



Title:	Approval of Contracts for SMCHB Carp Removal
Resolution number:	21-055
Prepared by:	Name: Anna Brown Phone: (952) 641-4522 Abrown@minnehahacreek.org
Reviewed by:	Name/Title: Jill Sweet/Research and Monitoring Technician
Recommended action:	Approve three contracts with WSB for the management and removal of common carp in the Six Mile Creek-Halsted Bay Subwatershed
Schedule:	All removal work under contract will occur between September and November 2021
Budget considerations:	Fund name and code: SMCHB Carp Management 5-5007 Fund budget: \$567,000 Expenditures to date: \$490,000 Requested amount of funding: \$30,299.50
Past Board action:	Res # 17-036 Authorization to request funds from Lessard Sams Outdoor Heritage Council

Summary:

In September 2017, the Lessard Sams Outdoor Heritage Council awarded the Minnehaha Creek Watershed District (MCWD) \$567,000 for the Six Mile Creek-Halsted Bay (SMCHB) Habitat Restoration Project.

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 MCWD match includes equipment for removal and monitoring, the aeration units, and design services for barriers.

Since 2018, staff made significant progress implementing each of the carp management strategies. Barrier installation is complete at all four locations, aeration sites have become operational, and removal efforts have carried through the last three years of implementation. Carp removal will be the primary focus for the remainder of grant implementation.

To-date, MCWD has successfully implemented both box netting and winter seining removal methods. In total we have removed approximately 20,230 carp totaling 185,000 pounds from the subwatershed.

District staff consulted with WSB, Stantec, and Carp Solutions in Q1 of 2021 to develop a removal plan for 2021-22 within SMCHB subwatershed utilizing the remaining LSOHC grant dollars intended for carp removals. Approximately

\$75,000 of grant funding remains for carp removals with plans to target six waterbodies with carp densities still exceeding 100kg/ha utilizing strategies appropriate for each waterbody. At the May 27, 2021 Board meeting, staff presented the removal strategy and proposed that remaining contracts brought forward under that strategy would be on the Board consent agenda. Under this plan, staff is proposing fall removal activities on East Auburn and Steiger Lakes.

Steiger Lake Bait and Seine

Steiger Lake currently has a carp density of approximately 185 kg/ha and requires the removal of 1,036 carp to meet removal goals. In 2018, MCWD removed 296 carp via baited box net trapping. While carp responded well to baiting on the lake, the removal via box net had more limited success due to excessive vegetation and soft substrates. Building on lessons learned through the 2018 removal attempt, WSB has proposed a modified open water seine wherein the targeted area is first baited to create an aggregation. Once fish are showing regular consumption of the bait, WSB will work with a commercial fisherman to use a seine net to remove the fish.

The total cost for this work is \$15,147. The proposal involves three major tasks. First, a trial seine will be run to confirm that that a net can be effectively deployed in the target location. Then, WSB and MCWD staff will bait the area for a period of up to 10 days. Once carp are consistently consuming the bait, the seine will occur. As with all our removal contracts, MCWD will have approval authority prior to moving into each task, ensuring that we attempt the seine only if we determine that the observed lake conditions and carp behavior will maximize likelihood of a successful removal.

East Auburn Open Water Seine

East and West Auburn Lakes have a net carp density of 280 kg/ha and require the removal of approximately 1,400 individuals to achieve the target density of 100 kg/ha. Carp move freely between the two waterbodies, so they are grouped for both assessment and management purposes. MCWD has previously attempted removal in these two lakes through both baited box net trapping and stream trapping at the outlet to limited success. In fall 2021, MCWD contracted with WSB to complete a reconnaissance effort on both lakes to inform the development of a removal scope. The proposed open water seine reflects the recommendations from that reconnaissance effort.

The cost for the open water seine is \$10,483.50. This includes fees for both WSB and the commercial fisherman. In addition to the open water seine scope, MCWD staff are bringing forward a contract of \$4,669 to install radio tags to facilitate this and future removal attempts on East and West Auburn. Depending on the success of this open water seine, MCWD may work with WSB this winter to complete a winter under-ice seine. This work would be brought forward as a separate contract.

Supporting documents (list attachments):

- Steiger Lake Removal Scope
- East Auburn Removal Scope
- East Auburn Radiotagging Scope



RESOLUTION

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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, 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, MCWD has established a goal of achieving carp densities of 100 kg/ha system wide, and Parley-Mud, Zumbra, Steiger, and East and West Auburn Lakes remain above that target density;

WHEREAS, WSB & Associates has developed proposals for carp removal on Steiger and East Auburn Lakes, and a proposal to implant radio tags in carp on East Auburn Lake, that District staff finds responsive to the 2021 program at a not to exceed fee that staff, in its experience, considers competitive;

WHEREAS, WSB & Associates, is the only contractor providing commercial fisherman coordination and open water seining services, and therefore is uniquely qualified to perform this work.

