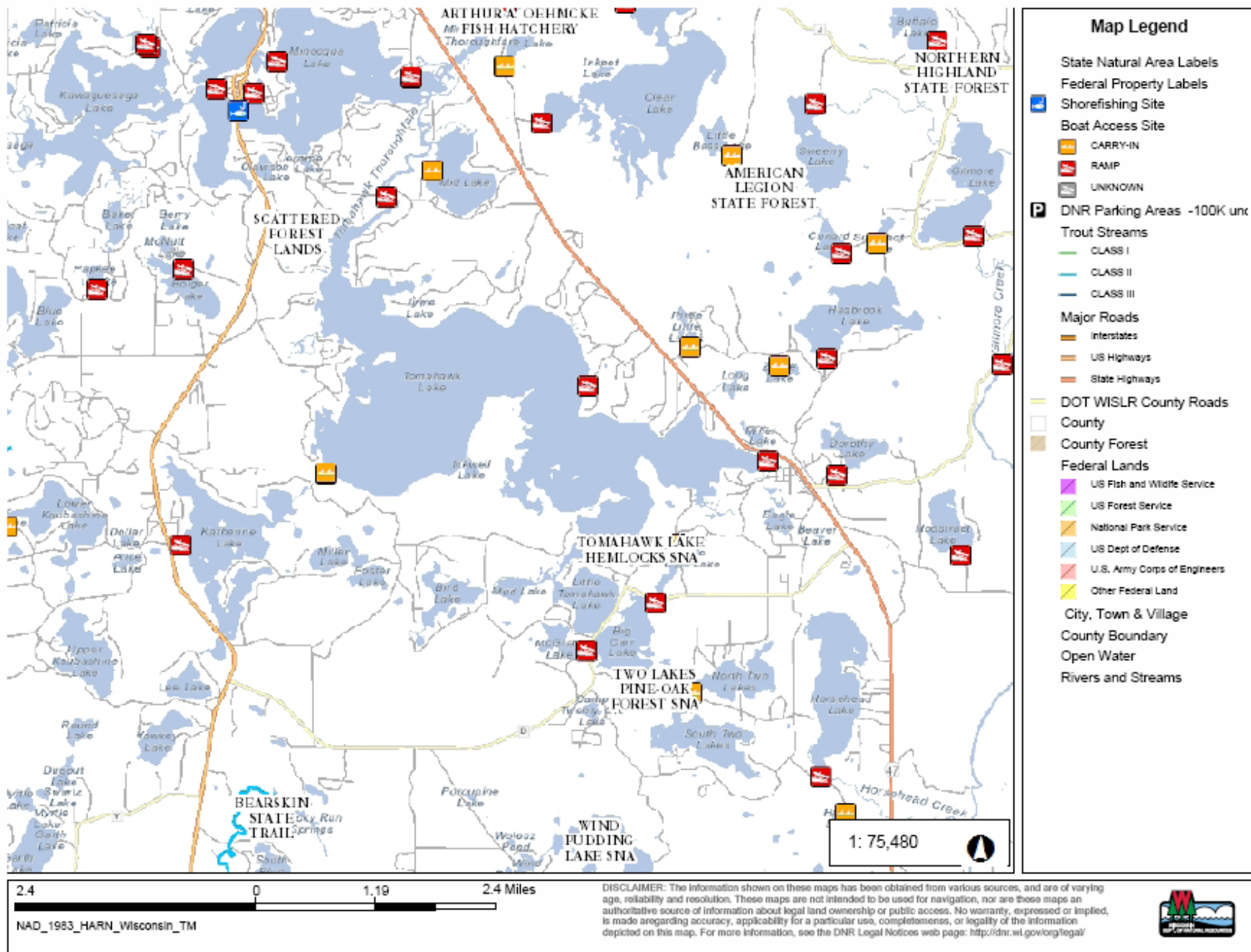
Lake Tomahawk has at least 97 vehicle/trailer parking spaces and 3 public access/boat launch points, exceeding the minimum access requirements of 68. **(Point F1)**

Boat Access Sites

Name	Waterbody	Manager
Tomahawk Road Access / Indian Mounds Campground Boat Access	Tomahawk Lake	Department of Natural Resources
Lake Tomahawk Boat Landing Park	Tomahawk Lake	Village of Lake Tomahawk
Tomahawk Thoroughfare Access	Tomahawk Thoroughfare	Town of Minocqua
Katherine-Tomahawk Channel Carry-In	Tomahawk Lake	Unknown

Source: DNR Web View

As a popular tourist destination, there are many additional significant alternative public access and use opportunities **(Point F2)**. For example, the Katherine-Tomahawk Channel provides a carry-in access for Tomahawk Lake and the Lake Tomahawk Park access provides accessible parking, boarding docks, and routes of travel. Clearwater Camp for Girls provides a rustic summer home for girls ages 8-16 on Tomahawk Lake. Smithings Woodhill Resort provides rental cabins on the lake.



Tomahawk Lake System Public Access Sites

Lake Association AIS Prevention and Education (Point A4)

TLA's Clean Boats, Clean Waters Program has had several successful years, educating boaters on the need to be good stewards of the lake. In addition to performing watercraft inspections at the two largest boat ramps, ramp attendants present AIS educational material to boaters.

Boat numbers were down in 2013, due to an unusually cold spring and early summer. There was an uptick in use during the last half of July and all of August. Clean Boats Clean Waters coverage is provided at the ramps from noon to 5 p.m. on Friday and from 8 a.m. to 5 p.m. on both Saturday and Sunday of each weekend during the summer season. The TLA provides this coverage using paid staff, supplemented with volunteers throughout the week. In 2013 this totaled 580 hours.

