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**Title:** 2020 Box-Netting in Parley Lake

**Resolution number:** 20-043

**Prepared by:** Name: Tom Langer  
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**Reviewed by:** Name/Title: Anna Brown / Planner – Project Manager

**Recommended action:** Authorization to Contract for 2020 Box-netting in Parley Lake

**Schedule:** Expected Start: 6/1/2020  
Final Reporting: 12/1/2020

**Budget considerations:** Fund name and code: 500-5007 SMCHB Carp Management  
Fund budget: \$567,000  
Expenditures to date: \$335,430  
Requested amount of funding: \$47,920

**Past Board action:**

Res # 17-036	Title: Authorization to request funds from Lessard Sams Outdoor Heritage Council
Res # 18-060	Title: Authorization to execute contracts for carp removal
Res # 19-049	Title: Authorization to execute contracts for carp removal
Res # 20-009	Title: Authorization to execute contracts for winter commercial seining in SMCHB subwatershed

**Summary:**

In September 2017, the Lessard Sams Outdoor Heritage Council recommended the Six Mile Creek-Halsted Bay (SMCHB) Habitat Restoration Project for \$567,000 to the Minnesota State Legislature. The funding bill was approved by the legislature and funds were made available July 1, 2018 for project implementation.

The program takes a holistic and comprehensive approach to managing common carp in the SMCHB Subwatershed, consisting primarily of three management strategies:

- Adult biomass removal
- Barriers to prevent carp movement between waterbodies and assist with removal
- Aeration of shallow lakes to prevent successful carp reproduction

Consistent with the accomplishment plan approved by the Lessard Sams Outdoor Heritage Council, the grant funds will be used to pay for the capital cost of barrier installation, utility installation for aeration, and the fish removal contracts. The Minnehaha Creek Watershed District (MCWD) match includes equipment for removal and monitoring, the aeration units, and design services for barriers.

In 2018 and 2019, staff made significant progress implementing each of the carp management strategies. Barrier installation is complete at three of the four locations, utilities are installed for all projected aeration sites, and removal

efforts have carried through the last two years of implementation. Carp removal will be a primary focus for the remaining two years of grant implementation.

There are four techniques that have been tested in other areas of the state that may be applicable for removing carp within the SMCHB subwatershed. Each of these four techniques has strengths and weaknesses and is limited to different times of the year and specific waterbodies. These techniques include:

- Winter seining
- Open water seining
- Box netting
- Stream trapping

To-date, MCWD has successfully implemented stream trapping (2019), box netting (2018 and 2019), and winter seining (2020). Open water seining has proven a difficult technique to implement due to limited aggregation of carp during open water season, early ice on in the fall, and limited commercial fisherman interest outside of the fall season.

In 2019, MCWD contracted Carp Solutions LLC to remove carp from Parley Lake (as well as Auburn, Zumbra, and Halsted's Bay). On Parley Lake, MCWD also partnered with University of Minnesota research staff to conduct social dynamic studies. The results from the 2019 box netting efforts on Parley Lake aided in removing 2,333 carp (approximately 23,754 lbs). Updated carp population surveys reported approximately 14,000 carp (135,000 lbs) remaining in the lake.

In February 2020, MCWD partnered with WSB and commercial fisherman to conduct winter seining on Parley Lake. This effort resulted in the removal of 2,922 carp (~30, 906 lbs). Following this removal effort, staff estimate a remaining population of approximately 11,000 carp (104,000 lbs) in the lake.

District staff recommends that the District enter into an agreement for 2020 box netting removal on Parley Lake. Carp Solutions and the University of Minnesota have proposed focusing 2020 box netting removal efforts in Parley Lake, where this removal method proved most effective. The 2020 contract proposes a modified approach based on the research conducted last year, incorporating more nets and a shorter baiting period. Carp solutions expects this approach to increase both the removal efficiency and cost-effectiveness of box-netting.

Staff have not obtained competitive proposals for the proposed work. The use of a box net is no longer a method uniquely employed by Carp Solutions, however, the principal of Carp Solutions, Dr. Przemek Bajer, through his University of Minnesota affiliation, has collaborated with the District over the past two years, within the Six Mile Creek subwatershed, to research and optimize the box netting technique. More specifically, the experience of Carp Solutions staff with respect to box netting on Parley Lake will allow improved effectiveness and efficiency.

