

MEMORANDUM

TO: RPBCWD Board of Managers
FROM: Joshua Maxwell – Water Resources Coordinator
DATE: March 24, 2022
RE: **Assessment & Analysis of the Restoration and Maintenance of Native Macrophytes in Lakes of the RPBCWD**

- Raymond M. Newman, PI, Fisheries, Wildlife, and Conservation Biology, University of Minnesota, St. Paul, MN 55108
 - **District Funds 2022: \$49,326**
 - **District Funds 2023: \$50,353**

As part of the RPBCWD 10-Year Management Plan, the District determines the health of the aquatic vegetation community and manage aquatic invasive plants to improve the ecological health of lakes. The District will continue vegetation monitoring and management activities consistent with state Department of Natural Resources approved Lake Vegetation Management Plans and guidance from aquatic vegetation experts. These activities include but are not limited to herbicide treatments, plant transplanting, water quality improvement measures, point intercept surveys, turion surveys, ais delineations, and seed bank analysis. Vegetation surveys are conducted on a rotational basis to ensure all lakes have received adequate assessments. This frequency could be increased to aid in the decision-making process if projects arise or an issue is identified. Table 1 outlines where aquatic vegetation monitoring and assessment is addressed within the 10-Year Plan.

Table 1 – RPBCWD 10 Year Management Plan – Vegetation Monitoring & Management

Chapter 9	Section	Page Number
9.1 Watershed Management	9.1.1.2 Vegetation	9-10
9.5 Data Collection & Analysis	9.5.2.2 Lake Veg & Fisheries	9-30
9.5 Data Collection & Analysis	9.5.4 Plant Restoration	9-32
9.10 Lake Vegetation Management Plan		9-39

As part of this effort, the University of Minnesota to has for several years provided surveys and evaluation/assessment of plant communities. Per managers’ request the following memo provides an opinion of cost associated with Ray Newman’s Proposal compared within estimated consultant costs. It also provides a simplified informational table of the proposal including deliverables/outcomes and key research components.

Staff recommends the approval of the University of Minnesota Proposal led by Ray Newman’s Lab titled “Assessment & Analysis of the Restoration and Maintenance of Native Macrophytes in Lakes of the RPBCWD”.

Assessment & Analysis of the Restoration and Maintenance of Native Macrophytes in Lakes of the RPBCWD Proposal

University of MN - Professor/Researcher Raymond M. Newman

Deliverables & Outcomes

Deliverables	2022	2023	Lakes	Notes
SPRING POINT INTERCEPT SURVEY	X	X	Riley, Staring, Susan	Standard grid survey done by consultants.
SUMMER POINT INTERCEPT SURVEY	X	X	Riley, Staring, Susan	Standard grid survey done by consultants.
TURION SURVEY	X	X	Riley, Staring, Susan	Standard grid survey, consultants or staff.
SEED BANK ANALYSIS**		X	Staring, Susan	Ray Newman Lab analysis of sediment seedbank.
HERBICIDE DELINIATIONS		X	Riley, Staring, Susan	Standard roving survey; consultants or staff.
Monthly Progress Update	X	X	Riley, Staring, Susan	Summarize activities conducted, key observations, & plans for the next month.
Progress & Data Report Jan 2023&2024	X	X	Riley, Staring, Susan	Present methods, results, interpretation, & recommendations for future management and activities.
Final Report by 31 May 2024		X	Riley, Staring, Susan	Present methods, results, interpretation, & recommendations for ongoing management to maintain WQ, native plant communities & usability of the lakes. Present proposed criteria for success & recommend an approach to implement & evaluate the criteria.
Key Research Components	Description			
Plant Community Analysis	Long-term analysis, LVMP reporting, species composition, frequency of occurrence, relative abundance, biomass.			
Restoring Native Plants	Potential transplants and assessment of viability of transplants.			
Assessing herbicide treatments	Make recommendations for ongoing and future plant management, assess effectiveness of treatments and impacts on natives.			
Criteria for Assessing Restoration	Review and apply existing studies of macrophyte community indicators.			
Incorporate Data into USGS Study	Multistate and multilocal partner study. Within-lake WQ modeling and an across basin WQ and management response to assess best practices to enhance native macrophyte communities while improving WQ to meet WQ standards. Assessment of current practices to determine which are most effective and cost effective. Results will inform basic understanding of the interlinkage of WQ and native and invasive macrophytes and provide recommendations for effective and attainable actions that can be used to address WQ and invasive plant management across.			