EWM Herbicide Treatment Efforts (Point H2)

The TLA EWM management program includes herbicide treatment and diver removal with the hydraulic conveyor system (HCS). EWM Sentinels complete volunteer monitoring and the TLA executive director performs professional pre and post monitoring surveys and mapping. Volunteers (17 teams with 2 or more volunteers each) map EWM beds twice each year, and the HCS team uses this data to identify areas for diver removal. The TLA also uses the volunteer data for bed mapping.

In 2013 the HCS harvested a total drained weight of 20,311 pounds of EWM from 83 sites. The HCS also harvests around docks and boat houses and in areas of high boat traffic, attempting to reduce plant fragmentation due to boat propellers traveling through the EWM beds.

According to the *2013 Post Treatment and Plant Inventory Survey*, EWM was reduced in herbicide treated areas by 66 percent. However, additional/new areas were identified for herbicide treatment in the spring of 2014. A total of 40 acres of treatment is planned for spring 2014, with many treatment areas under one acre.

Comprehensive Lake Management Plan

The *Comprehensive Lake Management Plan (CLMP) for the Tomahawk Lake System* was prepared for the Tomahawk Lake Association September 30, 2009 by Bonestro. The CLMP met requirements for aquatic plant management planning and guides EWM management and AIS prevention efforts. Grant funding for this project was provided in 2007.¹ **Point (I1)**

Problems to be Addressed

The Comprehensive Lake Management Plan needs to be updated.

- A full point intercept survey is due for the lakes
- Public opinion may have changed since the CLMP plan development
- EWM management efforts have progressed greatly and management methods modified along the way
- An updated EWM management strategy is needed

¹ AIRR-026-07 and AIRR-045-08

- Slender naiad, purple loosestrife, and other aquatic plants present new management challenges
- Additional lake management activities such as shoreland vegetation preservation and restoration need to be considered

Project Goals and Objectives

The goal of this grant project is to update the Tomahawk Lake System Comprehensive Lake Management Plan. This plan will guide lake management efforts of the Tomahawk Lake Association and its partners.

Objectives under this goal include:

- Conduct a full lake system point intercept survey
- Conduct/update a public opinion survey
- Gather information to characterize the shoreline of Tomahawk and Little Tomahawk Lake and provide management direction
- Complete a CLMP that meets requirements of both aquatic plant management planning (NR 198.43(1) **(Point C1a)** and lake management planning NR 191.45(2)
- Involve lake volunteers in the planning process

Methods and Activities

Methods and Activities are detailed in the attached Scope of Work provided by Harmony Environmental. Harmony Environmental was selected for this project in a competitive bidding process by the TLA CLMP Update Steering Committee.

Activities include the following:

A professional point intercept survey according to DNR developed GPS points and protocols. **(Point A3)**

A lake user/public opinion survey

Updated water quality data to supplement citizen lake monitoring

A review and update of 2009 watershed study

A shoreline characterization

Updated fisheries information

Working with a volunteer citizen's advisory committee, develop the CLMP to meet the specifications of NR 198.43(1) and NR 191.45(2). Background information from project studies and available information will be gathered and provided to the committee. Committee members will review drafts and provide input at a series of committee meetings initially focused on aquatic plant management then on other lake management activities. The project consultant will facilitate the meetings, draft meeting results, and incorporate them into draft documents for committee review. DNR staff will be invited to committee meetings. Final draft will be provided for public then DNR review. The committee will be involved in incorporating resulting comments. **(Point C1a)**

The plan will include:

- An implementation strategy to protect habitat and aquatic resources and prevent the spread of invasive species. **(Point G1)**
- An implementation strategy for shoreland restoration, habitat protection, and sediment and nutrient control. **(Point G2)**
- A review and update of the Recreation and Tourism, Education and Communications Programs from the 2009 TLA CLMP.
- An implementation strategy for aquatic plant management and lake management activities.

Monitoring and Assessment

Monitoring and assessment work includes the following:

- PI Survey
- Shoreline Assessment
- Water Quality Sampling
- Watershed and Lake Modeling

Products or deliverables / data collected

- ✓ CLMP to include all monitoring and assessment results. Some of the results will be provided as plan appendices.

Existing and Proposed Partnerships

(Point H3)

Town of Minocqua provides significant financial contributions to the Tomahawk Lake Association each year to assist with management programs. In 2014, the Town is providing \$15,000 to support the Lake Association. The Town budget is attached to this application.

Oneida County AIS Coordinator will provide assistance with AIS education, plant identification, and training. A letter from Michele Sadauskas, Oneida County AIS Coordinator documents this support.

Existing Plans or Management Efforts

Oneida County Land and Water Resource Management Plan 2012-2016

Goals and the Land and Water Plan support this grant project.

Goal 1: Slow the spread of invasive species.

Goal 2: Protect shoreland areas.

Goal 3: Restore shorelands.

The *Comprehensive Lake Management Plan (CLMP) for the Tomahawk Lake System* was prepared for the Tomahawk Lake Association September 30, 2009 by Bonestro.

Project Timetable

The project timetable is included in the attached scope of work. The project will run from 2014 – 2015. A general schedule is included below.

Lake User Survey	Fall 2014
Water Sampling	Summer 2014
Shoreline Characterization	Fall 2014
Water Quality Modeling	Winter 14/15
PI Survey	June and August 2014
CLMP Plan Development	Fall 2014/Winter 2015
Draft CLMP	June 2015
Final CLMP	July 2015

Plan for Sharing Project Results

The CLMP will serve as the grant project final report.

Newsletter articles and presentations at the Lake Association's meetings will report project results to lake residents.