NOW, THEREFORE, BE IT RESOLVED that on the basis of the specific experience of WSB & Associates 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 WSB & Associates, for services to remove common carp in Steiger 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 \$15,147.00;

BE IT FURTHER RESOLVED that the District Administrator is authorized, on advice of counsel, to execute a contract with WSB & Associates, for services to remove common carp in East Auburn Lake in an amount not to exceed \$10,483.50;

BE IT FINALLY RESOLVED that the District Administrator is authorized, on advice of counsel, to execute a contract with WSB & Associates, for services to implant common carp with radio tags East Auburn Lake to facilitate removals in an amount not to exceed \$4,669.00.

Resolution Number 20- 055 was moved by Manager _____, seconded by Manager _____. Motion to adopt the resolution ___ ayes, ___ nays, ___ abstentions. Date: 8/26/2021

 Secretary Date: August 26, 2021

Scope of Work for Fall 2021 Carp Removal on Steiger Lake

This statement of work applies to Steiger Lake only and addresses carp biomass reduction efforts in Steiger Lake to meet Minnehaha Creek Watershed District (MCWD) carp management goals to improve water quality and ecological integrity.

The Diagnostic Study (2014-2016) titled “Common Carp Assessment in Six Mile Creek, Final Report: June 2014-December 2016”, observed a carp density of approximately 156kg/ha and an estimated population size of 2,886 individual carp with an average weight of 3.62kg for Steiger Lake. 1,036 carp needed to be removed to meet management goals.

The MCWD removed 296 carp from Steiger using baited box nets in 2018. Baiting worked well, however, excessive vegetation, water depths, soft substrates, and the lack of areas along the shoreline to anchor the box net trigger mechanisms resulted in MCWD seeking to find alternative removal methods for the Lake. Personal communication with commercial fishermen (Jeff Riedemann and Don Geyer) showed that Steiger had not been historically seined due to a non-commercial amount of carp biomass.

In summer of 2020, WSB and MCWD staff completed reconnaissance to determine if alternate removal techniques were possible. The wetland fringe was identified as an issue for landing a seine, but an area east of the boat landing appeared to have ideal substrate, bathymetry, supported less dense submergent aquatic vegetation, and lacked a floating cattail shoreline suggesting it would work as a landing area for seining.

Radio tag assessment as part of the Diagnostic Study (2014-16) suggested the carp don't form a strong school in a repeated location in winter but tend to use the eastern part of the lake throughout the year.

Based on this information, WSB proposes to remove carp using a bait-and-seine removal technique.

A detailed description of tasks, as well as a budget and project schedule are provided below.

Project Approach

To complete this, bait (cracked corn) will be placed in an area identified as a target zone within the lake to train carp to come into the zone. As the consumption of bait becomes regular, a nighttime small scale seine effort will be deployed. The approach is similar to box-netting, however, has advantageous of not being inhibited by lack of anchoring locations, removes an ability of carp to detect a net which can deter entering the target zone, and covers a much larger area which can increase both volume and likelihood of capture success. Captured carp are then removed and disposed of.

MCWD currently holds a Class B permit from MN DNR that allows any form of carp seining effort on Steiger Lake after Labor Day (Sept 6th 2021) until fishing opener of 2022. This project will be completed under this permit. If sale of the fish is desired, the commercial fishermen will be responsible for applying for a Class C permit with some coordination between WSB and MCWD.

Task 1. Project Management

Project management includes reviewing and ensuring scope items are being completed and tracking budget, as well as miscellaneous administrative items that need to be addressed during the course of the project.

Task 2. Trial Seine



Since Steiger Lake has not been seined previously there is a possibility that obstructions may prevent the seine net from coming through the target zone. To mitigate this, we will complete a trial seine in the area selected to ensure the net will come through and, if movable obstructions exist, remove them from the haul zone. This will also allow for better planning of the actual removal operation by determining where and how to place and pull the net along with identifying the exact landing zone.

Any carp captured during this event will be disposed of.