**Need for seedbank analysis will be determined by plant community response to management action.

*Additional plant biomass (g dry/m²) estimations will occur from 40 of the PI points under the Newman proposal.

Table 3 - Opinion of Cost for Aquatic Vegetation Work

2022	Newman Proposal	Consultant Full	Consultant Min
Point Intercept	\$14,000.00	\$16,000	\$8,000
Turion	\$6,000.00	\$8,250	\$8,250
Reporting	\$24,408.00	\$30,000	\$24,000
Fac&Admin	\$4,918.00		
Total	\$49,326.00	\$54,250.00	\$40,250.00
2023	Newman Proposal	Consultant Full	Consultant Min
Point Intercept	\$12,000.00	\$16,000	\$8,000
Delineation(s)	\$3,000.00	\$6,200	\$6,200
Turion	\$4,000.00	\$8,250	\$8,250
Seed Bank	\$2,000.00	\$5,500	\$5,500
Reporting	\$24,350.00	\$36,000	\$33,000
Fac&Admin	\$5,003.00		
Total	\$50,353.00	\$71,950.00	\$60,950.00

The opinion of cost table is a comparison between work completed under Ray Newman’s proposal vs if consultants would perform the work. The opinion of cost table is a general estimation based on assumptions and past work conducted in the District from various consultants. This is meant to be a general guide to compare costs as it was not generated from a formal quote process and is subject to change. The table assumes that consultants, not staff, would fulfill all tasks outlined in Ray Newman’s Proposal. The “Minimal Consultant” column excludes the May point intercept surveys and reporting of these surveys for each lake. In general, the District only performs one point intercept survey per year per lake. The additional proposed survey would provide more data for the assessment of the plant communities and specifically herbicide treatments in each lake.

Riley Purgatory Bluff Creek Watershed District Goals and Strategies Addressed by this Project		
	PROJECT NAME:	Restoration and Maintenance of Native Macrophytes in Lakes of the RPBWD U of MN Proposal – Ray Newman
3.2.2	DATA COLLECTION	
3.2.2.1	<i>Goals</i>	
	DC 1	Collect data and use the best available science to recommend and support management decisions.
3.2.2.2	<i>Strategies</i>	
	DC S2	The District will develop and implement a Monitoring Plan. Collected data may include, but is not limited to: water chemistry, fisheries, macroinvertebrates, water levels, vegetation, planktons, shoreline and streambank inventories, flow data, and climatic data
	DC S3	The District maintains the flexibility to modify its monitoring and data collection programs as necessary to capture the most relevant information. The District will periodically review and update its Monitoring Plan to address emerging contaminants of concern, improved analytical methods, or other developing issues.
	DC S5	The District will monitor District-managed resources for the presence of aquatic invasive species.
	DC S7	The District will analyze data to help inform management decisions.
	DC S8	The District will coordinate its monitoring efforts with other entities to promote efficiency, increase data availability, and to identify and fill data gaps.
3.2.4	PLANNING	
3.2.4.1	<i>Goals</i>	
	Plan 1	Plan and conduct the District’s implementation program to most effectively accomplish its vision with consideration for all stakeholders and resources.
3.2.4.2	<i>Strategies</i>	
	Plan S1	The District will use an adaptive management approach to protect, manage, and restore District- managed resources (see Section 9.1).
	Plan S6	The District will implement projects that address a District-managed resource. The District will prioritize planned projects based on methodology included in Section 4.0 of this Plan, which is based on the following factors: <ul style="list-style-type: none"> • Targeting • District goals • Sustainability • Volume management • Shoreline/streambank restoration and stabilization • Watershed benefits • Partnership opportunities • Public education and access • Habitat restoration
	Plan S7	The District will seek to incorporate ecological, economic, and social benefits into its projects as opportunities allow.
	Plan S9	The District will seek to partner with cities, state agencies, and other entities to implement projects and programs to meet District goals.
3.2.6	WATER RESOURCES	
	WATER QUALITY	
3.2.6.1	<i>Goals</i>	
	WQual 1	Protect, manage, and restore water quality of District lakes and creeks to maintain designated uses.
	WQual 3	Preserve and enhance habitat important to fish, waterfowl, and other wildlife.
3.2.6.2	<i>Strategies</i>	
	HABITAT	
	WQual S8	The District will consider opportunities to incorporate habitat protection, restoration, or improvement elements in District water quality, flood control, and other projects.
	WQual S9	The District will partner with other entities to minimize the spread and reduce the adverse ecological impacts of aquatic invasive species.
	WQual S10	The District will manage non-native aquatic invasive macrophytes to improve water quality and/or habitat in accordance with an approved lake vegetation management plan or as part of a rapid response control project.