News releases of grant award and project results

Itemized Budget (see attached)

Affiliated Organizations

The Tomahawk Lake Association is currently a member of the following related organizations: Wisconsin Lakes, Oneida County Lakes & Rivers Association, and the Minocqua Area Chamber of Commerce

Organization Funding

Documentation of Current Financial Status included

Additional Information

Project Scope of Work

Newsletters

TLA sends a spring and fall newsletter by mail and/or e-mail and eight e-mail blasts per year. The purpose of the newsletter and e-mail blasts is to provide information about Tomahawk Lake, encourage membership in TLA, and provide information of upcoming events and programs. TLA has a web site and a Facebook page.

Town of Minocqua Budget

2013-14 Officers and Directors (w/county of residence)

Paul Shain, President - Madison, WI
Jim Andersen, Vice President – Madison, WI
Margo Oppenheim, Secretary – Minocqua, WI
Scott Harmsen, Treasurer – Pewaukee, WI
Ned Greedy, Executive Director – Minocqua, WI
Tom Anderson – Lake Forest, IL
Rebecca Bortner – Milwaukee, WI
Kris Hunt – Wheaton, IL
Jim Kavemeier – Waukesha, WI
Noah Lottig – Arbor Vitae, WI
Louis Molepske, Jr. – Stevens Point, WI
Adam R. Redman – Minocqua, WI

Tomahawk Lake Association Financials

	A	B	C	D	E	F	G
1	Updated 1-11-14			ACTUAL	ACTUAL	2013	2014
2	Income			2012	Jan-Dec 16 2013	BUDGET	BUDGET
3			4000-1 - Minocqua	15,000.00	15,000.00	\$ 15,000.00	\$ 15,000.00
4			4000-2 - Hazelhurst	1,000.00	1,000.00	1,000.00	1,000.00
5			4000-3 - Lake Tomahawk	1,000.00	4,000.00	4,000.00	4,000.00
6			4000-4 - Woodruff	2,500.00	3,000.00	3,000.00	3,000.00
7			Total 4000 - Town Revenue	19,500.00	23,000.00	23,000.00	23,000.00
8							
9			4003 - Grant Revenue	91,111.87	84,921.46	75,000.00	75,000.00
10			4003-1 CLMP Grant Revenue (75% of 66	-	-	-	15,675.00
11			4004 - Interest Income	544.25	306.50	550.00	300.00
12			4005 - Membership - Fair Share	80,181.00	74,645.00	80,000.00	80,000.00
13			4007-1 Miscellaneous	-	500.00	-	-
14			4007-2 Picnic	257.00	309.00	-	-
15			4007-3 Swim Challenge	-	3,130.00	-	3,000.00
16			4008 - Wine Tasting	-	4,145.00	1,500.00	4,000.00
17			4012 - In Kind Donations	2,787.76	2,983.36	2,000.00	2,000.00
18			4016 - Merchandise Sales	-	330.00	2,000.00	-
19			Total Income	194,381.88	194,270.32	182,050.00	202,975.00
20			Expense				
21			5000 - Accounting Fee	3,792.35	2,900.00	4,500.00	4,500.00
22			5005 - Chemical Treatment Application	120,855.20	55,495.65	55,000.00	60,000.00
23			5009 - Website Transaction fees	80.96	39.18	75.00	75.00
24			5010-2 - Postage-Executive Director	153.49	58.31	150.00	150.00
25			5010 - Postage - Other	993.29	1,020.24	800.00	1,000.00
26			5014 - HCS AIS Harvesting Expense	971.03	2,813.79	1,300.00	1,700.00
27			5015 - Purple Loostrife Control	-	87.54	-	250.00
28			5019 - Clean boats clean water exp	125.91	456.76	400.00	400.00
29			5021 - Swim Challenge	-	1,080.20	-	1,200.00
30			5023 - Fees	170.00	195.00	200.00	200.00
31			5024 - Gas	782.53	1,990.31	800.00	2,000.00
32			5025 - Grant Application	-	-	1,500.00	-
33			5030 - Insurance	7,709.00	7,138.00	8,000.00	8,500.00
34			5034 - Internet	1,716.01	1,704.22	1,800.00	1,800.00
35			5035 - Legal	-	-	-	-
36			5040 - Meeting and picnic supplies	1,423.80	1,519.56	1,500.00	2,500.00
37			5046 - Parade	286.31	-	300.00	300.00
38			5042 - Miscellaneous (2014 GPS units)	36.00	-	100.00	2,000.00
39			5042-1 Wine Tasting Expense	-	2,150.00	-	2,250.00
40			5042-2 Mailing List Development	-	-	-	2,000.00
41			5049 - Newsletter	270.00	664.13	500.00	750.00
42			5044-2 - Office Supplies-Exeuctive Dir	459.82	547.52	500.00	500.00
43			5044 - Office Supplies - Other (compute	251.91	-	150.00	900.00
44			5051 - Permits	1,570.00	1,375.00	1,600.00	1,600.00
45			5056 - Design services	1,657.00	1,697.00	1,700.00	1,700.00
46			5055 - Printing - Other	2,126.42	1,944.46	2,200.00	2,200.00
47			5065 - Survey	1,358.61	690.99	1,000.00	1,000.00
48			5071 - Conferences/Training	-	488.11	600.00	600.00
49			5075 - US Post Box Rental	44.00	44.00	50.00	50.00
50			5077 - Storage unit rental	420.00	420.00	420.00	420.00
51			5086 - Workshops	-	180.00	200.00	200.00
52			5400 - Depreciation Expense	4,286.00	3,707.00	-	-
53			6001 - Executive Director Salary	48,250.02	47,322.00	49,500.00	51,000.00
54			6001 - Executive Director Bonus	2,500.00	-	2,500.00	2,500.00
55			6004 - Executive Director LTIP	4,500.00	-	3,000.00	4,500.00
56			6002 - Wages	22,650.00	25,448.75	27,000.00	27,000.00
57			6003 - Payroll Taxes	5,792.08	5,719.12	6,000.00	6,000.00
58			6000 - Payroll Expense - Other	-	600.00	-	-
59			Adjustments	(50.00)	-	-	-
60			6005 - Contingency	-	-	5,000.00	5,000.00
61			6006 - CLMP Fees (70% in 2014)	-	-	-	39,750.00
62			Total Expense	235,181.74	169,496.84	178,345.00	236,495.00
63			Net Income	(40,799.86)	24,773.48	3,705.00	(33,520.00)
64							
65	CLMP Notes:						
66			Expenses of \$57,750, with \$39,750 in 2014 and \$19,500 in 2015				
67			Revenues of \$34,700 - with \$15,675 in 2014, \$8,875 in 2015, and \$10,150 in 2016				
68			Assumption is 66% WDNR reimbursement. Could be 75% if AIS grant is received instead				