In order to manage the uncertainty related to the efficacy of this modified approach, staff have sought to structure the contract so that it limits upfront fees and makes no commitment to multiple events. Specifically, the contract incorporates performance based advancements, so that the second attempt will only occur if the first is successful, and there is a capped bounty reward structure to limit financial risk while rewarding removal success. Carp Solutions has confirmed in communications that they remain interested in more carp and all three removal events for scientific research purposes, therefore, we do not believe there is only incentive to capture the 4,320 carp. The evaluation of success will be primarily driven by cost-effectiveness, as compared to last year's box netting on Parley.

Costs of the contract are split largely into labor, equipment, and reporting fees that equate to \$14,320 with optional added removal events that would bring this category up to \$22,000. The remaining \$25,920 in scoped fees are for the carp bounty in which we will pay \$6.00/ carp for the first 4,320 carp captured and \$0.00/ carp for the 4,321 and beyond. Further specifics on the scope of work services and fee schedules are provided in the supporting documents. The services and compensation are structured in phases to ensure clear expectations of services while providing fair compensation for efforts and rewards for success.

**Supporting documents (list attachments):**

- 1) SMCHB 2019 Carp Density Map
- 2) Parley Lake scope of work



**RESOLUTION**

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**Resolution number:** 20-043

**Title:** Authorization to Contract for 2020 Box-Netting in Parley Lake

- WHEREAS, pursuant to Resolution 14-047 the MCWD Board of Managers has identified the Six Mile Creek-Halsted Bay (SMCHB) subwatershed as a priority area for focusing District planning activities and coordination efforts with subwatershed partners; and
- WHEREAS, on October 10, 2013, the MCWD Board of Managers authorized the execution of a contract with Dr. Peter Sorenson and the University of Minnesota to conduct a three-year carp assessment of the SMCHB subwatershed to identify recruitment, carp census, and management strategies;
- WHEREAS, in September 2017, the Lessard Sams Outdoor Heritage Council recommended the SMCHB Habitat Restoration project for \$567,000 in funding, and the funding was approved by the MN Legislature in May 2018;
- WHEREAS, The District has outlined a carp removal strategy utilizing commercial seining, baited box-net trapping and trapping within stream channels during carp migration;
- WHEREAS, in 2019, the District, working with Carp Solutions, LLC, performed baited box-net trapping on Parley Lake, and in 2020 will continue this work as an important element of the SMCHB Habitat Restoration project;
- WHEREAS, District policy specifies that the MCWD Administrator will not purchase professional services in excess of \$25,000 without competitive procurement;
- WHEREAS, Carp Solutions, LLC, and its principal, Dr. Przemek Bajer, have worked closely with the District to develop the use of baited box-net trapping within the Six Mile Creek subwatershed and, more specifically, were retained by the District in 2019 to utilize the technique on Parley Lake, and through this have developed a particular familiarity with the lake setting and a capability as to the use of the technique in this setting;
- WHEREAS, Carp Solutions, LLC, has provided a scope that District staff finds responsive to the 2020 program at a not-to-exceed fee that staff, in its experience, considers competitive;

NOW, THEREFORE, BE IT RESOLVED that on the basis of the specific experience of Carp Solutions, LLC, and the finding of District staff that the contract fee is competitive, the Minnehaha Creek Watershed District Board of Managers finds it appropriate to authorize a professional services contract with that firm without competitive process;

BE IT FURTHER RESOLVED that the District Administrator is authorized, on advice of counsel, to execute a contract with Carp Solutions, LLC, for services to remove common carp in Parley Lake within the Six Mile Creek-Halsted Bay Subwatershed, consistent with the Lessard-Sams Outdoor Heritage Council Grant Accomplishment Plan, in an amount not to exceed \$47,920.