RESOLUTION NO. 22-026
Riley-Purgatory-Bluff Creek Watershed District
Board of Managers

Authorizing execution of contract with the University of Minnesota for assessment and analysis of native macrophytes in Riley-Purgatory-Bluff Creek watershed for future vegetation management

Manager _____ offered the following resolution and moved its adoption, seconded by Manager _____:

WHEREAS Riley-Purgatory-Bluff Creek Watershed District's 2018 10-Year Watershed Management Plan identifies and allocates funding for implementation of plant restoration – UofM as watershed-wide project (Table 9-1);

WHEREAS RPBCWD has a long-established relationship with the University of Minnesota's Department of Fisheries, Wildlife and Conservation Biology, which has provided surveys and assessment of the condition of native and invasive vegetation in watershed lakes and recommendations for management based on research funded by RPBCWD;

WHEREAS lead aquatic plant program investigator Raymond Newman has provided RPBCWD with a proposal for 2022-2024 aquatic-macrophyte research;

WHEREAS RPBCWD's assessment and analysis of lake-water quality indicates that aquatic plant assessment and analytical efforts are warranted to assess the response of native and invasive plants to water quality improvements and herbicide treatments; and

WHEREAS RPBCWD has budgeted \$50,000 and planned for the 2022 work under the proposed 2022-24 scope, attached to and incorporated into the draft agreement attached to this resolution (the Research);

WHEREAS RPBCWD staff and Interim Administrator Terry Jeffery recommend continuation of the U of M research and analysis and award of the contract for the Research.

NOW THEREFORE BE IT RESOLVED that the RPBCWD Board of Managers authorizes the interim administrator, with advice of counsel, to enter the attached contract with the University of Minnesota, substantially in the form of the attached, for a cost not to exceed \$99,678, as finalized with such nonsubstantive changes as are necessary to implement the intent of the managers.

The question was on the adoption of the resolution and there were ____ yeas and ____ nays as follows:

Yea Nay Abstain Absent

CRAFTON
KOCH
PEDERSEN
ZIEGLER

Upon vote, the president declared the resolution _____ on this 6th day of April, 2022.

* * * * *

I, Dorothy Pedersen, secretary of the Riley-Purgatory-Bluff Creek Watershed District, hereby certifies that I have compared the above resolution with the original thereof as the same appears of record and on file with RPBCWD and find the same to be a true and correct transcription thereof, and further that the resolution is in full force and effect on this date, and Resolution 22-026 has not been modified, amended or rescinded since its adoption.

IN TESTIMONY WHEREOF, I set my hand this ____ day of _____, 2022.

Dorothy Pedersen, Secretary

**Exhibit A
Agreement**

DRAFT

Agreement Between Riley-Purgatory-Bluff Creek Watershed District and Regents of the University of Minnesota

Restoration and maintenance of native macrophytes in lakes of Riley-Purgatory-Bluff Creek watershed

This agreement is entered into by the Riley-Purgatory-Bluff Creek Watershed District, a governmental subdivision with powers set forth at Minnesota Statutes chapters 103B and 103D (RPBCWD), and Regents of the University of Minnesota, a public research university and Minnesota state constitutional corporation (U of M). In consideration of the terms and conditions set forth herein, including the obligation of mutual consideration, the sufficiency of which is hereby acknowledged, RPBCWD and U of M agree as follows:

1. Scope of Work

U of M will perform the work described in the attached March 31, 2022 scope of services and the budget attached as Exhibit A (hereinafter, the Project). Exhibit A is incorporated into this agreement, and its terms and schedules are binding on U of M as terms hereof. RPBCWD, at its discretion, may at any time suspend work or amend the Scope of Work to delete any task or portion thereof. Authorized work by U of M on a task deleted or modified by RPBCWD will be compensated in accordance with paragraphs 5 and 6. U of M will perform its obligations set forth in Exhibit A in a timely, professional manner.