**TOWN OF MINOCQUA
2014 BUDGET WORKSHEET**

	2011	2012	2012	2012	2013	2013	2013	2014
	BUDGET	BUDGET	BUDGET	ACTUAL	BUDGET	AS OF 8/31	PROPOSED	
Total 5534000 · WINTER PARK	13,089	13,089		13,087	13,089	6,372	15,567	
5535000 · SNOWMOBILE SYSTEM								
5535000 · Snowmobile Trails	19,000	19,000		19,500	19,000	19,500	19,500	
5535500 · Snowmobile Patrol	2,000	2,000		0	2,000	0	2,000	
Total 5535000 · SNOWMOBILE SYSTEM	21,000	21,000		19,500	21,000	19,500	21,500	
5536000 · PUBLIC BOAT LANDINGS								
5536000 · Fishing Pier	500	500		0	800	0	0	
5536400 · Public Piers	800	800		1,407	800	112	7,600	
5536500 · Boat Landing Repairs	4,250	0		800	1,000	0	0	
Total 5536000 · PUBLIC BOAT LANDINGS	5,550	1,300		2,207	2,600	112	7,600	
5537000 · AQUA BOWL								
5537800 · Future Outlay - Lights	0	5,000		0	40,000	52,233	0	
5537900 · Insurance Assist. - Aqua Bowl	3,000	3,000		3,000	3,000	3,000	3,000	
Total 5537000 · AQUA BOWL	3,000	8,000		3,000	43,000	55,233	3,000	
5538000 · ICE ARENA								
5538001 · Lakeland Hawks Ice Hockey	8,000	7,000		7,000	7,000	7,000	7,000	
Total 5538000 · ICE ARENA	8,000	7,000		7,000	7,000	7,000	7,000	
5539000 · LAKE PROTECTION								
5539100 · MKLPA Management Plan	26,000	25,000		25,000	25,000	25,000	25,000	
5539115 · Salaries - Parttime	0	0		0	0	5,400	0	
5539151 · Social Security	0	0		0	0	371	0	
5539200 · TLA Management Plan	26,000	15,000		15,000	15,000	15,000	15,000	
Total 5539000 · LAKE PROTECTION	52,000	40,000		40,000	40,000	45,770	40,000	
5539700 · SENIOR CENTER								
5539750 · Lakeland Senior Center	19,333	14,000		14,000	12,500	12,500	12,500	
5539760 · Future Building Improvements	0	0		0	0	0	0	
Total 5539700 · SENIOR CENTER	19,333	14,000		14,000	12,500	12,500	12,500	
TOTAL 5530000 · PARKS & REC. INFRASTRUCTURE	193,772	168,314		290,330	215,839	206,481	202,964	
5720000 · HEALTH & SOCIAL SERVICES								

TLA CLMP Scope of Work

Harmony Environmental/Ecological Integrity Service/Growth Strategies

Description of Firm and Staff

Cheryl Clemens of Harmony Environmental will lead the project. Steve Schieffer of Ecological Integrity Service will provide technical support completing the aquatic plant point intercept survey, shoreline survey, and input toward the development of the CLMP. Valerie Hogan of Growth Strategies will distribute and evaluate public survey results.

Invoicing will be through Harmony Environmental.

We plan to use the information in the current CLMP as a resource some of which will likely be incorporated by reference, and can follow the existing plan outline. We will use our own language and experience in writing the updated plan rather than using the existing plan as a boilerplate.

Public Survey

As mentioned above, Valerie Hogan of Growth Strategies is the lead for survey distribution and compilation of results. Cheryl Clemens will provide input for the development of survey questions and will finalize the questions with Valerie and input from DNR representatives and the TLA CLMP Steering Committee.

TLA CLMP Steering Committee Volunteers

Involvement of the Steering Committee is welcome. For a successful plan, it is critical that Steering Committee members understand the plan and the rationale for recommended actions for implementation.

The budget reflects Steering Committee involvement in the following tasks:

Develop survey questions

Prepare for and provide input at 2 meetings focused on APM plan updates

Prepare for and provide input at 4 meetings focused on remaining CLMP content

Review draft and final documents and participate in final plan meeting if needed.

Take water samples

Gather data for plan update: fisheries, implementation progress, EWM control efforts, etc.

If volunteers are unavailable to complete the listed tasks, additional consulting costs may result.

Estimated Cost

Please see the project scope update table and spreadsheet for a breakdown of cost.

Consultant Fees and Travel:	\$51,954
Survey Print/Mail:	\$2,458.52
Volunteer hours:	253 (valued at \$3,036)

Scope of Services

Harmony Environmental will provide services as outlined in the project scope, CLMP Plan Update Table, and spreadsheet for the breakdown of costs. Detailed scopes of work are provided for Ecological Integrity and Growth Strategies subcontracts.