Resolution Number 20- 043 was moved by Manager \_\_\_\_\_, seconded by Manager \_\_\_\_\_. Motion to adopt the resolution \_\_\_ eyes, \_\_\_ nays, \_\_\_ abstentions. Date: 5/28/2020

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 Secretary Date: \_\_\_\_\_

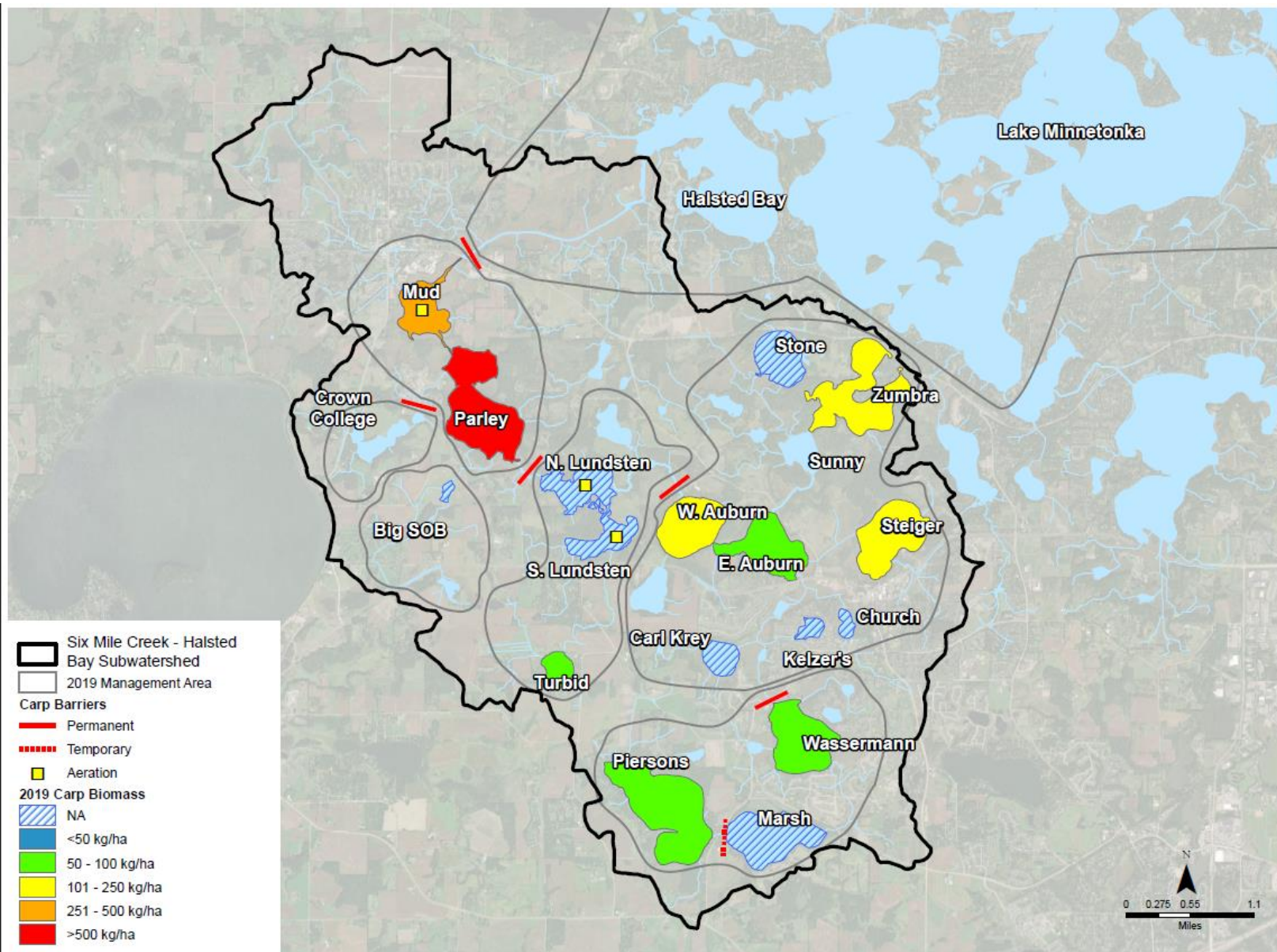


Figure 1. Six Mile Creek – Halsted's Bay Subwatershed 2019 Biomass with management areas & structures.