The Project will be conducted under the direction of Raymond M. Newman (Principal Investigator). In the event that the Principal Investigator becomes unable or unwilling to continue work on the Project and a mutually acceptable substitute is not available, U of M and RPBCWD each will have the option to terminate the Project in accordance with paragraph 6. This agreement does not limit the freedom of individuals participating in the Project to engage in any other research.

2. Independent Contractor

U of M is an independent contractor under this agreement. U of M will select the means, method and manner of performing the Project. Nothing herein contained is intended or should be construed to constitute U of M as the agent, representative or employee of RPBCWD in any manner. Personnel performing the Project on behalf of U of M or a subcontractor will not be considered employees of RPBCWD and will not be entitled to any compensation, rights or benefits of any kind from RPBCWD.

3. Subcontract and Assignment

U of M will not assign, subcontract or transfer any obligation or interest in this agreement or the Project without the written consent of RPBCWD and pursuant to any conditions included in that consent. RPBCWD consent to any subcontracting does not relieve U of M of its responsibility to perform the Project or any part thereof, nor in any respect its warranty, insurance, indemnification, duty to defend or agreement to hold harmless with respect to the Project.

4. Warranty and Liability

U of M will perform the Project in accordance with national standards of care for comparable scientific academic research. The results of research cannot be known in advance, and U of M makes no warranties, express or implied, regarding the results of its work under the Project.

Subject to the liability limits in Minnesota Statutes section 3.736, U of M will indemnify, defend and hold harmless RPBCWD, its officers, board members, employees and agents from any and all actions, costs, damages and liabilities of any nature to the extent arising from: (a) U of M's negligent or otherwise wrongful act or omission in performance of this agreement; or (b) a subcontractor's negligent or otherwise wrongful act or omission in performance of this agreement.

Subject to the liability limits in the Municipal Tort Claims Act, Minnesota Statutes section 466.04, RPBCWD will indemnify, defend and hold harmless U of M, its officers, board members, employees and agents from any and all actions, costs, damages and liabilities of any nature to the extent arising from: (a) RPBCWD's use or implementation of data, reports or other results of U of M's work under this agreement; or (b) RPBCWD's subcontractor's use or implementation of data, reports or other results of U of M's work under this agreement.

Further, the respective liabilities of the parties with respect to claims of third parties are as set forth in Minnesota Statutes section 471.59, subd 1a. This agreement does not establish a joint powers board under section 471.59 and nothing herein constitutes either party's agreement to be responsible for the acts or omissions of the other party pursuant to subdivision 1 as of that statute.

IN NO EVENT WILL EITHER PARTY'S LIABILITY FOR BREACH OF CONTRACT INCLUDE DAMAGES FOR WORK STOPPAGE, OR INDIRECT, SPECIAL OR

CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFIT, OF ANY KIND. RPBCWD'S LIABILITY TO THE U OF M FOR BREACH OF THIS AGREEMENT SHALL NOT EXCEED THE MONETARY CONSIDERATION DUE UNDER THIS AGREEMENT.

5. Compensation

RPBCWD will reimburse U of M for the Project on an hourly basis and reimburse direct costs in accordance with Exhibit A. Invoices will be submitted quarterly for work performed and direct costs incurred during the preceding quarter. Payment for undisputed work will be due within 45 days of receipt of invoice. Direct costs not specified in Exhibit A will not be reimbursed except with prior written approval of RPBCWD administrator. Subcontractor fees and subcontractor direct costs, as incurred by U of M, will be reimbursed by RPBCWD at the rate specified in RPBCWD's written approval of the subcontract arrangement.

The total payment for the Project will not exceed \$99,678. Total payment means all sums to be paid whatsoever, including but not limited to fees and reimbursement of direct cost and subcontract costs, whether specified in this agreement or subsequently authorized by the administrator.