Task 3. Bait Placement and Monitoring

WSB staff propose to identify a bait station on Steiger in consultation with MCWD staff. The bait station will consist of 2 mesh bags filled with cracked corn (50-75 pounds) attached to an anchor and a float. The bait will be placed in a shallow water area so as to allow easy access for re-baiting the site. The baiting period is planned for a 10-day period and will be monitored and refreshed daily by WSB or MCWD staff. Observations of consumption will be documented and provided to both WSB and MCWD.

The schedule for baiting will be coordinated between WSB and MCWD and based on availability. WSB will charge hours only if baiting is completed by us. MCWD baiting involvement will ultimately save on overall budget for this line item.

Task 4. Removal Operations-Seine

Removal operations will commence when WSB observes regular consumption of the bait and weather allows within the 10-day period or 24 hours after last baiting. The decision to pursue a seine event to remove carp attracted to the bait will be in coordination between WSB and MCWD staff.

The seine will be deployed overnight when carp feeding intensity is expected to be highest and carp density within the seining zone is expected to be highest. Up to three (3) WSB staff will be working the seine net along with one commercial fishing crew member. MCWD staff are invited to be a part of this process and or involved with fish work-up once they are captured.

Stealth will be of the utmost importance. WSB staff will not use a motor to deploy, rather a trolling motor or ricing pole will be used to deploy the seine around the area identified in the trial seine. Once the net is deployed, it will be pulled into the previously identified landing zone and all captured carp removed.

All carp will either be counted or total biomass weighted to understand the biomass removed from the lake. Also, up to 50 carp will be individually total length measured and provided to MCWD for development of an average biomass/individual estimate. All carp captured will be removed from the lake and disposed of properly by WSB staff.

Note: We may want to launch and stage the boat(s) earlier in the day so we don't disturb the carp when we attempt to seine due to the proximity of the landing to the baiting area.

Task 5. Technical Memo

Task 5 includes the preparation of a brief technical memo summarizing the baiting and removal operations, provide results and characteristics of carp removed, and a brief recommendation section.

Schedule

Task	September
Task 1	
Task 2	
Task 3	
Task 4	
Task 5	

Seine netting cannot be completed until after Labor Day per MN DNR. Based on that, we propose to complete the trial seine the first or second week of September. The exact date will be determined in consultation with MCWD. Baiting and removal will be completed within 10 days of initial baiting. The entire project is proposed to be completed within a short time frame in September while water temperatures are still elevated and carp are feeding.

Project Budget Summary

Task/Activity	WSB Cost (Hourly)
Task 1. Project Management	\$462
Task 2. Trial Seine	\$3,606
Task 3. Bait Placement	\$4,975
Task 4. Removal Operations	\$5,432
Task 5. Technical Memo	\$672
Totals	\$15,147**

** - Not to exceed limit. See below for detailed description of costs.

The task 2 budget includes 3 WSB staff for 8 hours and a 1 day fee for Jeff Riedemann on site.

Task 3 includes the cost of corn bait and supplies and 10 days of baiting @ 4 hours per day, with the initial day of setting the bait at 5 hours. MCWD involvement with baiting the site will ultimately save on overall budget for this line item.

Task 4 includes time for 3 WSB staff to stage a boat with nets, return to the site to remove carp and for 2 staff to dispose of carp post seine. This task total also includes a 1 day fee (\$750) for Jeff Reidemann.

WSB fees are calculated on an hour hourly basis. Additional WSB staff time will be billed at an hourly rate according to the attached rate sheet, and only under approval by MCWD.

Scope of Work for East and West Auburn Lakes Carp Management Removal Plan

This statement of work applies to both East and West Auburn Lakes and addresses carp biomass reduction efforts in these lakes to meet Minnehaha Creek Watershed District (MCWD) carp management goals to improve water quality and ecological integrity.

East and West Auburn Lakes are basins roughly the same size (148 and 145 acres, respectively) and have a frequent exchange of carp during the open water season. Within these two lakes there are an estimated 6,300 individuals or approximately 34,000 lbs of carp (MCWD 2019). To achieve the 100kg/ha threshold in both systems an estimated removal of ~1400 individuals or ~7,555 lbs of carp is required. However, without the ability to control movement between the lakes, it isn't clear how the carp may distribute themselves at any point of the season, therefore, could easily surpass 100kg/ha in a single lake if only 1500 carp were removed. Therefore, exploring methods that have the ability to remove more than 1500 carp is important for our current carp management efforts on the Auburn Lakes.

Under this statement of work, WSB will coordinate removal effort with area commercial fishermen in collaboration with MCWD staff. This plan for carp removal has been determined through a reconnaissance effort that was completed in Spring 2021 with MCWD staff and Jeff Reidemann (JR Commercial Fishing) that determined feasibility of seine netting attempts in one or both basins.