Addendum to the Project Scope

All changes to the project scope shall be by addendum. All addenda must be in writing. An addendum shall include the following information: The date the change is requested, a description of the proposed change (task amendment or addition), a statement to indicate if the proposed change will increase, decrease or not affect the existing contract price. The addendum is to be executed and dated by an authorized representative of TLA and Harmony Environmental. No work will proceed until the contract change order is executed by TLA and Harmony Environmental. The addendum will amend and be attached to the original Scope of Work agreement.

For Addendum to the Project Scope authorized by the TLA and performed by Harmony Environmental, TLA will pay the Harmony Environmental on an hourly basis, plus Reimbursable Expenses. As an alternative if agreed to by both parties, TLA will pay Harmony Environmental on a lump sum basis where the amount is negotiated between the two parties.

Billing Rate Schedule

Harmony Environmental's hourly charges for Addenda will be based on \$80.00/hour for professional services and \$35/hour for clerical services.

Environmental Integrity Service's hourly charges for Addenda will be based on \$75, principal scientist, \$20, lead technician, \$15 assistant technician.

Growth Strategies hourly charges for Addenda will be based on \$50 for professional services and \$25 for clerical services.

For Growth Strategies work:

- Fees for "online survey development, meetings, report production & project management" will not exceed the amount above unless the scope of the project changes and I receive approval to undertake additional work.
- If actual hours are less than what is estimated, Harmony Environmental will not be charged for hours that are not worked.
- If the number of follow-up surveys exceeds what is estimated, or more than 150 surveys need to be entered, additional time will be charged at \$25/hour.
- Expenses will be billed at cost. Changes in the survey size, number of mailed items, weight changes, etc. will affect the associated costs above. If changes occur, new costs will be estimated and approved in advance.

Project Scope

An update to the Tomahawk Lake Comprehensive Lake Management Plan will contain five principal elements:

1. A lake user survey including an analysis of changes in responses to the 2005 lake user survey.
2. An updated of the aquatic plant management plan. The plan requires a new point-intercept aquatic plant intercept survey. The survey is to be conducted using WDNR plant identification, distribution and abundance protocol. A comprehensive comparison and analysis of new aquatic plant intercept survey to the previous 2007 plant intercept surveys is to be provided.
3. New water quality data and analysis including a review of long-term trends.
4. A review and if necessary an update of the Tomahawk Lake System Watershed and a comprehensive review of changes from the 2009 watershed study. ***Note: the 2009 study used land use data from 1992 Satellite Records. Updated watershed information is available for the Tomahawk Lake watershed from the North Central Wisconsin Regional Planning Commission. NCRPC will provide this data at no cost. The new watershed information will be used to update a water quality model for Lake Tomahawk using both the WiLMS and Bathtub models. We will also examine***

5. A review and recommendations for the update of the Recreation and Tourism, the Education, and the Communication Programs identified in the 2009 TLA CLMP

CLMP Plan Update Table

Note: This timeline would be used if an AIS Education and Planning Grant is secured. The timeline would be delayed if funding is through a 2-phase Lake Planning Grant.

CLMP Update Chapter	Whose Responsibility	Description of Anticipated Outcomes	Chapter Update Timeline	Budget (Consultant Costs only) ¹
1.0 Executive Summary	TLA CLMP Update Steering Committee & Consultant	Highlight critical points of plan update and a documentation of the vision statement, goals and objectives of the plan.	April 2015	\$480
2.0 Plan Update Introduction	TLA CLMP Update Steering Committee & Consultant	Description of the reason for the CLMP plan, why the current CLMP needs to be updated, who is preparing the plan and major lake concerns	April 2015	\$160
3.0 Lake User Survey	TLA CLMP Update Steering Committee, WDNR & Consultant	In cooperation with the WDNR assess the perceptions, and values of stakeholders. The current survey responses will be compared the 2007 lake survey stakeholder responses.	October – Nov. 2014	\$1,800
4.0 Resource Areas of the Tomahawk Lake System	TLA CLMP Update Steering Committee & Consultant	Description of the natural resource areas within the Tomahawk Lake System and lake specific information.	April 2014	\$640
5.0 Aquatic Plant Management Plan	Consultant	To survey and assess the TLA System aquatic plant communities using WDNR plant identification, distribution and abundance protocol. Compare the survey results with the 2007 plant survey. To provide details related to the threats to the native aquatic plant community, to identify ways of preserve native aquatic plant communities, to manage aquatic invasive species, to prevent the introduction of new aquatic invasive species, and to educate stakeholders of the	PI Survey: June and August 2014 PI Write-up January 2015 EWM Treatment Analysis: Summer 2014 APM Plan Development: Winter 15	\$19,617 \$6,000

¹ See spreadsheet for additional cost estimates

		current status of the identified plant communities and how to best manage the plant communities. Finally to identify financial assistance for the identified management and education activities identified in the plan.		
6.0 Water Quality Analysis	Consultant	Following the WDNR Long term trend water quality monitoring protocol provide current and review historical water quality data. To use the data to make comparisons and observe trends in the Tomahawk Lake System water quality. To recommend ways to preserve or improve the lake systems water quality.	Samples: spring turnover and summer 2014 Water quality models: Winter 2014/15	\$320 \$1,100
7.0 Fisheries Summary Report	TLA CLMP Update Steering Committee, WDNR & Consultant	To work in concert with the WDNR to provide a brief current and historical overview of the status of the Tomahawk Lake System fishery. To identify project and programs which will enhance the fishery within the Tomahawk Lake system.	Winter 2014/15	\$320
8.0 Watershed and Land Use Evaluation	Consultant	A review and if necessary an update of the 2009 CLMP Watershed and Land Use chapter. To conduct a shoreline characterization (assessment) and shoreline restoration recommendations. To identify and describe the existing Tomahawk Lake System watershed and land use patterns. To assess how existing land use impacts the watershed and its overall water quality.	Shoreline Characterization: Fall 2014 Watershed Analysis: Summer 2014 Water quality models 2014/15	\$1,800 (see Task 6.0)
9.0	TLA CLMP Update	The implementation plan	Winter 2015	\$7,200