**Proposal for carp removal in Lake Parley in 2020 using box nets  
in conjunction with University of Minnesota experiment on carp social learning**

May 14, 2020, 2020

Prepared For: Tom Langer  
Minnehaha Creek Watershed District

Prepared by: Przemek Bajer  
Carp Solutions LLC  
[www.carpsolutionsmn.com](http://www.carpsolutionsmn.com)

The overall goal is to conduct carp removal in Lake Parley using baited box nets. Specific methods were developed based on the results of University of Minnesota experiment in 2019. That work suggested that individual nets attract only a subset (~10%) of the carp population, presumably the local carp. Therefore, to achieve large-scale removal, multiple nets are needed. We will use 8 nets in 2020 as opposed to only 2 or 3 nets used in 2019. The nets need to be used in synchrony in 3 separate removal attempts. Removal attempts will be separated by few weeks of no baiting to allow the fish to “forget” the experience. This will also save effort and money. Overall, the goal of this experiment is to use box netting approach that should maximize catch while minimizing cost. This work will leverage significant funds related to work conducted by the University of Minnesota that will involve collecting detailed data on carp aggregations in the nets that will be used to determine when to catch the carp, and also carp baiting and daily maintenance of equipment.

Further, because we developed remote trigger mechanisms that can be activated from a boat, the nets can be set all around the shoreline, not only in areas that we can access from land. No access from land will be needed. That was a key limitation in 2019.

In 2020, the work will begin in June. In mid to late June, we will install 8 box nets. We will use predominantly our standard 30 x 60’ nets, but whenever possible, larger nets will be used as well (30 x 80’ and 40 x 90’). Locations will be selected to maximize catch. Each net will be equipped with remote triggers. This will allow the nets to be activated from the water and no access through private property will be needed. In addition, the



nets are modified in various ways so that each can be set quickly with only a 2 people crew. New approach will also be used to reduce the risk of holes in the net and native fish/turtles tangling in the nets.

In each net, we will install a PIT antenna connected to a PIT reader placed on a floating platform equipped with solar panels. The antennas will monitor the presence of carp at the bait. That data will be used to determine when to activate the nets to capture the carp. PIT systems will be installed and operated by the University of Minnesota.

Once installed, the nets will be baited for 6 days (or more if necessary). Baiting will be conducted by University of Minnesota personnel.

Once the carp are trained, all nets will be triggered simultaneously at night. Carp will be removed from the nets early in the morning, counted, examined for tags, euthanized and disposed of. For processing 8 nets in a day in an efficient manner, we will provide 3 large (20 -24') boats, each equipped with two cranes. Use of cranes will allow reducing crew size to 3 people per boat. To quickly dispose the fish, an electric conveyer (or a loader) will be placed on shore to transport the carp from boats to trucks. Overall, the process will be much more automated and efficient than in 2019.

The lake will then be left alone for at least two weeks before second removal is conducted.

Overall, three removal events will be conducted between early July and end of September.

Carp PIT-tagged in 2019 will be used for this work. We assume that MCWD will maintain the physical barrier between Parley-Mud Lake and Halstead Bay to prevent carp out-migration from Parley. Carp outmigration from Parley would make meeting our capture goals difficult to achieve (below).

### **Report.**

At the conclusion of this effort, we will provide a written report with management recommendations. The report will be submitted by January 31, 2021, or sooner if required.

### **Cost and performance benchmarks**

This work will be conducted at not-to-exceed budget of \$47,920 (including the cost of bait). According to the proposed payment schedule, the full payment would be realized only after capturing 4,320 carp, which is 33% of the overall population of approximately 13,000. We will strive to exceed the number of carp captured significantly above the 4,320 mark. It is important to point out that as the population of Parley declines, capturing carp will become progressively more difficult.

The payment is structured to minimize the financial risk of the client and to make the payment proportional to the number of captured carp.

- 1) Net Install: \$3,840
- 2) Removal event #1: \$3,840
- 3) Removal event #2 (optional): \$3,840
- 4) Removal event #3 (optional): \$3,840
- 5) Net Decommission and Removal: \$3,840
- 6) Carp bounty for the first 4,320 carp captured will be paid at a bounty fee schedule of \$6.00/carp. Carp bounty for the 4,321 and beyond carp captured will be paid at a bounty fee schedule of \$0.00/carp. This fee schedule is proposed for an amount not to exceed \$25,920.

If the 1<sup>st</sup> attempt is considered unsuccessful, the client might decide not to continue this effort, unless separate arrangements are made.

The budget also includes \$2,000 for corn and \$800 for drafting and revising the report.