U of M will maintain all records pertaining to fees or costs incurred in connection with the Project for six years from the date of completion of the Project. U of M agrees that any authorized RPBCWD representative or the state auditor may have access to and the right to examine, audit and copy any such records during normal business hours.

6. Termination: Continuation of Obligations

This agreement is effective when fully executed by the parties and will remain in force until August 31, 2024, unless earlier terminated as set forth herein.

6.1 Either party may terminate this agreement on thirty (30) days written notice to the other (Notice of Termination), and the agreement will terminate thirty (30) days after the Notice of Termination (Effective Date of Termination). U of M will stop work immediately upon receipt of Notice of Termination. A final accounting of expenses will be submitted within sixty (60) days of the Effective Date of Termination, and will document all expenses Incurred and all non-cancellable expenses which RPBCWD is responsible for and showing the amount of funding overpaid or owed. If RPBCWD has an unpaid balance due, RPBCWD will make the final payment within thirty (30) days after receipt of the final invoice. If RPBCWD has overpaid, a check for the balance will

Commented [MW1]: For discussion: Either we leave the text here as drafted and the scope attached (derived from the "deliverables & outcomes for 2022" table in Josh's memo) specifies the F&A expenses for each line item OR we delete this text and incorporate the F&A expenses into the line items in the scope of work table (leaving the U to incorporate such costs into its invoices the way other contractors do).

Commented [MW2R1]: Based on discussion with Terry, I have deleted the text about F&A expenses (i.e., assumed in this draft that the F&A expenses will be incorporated into the line items in the scope of work table (leaving the U to incorporate such costs into its invoices the way other contractors do)).

be provided within 30 days of submission of the final accounting.

6.2 In the event of termination of this agreement by RPBCWD pursuant to Article 6.1, RPBCWD will pay all costs incurred by U of M as of the Effective Date of Termination, together with all non-cancellable obligations made for the Project, which will include all non-cancellable contracts, graduate assistantships, fellowships and postdoctoral associate appointments, entered into prior to the Notice of Termination. After termination, any obligation of RPBCWD for fellowships, graduate assistantships or postdoctoral associates will end no later than the end of the U of M's academic year.

6.3 In the event of termination of this agreement by U of M pursuant to Article 6.1 or by either party pursuant to Article 6.2, RPBCWD will pay only the costs incurred up to the Effective Date of Termination.

6.4 In the event that either party hereto commits any material breach of or default in any of the terms or conditions of this agreement, and also fails to remedy such default or breach within ninety (90) days after receipt of written notice thereof from the other party hereto, the party giving notice may, at its option, and in addition to any other remedies which it may have at law or in equity, terminate this agreement by sending Notice of Termination to the other party to such effect, and such termination will be effective as of the date of the receipt of such notice.

6.5 Termination of this agreement by either party for any reason will not affect the rights and obligations of the parties accrued prior to the Effective Date of Termination.

7. Waiver

The failure of either party to insist on the strict performance by the other party of any provision or obligation under this agreement, or to exercise any option, remedy or right herein, will not waive or relinquish such party's rights in the future to insist on strict performance of any provision, condition or obligation, all of which will remain in full force and effect. The waiver of either party on one or more occasions of any provision or obligation of this agreement will not be construed as a waiver of any subsequent breach of the same provision or obligation, and the consent or approval by either party to or of any act by the other requiring consent or approval will not render unnecessary such party's consent or approval to any subsequent similar act by the other.

Notwithstanding any other term of this agreement, each of RPBCWD and U of M waives no immunity in tort. This agreement creates no right in and waives immunity,

defense or liability limit with respect to any third party.

8. Insurance

At all times during the term of this agreement, U of M will have and keep in force the following insurance coverages:

- A. General: \$1 million each claim / \$3 million each occurrence.
- B. Professional liability: \$1 million each claim / \$3 million each occurrence.
- C. Automobile liability: \$500,000 each claim and \$1 .5 million each occurrence.
- D. Workers' compensation: in accordance with applicable legal requirements.

9. Compliance With Laws

U of M will comply with the laws and requirements of all federal, state, local and other governmental units in connection with performing the Project and will procure all licenses, permits and other rights necessary to perform the Project.