Implementation Plan	Steering Committee & Consultant	provides a map to guide the TLA Board of Directors, TLA committee chairs, and community volunteers to achieve the goals of the TLA Board and WDNR approved Tomahawk Lake System CLMP Update.		
Draft and Final Plan	Update Steering Committee & Consultant	Prepare plan for committee and public review. Incorporate comments and prepare for DNR Review	Committee Draft: May 2015 Public Review: June 2015 Final Plan for DNR Review: July 2015	\$3,200
Lake Protection and AIS Grant Applications			February 2016	Costs not included

Proposal for Tomahawk Lake

Submitted by Steve Schieffer of Ecological Integrity Service, LLC, Amery WI

754 107th St. Amery, WI 54001

ecointegservice@gmail.com 715-554-1168

Oct 31, 2013

This proposal is for an aquatic plant survey only (using point intercept). The proposal may be accepted *in part or whole*.

Aquatic Plant (Macrophyte) Survey

This proposal will include the following components:

- A point intercept method of survey for the entire acreage of Tomahawk Lake and other small lakes listed in cost list. All sample points will be sampled up to 25 ft. (or greater if depth of plants is higher) **Point selection conducted by Wisconsin DNR and follow.** Points beyond littoral zone will be sampled enough to establish deepest with plants (usually one beyond point with no plants). Depths will be recorded at all points to the nearest 0.1 feet.
- Areas potentially under sampled near shore will be surveyed from boat.
- Early season (June) and late season (July/August) data collection to increase validity of seasonal growth variations is recommended. This will allow for locating the AIS curly leaf pondweed if present.
- All pertinent data entry and statistical analysis as proposed by WI DNR. This will include (each will be explained as to what it indicates about lake ecosystem):
 - Species richness.
 - Maximum depth of plants
 - Frequency of occurrence littoral zone and whole lake.
 - Area of littoral zone.
 - Floristic Quality Index (FQI) and comparison in Eco region.
 - Simpson's diversity index
 - Number of species (native) per sample point
 - Depth/diversity correlation
 - Predominant sediments
- Identification of all species collected, with verification when needed from the University of Wisconsin Stevens Point Freckman Herbarium and/or Susan Knight of Wisconsin DNR.
- Special attention to species and location of exotic plant species. This will include the surveying the entire lake littoral zone for AIS in the early and late season survey, beyond points sampled.
- Two voucher specimens of all species collected, including specimens at near-shore boat survey areas. Vouchers will be pressed and mounted on herbarium paper with one submitted to Wisconsin DNR and the second to the Lake District.
- All data entered and provided in Excel and as database in Arc View for future mapping.
- Grid and data for each point in Lat/Long, in spreadsheet format, files archived as suggested by the Wisconsin DNR
- A written summary of survey with analysis, summary, and maps of each species printed and archived in word document camera ready or pdf file; three hardcopies; a burned

onto CD and/or DVD. 2014 PI data will compared to previous PI surveys with an analysis the evaluates any changes in the plant community.

Waterbody	Est. Cost
Tomahawk Lake 1550 pts	\$10,571.00
Thoroughfare 134 pts	\$871.00
Paddle pond 27 pts	\$175.00
Inkwell Lake 43 pts	\$279.00
Mud Lake 81 pts	\$526.00
Little Tomahawk 200 pts	\$1,300.00
Early season CLP (AIS)-all pts at all lakes	\$5470..00
Subtotal	\$19,192.00
Travel/expensis	\$425.00
Total	\$19,617.00

Timeline

Aquatic plant survey conducted June and July/August of 2014. Data entered, mapped and analyzed by January 31, 2015.

Deliverables:

All species surveyed at each point will be identified and entered in an Excel spreadsheet. All species surveyed from boat at near-shore points will be identified and GPS coordinates entered. A spreadsheet with data of each species will be provided, including GPS coordinates, depth, sediment type, and rake fullness for all species present. This spreadsheet will be in the format similar to the Wisconsin DNR PI survey spreadsheet. In addition, all data will be provided as a database table for ArcView for future mapping and querying by the Lake Association and/or future consultants.

A final report will be provided with a summary of the data, presence (density) and location of any exotic species such as Eurasian water milfoil or curly leaf pondweed. The voucher collection will include 2 samples of each species pressed, mounted and labeled on herbarium paper.

Analysis report provided in word document or pdf in camera ready file, 3 wire bound hard copies, and on CD and/or DVD.

Scope of Work: Shoreline Survey-Tomahawk Lake/Little Tomahawk Lake

Provided for: Tomahawk Lake Association

Provided by: Ecological Integrity Service, LLC/ as a subcontractor to Harmony Environmental, Inc.

The Tomahawk Lake Association CLMP Committee chose Method One for shoreline evaluation/inventory in the summer, 2014. Shoreline Characteristics will be recorded and mapped for stretches of shoreline. The stretches will be defined by reaches, with emphasis on developed areas (or 200 foot segments to be determined later). The large sections of natural areas will be combined as one reach as encountered, unless there are dramatic land cover changes. The entire shorelines of Tomahawk Lake and Little Tomahawk Lake will be evaluated.

GPS points will record the location of these stretches. The GPS coordinates of each reach will define the reach at beginning and end.

Photos will be taken only to record examples of shoreline characteristics (Method 1). Photo-documentation of each reach is available in a deliverable at additional cost.

Shoreline Inventory

Method 1

Each reach of shoreline will be ranked from 1 to 5 for the following characteristics within 35 feet of the Ordinary High Water Mark. Large segments of natural area will be considered one reach as they are encountered. It is assumed these areas will be dominated by natural vegetation with no development. (Ranking will be refined prior to inventory.)

Score	1	2	3	4	5
Tree Canopy Cover	100%	75%	50%	25%	10% or less
Shrub Canopy Cover	100%	75%	50%	25%	10% or less
Groundcovers (native or naturalized)	100%	75%	50%	25%	10% or less
Slope	0%	<5%	5-9	10-19	20%+
Hard Surfaces	<5%	5-10%	11-15%	16-20%	20%+

Record GPS points of the following:

- Beginning and end of reach being evaluated.
- Woody debris at all locations observed during survey.
- Channels/culverts of water flow

- Serious/visible erosion problems – record type (e.g., shoreline, construction, gullies, other). These areas can/will be photographed and linked to GPS coordinates.

GIS output as follows:

All maps mapped in ArcMap 10.2, with an aerial photo basemap of Tomahawk Lake and Little Tomahawk Lake

Map showing all woody debris locations (estimated size?)

Map showing all channels/culverts of water flow.

Map showing location of all serious/visible erosion problem areas.

Map color coding mean shoreline rating for each reach/segment evaluated.

Other data can be extracted upon more specific requests (i.e., map of hard surface by %)

(note: this could add cost, depending on the amount of data mapped. All data will be provided on spreadsheet format, so all will be available to be utilized in future.)

Method 1 estimated cost:

Method 1	Time/Rate	Estimated cost
Data collection for shoreline survey/data entry-lead	110 hrs @ \$20	\$2,200.00
Data collection for shoreline survey/data entry asst.	100 hrs @ \$15	\$1,500.00
Data entry and compile	20hrs @ \$20	\$400.00
GIS mapping and map production	25 hrs @ \$30	\$750.00
Project setup and oversight-professional consultation	23 @ \$80	\$1,840.00
Travel and expenses	340miles/camping/boat gas	\$587.00
Total		\$7,277.00

Method 1 deliverables:

- All maps listed under GIS in electronic format w/GIS files
- Spreadsheet with all data collected
- Camera ready, color hardcopies of all maps
- Electronic files of all data, maps (GIS files) and photos on CD.
- Summary of calculated %'s of shoreline ratings.

Note: Analysis of Lidar photos may be used as a full or partial substitute for an on-site shoreline survey. An estimate of cost will be provided by Oneida County's Lidar contractor.

Should TLA decide to use LIDAR for the shoreline assessment, a change in project scope would result and an addendum would be required. A delayed selection of shoreline assessment method may result in a delay in execution of the on-site shoreline assessment.



GROWTH STRATEGIES, INC.

Planning, Implementation and Improvement

**Proposal to
Harmony Environmental**

On 1/12/14 for

**Tomahawk Lake Association
Survey Development, Distribution, Entry & Reporting**

**Submitted by
Valerie Hogan, President
Growth Strategies, Inc.**

1500 County Road C, Star Prairie, WI 54026

715-248-4849 valerie@growthstrategies.org

Introduction

This proposal is based on conversations with Harmony Environmental about subcontracting with Growth Strategies, Inc. to provide survey-related services for the Tomahawk Lake Association.

Through a community survey, the Tomahawk Lake Association would like to collect information about subjects such as:

- Recreational activities,
- Public access issues,
- Perceptions about water quality and what practices affect it,
- Knowledge of invasive species and plant management,
- Opinions about fishery-related conditions, and
- Watershed concerns.

This proposal outlines work related to survey development, distribution, data entry, summarization and reporting of results.

Work Plan

The following table outlines project activities and responsible parties, based on the following assumptions:

- Survey questions will be developed by the Tomahawk Lake Association and Harmony Environmental, then provided to Growth Strategies.
- The mailing list will be provided to Growth Strategies (in an Xcel spreadsheet).
- Survey Monkey will be used to develop, receive, and report on the online surveys (during a 3-month period – 1 month development and testing, 2 months for receipt and processing).
- MailChimp (free) will be used to create and do mass-mailings notifying the E-mail list.
- The survey contents will be similar to the previous 33-question survey that was provided as a sample.
- Survey & Reminders:
 - Step 1: The initial mailing will include approximately 400 mailed surveys and 265 E-mailed announcements. Surveys may be completed manually and mailed back, or residents may use the Internet to complete an online version.
 - Step 2: Reminders will be sent to those who have not completed the survey within a designated timeframe (estimated at 248 postcards and 212 E-mail reminders).
 - Step 3: A second reminder will be sent to those who have not yet responded (estimated at 288 mailed surveys – full version).
- Unique tracking numbers will be included on the mailing labels, and will be used to identify those who will receive follow-up mailings, if responses have not been received within a designated timeframe. (These tracking numbers will also be required for online data entry.)
- Growth Strategies will enter information from approximately 150 surveys that are manually completed and mailed back.
- Survey results will be generated using Survey Monkey reports.