In performing the Project, U of M will ensure that no person is excluded from full employment rights or participation in or the benefits of any program, service or activity on the ground of race, color, creed, religion, age, sex, disability, marital status, sexual or epistemological orientation, public assistance status or national origin; and no person who is protected by applicable federal or state laws, rules or regulations against discrimination otherwise will be subjected to discrimination.

10. Materials and Raw Data

All reports and any other data provided to RPBCWD by U of M, and the media on which the reports and other data are delivered (the Media) are the property of RPBCWD. The term Media includes documents in hard and electronic copy, software, and all other forms in which the data are contained, documented or memorialized. Raw Data (including plant surveys, and water quality variables, together with any other data requested by RPBCWD) collected under this scope of work will be provided to RPBCWD by the Principal Investigator. Prior to publication, Raw Data will be treated as U of M's non-public information; provided, RPBCWD may use and disclose the Raw Data (as well as the reports and Media on which reports and media are developed) for watershed district purposes, including but not limited to the development of

management plans and other work products. U of M researchers retain the exclusive right to publish the Raw Data and analyses thereof in accordance with Article 11. If U of M does not publish Raw Data by June 30, 2024, RPBCWD may publish the Raw Data with U of M's consent, which shall not be unreasonably withheld.

The Project is not expected to generate any potentially patentable inventions, improvements and/or discoveries, and the parties agree to remain silent regarding intellectual property rights in inventions, improvements and/or discoveries.

11. Publication and Publicity

The results of the Project are intended to be published by U of M, and U of M researchers engaged in the Project may present at symposia, national or regional professional meetings and may publish in journals, theses or dissertations, or disseminate otherwise in a manner of their own choosing, methods and results of the Project. U of M researchers shall have the final authority to determine the scope and content of any publication; provided; however, that researchers shall provide copies of any proposed publication at least thirty (30) days in advance of the publication or presentation to RPBCWD for review and comment. U of M researchers shall give proper credit to RPBCWD for the cooperative character of the investigation.

A party shall not use the name, logos, and other marks or trade names of the other party or the other party's staff in any publicity, advertising or news release without the prior written approval of the an authorized representative of the other party.

12. Data Practices

Each of the parties will comply with Minnesota Government Data Practices Act (MGDPA), Minnesota Statutes, chapter 13. If a party receives a request for disclosure of non-public Information of the other party, it will notify the other party and permit the other party to take the lead role in determining an appropriate response to the request.

13. Equipment Acquired: RPBCWD Property

U of M shall acquire title upon acquisition of any equipment purchased or fabricated with funds provided by RPBCWD under this agreement. RPBCWD shall provide the following equipment to U of M under the following conditions:

None.

14. Notices

Any written communication required under this agreement to be provided in writing will be directed to the other party as follows:

To RPBCWD:

Administrator
Riley-Purgatory-Bluff Creek Watershed District
18681 Lake Dr E
Chanassen, MN 55317

To U of M:

Raymond M. Newman
Fisheries, Wildlife and Conservation Biology
University of Minnesota
St. Paul, MN 55108

Either of the above individuals may in writing designate another individual to receive communications under this agreement.

15. Choice of Law Venue and Jurisdiction

This agreement will be construed under and governed by the laws of the State of Minnesota. Venue for any dispute arising from this agreement will be in Hennepin County District Court.

16. Whole Agreement

The entire agreement between the two parties is contained herein and this agreement supersedes all oral agreements and negotiations relating to the subject matter hereof any modification of this agreement is valid only when reduced to writing is an amendment to the agreement and signed by the parties hereto RPBCWD may amend this agreement only by action of the RPBCWD Board of Managers acting as a body.

IN WITNESS WHEREOF, intending to be legally bound, the parties hereto execute and deliver this agreement.

REGENTS OF THE UNIVERSITY OF MINNESOTA

By _____ Date: _____

Its _____

RILEY PURGATORY-BLUFF CREEK WATERSHED DISTRICT

By _____ Date: _____

Its _____

Approved as to form and execution

RPBCWD Attorney

Exhibit A
Scope of Services & Budget

Commented [MW3]: Revise as necessary in keeping with decision made on the above question of structure.

draft

draft