GS=Growth Strategies, HE=Harmony Environmental

Dates/deadlines will be added when project funding is received and timeframes are confirmed

		GS	HE	Date or Deadline
1.	Meet to review the Work Plan and discuss any modifications that may be needed.	√	√	
2.	Provide survey questions to Growth Strategies.		√	
3.	Open a Survey Monkey account to use for development and entry of online surveys.	√		
4.	Develop the online survey.	√		
5.	Develop the printed survey (to closely match online version, for efficient data entry).	√		
6.	Develop a template for mass E-mail notification and upload E-mail addresses.	√		
7.	Review the online and printed versions of the survey, and the E-mail notification.		√	
8.	Meet to discuss modifications to the survey versions and E-mail notification.	√	√	
9.	Complete revisions to online survey, printed survey and E-mail notification.	√		
10.	Develop a cover letter to accompany the printed survey; forward to Growth Strategies.		√	
11.	Provide mail and E-mail lists to Growth Strategies.		√	
12.	E-mail letter and survey to printer for duplication.	√		
13.	Pick up copies, print mailing labels; stuff and mail surveys.	√		
14.	Send electronic mass mailing to those whose E-mail addresses we have.	√		
15.	Track receipt of surveys (using tracking numbers).	√		
16.	Print follow-up postcards and create reminder E-mail for those who have not completed surveys by a designated date.	√		
17.	Pick up postcards, print mailing labels, stuff and mail follow-up surveys.	√		
18.	Send electronic mass mailing reminder to the E-mail list.	√		
19.	Send second reminder (full mailed version) to those who have not responded.	√		
20.	Enter approximately 150 mailed surveys.	√		
21.	Generate summary reports and forward them to Harmony Environmental.	√		
22.	Meet to review reports and conclusions; determine if any adjustments are needed to the reporting format.	√	√	
23.	Produce and forward final reports to Harmony Environment.	√		

Summary of Deliverables & Responsibilities

Deliverables – Growth Strategies

- Develop an online survey (using Survey Monkey).
- Develop a printed survey.
- Develop an E-mail notification.
- Mail and E-mail surveys, send postcard and E-mailed reminders, mail final follow-up surveys.
- Enter data from mailed surveys.
- Generate a report containing the survey results.
- Be available to address concerns and resolve issues.

Responsibilities of Harmony Environmental

- Act as liaison between Growth Strategies and the Tomahawk Lake Association to ensure that the project activities are managed effectively.
- Provide survey questions to Growth Strategies.
- Provide a cover letter to accompany surveys.
- Provide the mail and E-mail lists (in Xcel format).
- Review and approve online and printed surveys before use.
- Review E-mail notification.
- Review survey results and approve delivery format.

Project Fees & Expenses

Based on the work plan described above and the expenses estimated below, total cost is estimated at \$4,258.52.

Summary

Online survey development, meetings, report production & project management	\$1,300.00
Survey Monkey subscription (3 months, additional taxes may apply).....	\$ 72.00
Data entry (of mailed surveys).....	\$ 500.00
Printing & mailing costs (below).....	\$2,386.52
	\$4,258.52

Detailed Printing & Mailing Costs

STEP 1 – First Contact

Method	Number		Amount
Mail	400	Cover letter/survey printing (310+extras for requests)	3 double-sided pages of 11" x 17" (folded to 8.5" x 11", then folded again to 8.5" x 5.5") 420.00
		#10 Envelopes (white)	12.00
		6" x 9" envelope (white)	67.00
		3 address labels (to/from & return)	10.00
		First class postage (2oz. @ \$0.70)	560.00
		Labor (printing/affixing labels, stuffing, etc.)	75.00
E-mail	265	Labor - create MailChimp template, insert text & send	125.00

STEP 2 – Reminder to those who have not yet responded.

Mail	248	Postcard printing	4.25" x 5.5", colored card stock, black ink (printed 4 up on 8.5" x 11" paper and cut) 105.00
		Address label	3.00
		Postage (\$0.34)	84.32
		Labor (printing/affixing labels & affixing stamps.)	25.00
E-mail	212	Labor - create message & send (using same template as above)	25.00

STEP 3 – Reminder to those who have not yet responded.

Mail	288	Cover letter/survey printing	3 double-sided pages of 11" x 17" (folded to 8.5" x 11", then folded again to 8.5" x 5.5")	320.00
		#10 Envelopes (white)		12.00
		6" x 9" envelope (white)		67.00
		3 address labels (to/from & return)		8.00
		First class postage (2 oz. @ \$0.70)		403.20
		Labor (printing/affixing labels & stamps, stuffing, etc.)		65.00
Total Printing/Mailing				2,386.52

Notes:

- Fees for "online survey development, meetings, report production & project management" will not exceed the amount above unless the scope of the project changes and I receive approval to undertake additional work.
- If actual hours are less than what is estimated, Harmony Environmental will not be charged for hours that are not worked.
- If the number of follow-up surveys exceeds what is estimated, or more than 150 surveys need to be entered, additional time will be charged at \$25/hour.
- Expenses will be billed at cost. Changes in the survey size, number of mailed items, weight changes, etc. will affect the associated costs above. If changes occur, new costs will be estimated and approved in advance.

Payment Schedule

No retainer is required for this agreement. Invoices for professional fees and expenses will be generated on a monthly basis. Payment terms will be Net 45. A finance charge of 1.5% per month will be applied to any payment received after the due date.

Termination

Either party may terminate this Agreement by providing the other party with at least thirty (30) days prior written notice. In the event of termination:

- a) Growth Strategies, Inc. will forward to Harmony Environmental all work completed to date; and
- b) Harmony Environmental will pay Growth Strategies, Inc., within thirty days, for all professional fees and expenses that have been incurred to date.

Execution

This proposal will remain valid through April 30, 2014. If you agree with the work plan and terms outlined above, and wish to enter into an agreement, please sign below and send a copy to Growth Strategies, at the address on the cover page.

Thank you for providing this opportunity to collaborate.



Valerie L. Hogan, President
Growth Strategies, Inc.

Cheryl Clemens
Harmony Environmental