A summary of the recommendations based on the reconnaissance effort and detailed description of tasks, as well as a budget and project schedule are provided below.

Project Approach

Both East and West Auburn support carp population densities that exceed the management threshold identified by the MCWD. Efforts have been made to reduce the carp population through baited box-netting on East and West Auburn and stream trapping at the West Auburn outlet, but have had limited success. An alternative method that employs commercial netting of the lake has been identified and deemed feasible in a number of circumstances. Commercial seine netting on East Auburn is recommended to reduce the population of carp in both basins.

MCWD currently holds a Class B permit from MN DNR that allows any form of carp seining effort on Auburn Lake after Labor Day (Sept 6th 2021) until fishing opener of 2022. This project will be completed under this permit. If sale of the fish is desired, the commercial fishermen will be responsible for applying for a Class C permit with some coordination between WSB and MCWD.

Summary of Recommendations based on reconnaissance effort

Each lake possess unique challenges to seining, however, two options can be pursued with a standard commercial seining effort and approach. Our recommended actions and order of pursuit:

- 1) Fall or Spring Seining on East Auburn
- 2) Winter Seining on East Auburn if access can be gained through Shoreline Location #1.

Any other type of seining efforts would require additional feasibility or operational adjustments greater than a standard commercial seining effort. Some of these options could consider:

- 1) Vegetation management & MUM technologies leading into Seining effort on West Auburn
- 2) Shoreline/ access improvements at Locations #2 or #3 on East Auburn to Winter Seine

Alternatively, other removal options could be pursued that implement different gear types to target these aggregations. However, these can be viewed as escalated removal efforts that may require some level of seining prior to permit approval and use of these techniques. Feasibility of these efforts were beyond the scope of the reconnaissance effort.



- 1) Gill netting in East and West Auburn
- 2) Scale up stream trapping at inlets and outlet

Additionally, we recommend that Radio-tagged carp be maintained in both East and West Auburn. Radiotags aid in determining the exact timing and locations of aggregation formations that are critical to executing seine netting attempts.

Task 1. Project Management

Project management includes reviewing and ensuring scope items are being completed and tracking budget, as well as miscellaneous administrative items that need to be addressed during the course of the project.

Task 2. Fall or Spring Open Water Seine Event Coordination

WSB will coordinate with MCWD and Commercial Fishermen to pursue one (1) open water seine netting event in the fall of 2021. This effort will be scheduled based on radiotag locations on East Auburn and in consultation with MCWD. It is expected that MCWD staff will monitor the locations of radiotags that are implanted under a separate but related SOW in the fall of 2021 and report findings to WSB staff to help inform this decision. Areas on East Auburn have been identified as historic aggregation sites and the feasibility of seining these areas was completed during the reconnaissance effort. Once an aggregation has been identified in an area deemed appropriate for seining and open water persists, an effort to coordinate a seine event will be pursued.

If carp removal via seine netting is not deemed feasible in the Fall of 2021, telemetry will continue as needed by MCWD staff to inform future removals attempts late winter to early spring of 2022.

Task 3. Open Water Seine Event & Carp Removal

In the event a seine netting event is pursued in the Fall of 2021 or Spring of 2022 during open water, up to three (3) WSB staff will be on site the day of to assist with the operation. It is expected that MCWD will provide telemetry equipment to monitor locations of the radiotagged fish to help guide operations and to check for tags in the fish that are captured so that an effort can be made to release them back to the basin. Under a separate but related project, remaining radiotags, up to twenty (20), will be implanted into carp by WSB staff and released to the basin for future monitoring efforts.

If fish aggregations do not prompt an open water seine event in the fall of 2021, it may be decided to pull a net through East Auburn to test net the area on the western shoreline of East Auburn to help prepare for future netting attempts. The cost for test netting would be \$3,606.00 and not cover the cost to dispose of fish captured. A subset of carp that maybe captured in a test netting event can be implanted with remaining radiotags by WSB staff under a separate SOW.

Carp that are captured in the seine event will be kept in a fish crib to be held until removal from the lake. The method for removal from the lake will be determined based on the commercial viability of the fish that are captured. If possible, the fish will be hauled off in a commercial hauling truck. If this is not possible, the fish will be removed and disposed of properly. Up to two (2) WSB staff will be onsite to aid in the transport of carp off the lake and to collect data including number of fish captured and approximate weight. Any remaining radiotagged carp will be released back to the basin for future monitoring efforts.



Task 4. Reporting

A report that details a seine event and number and biomass of carp captured and removed from East and West Auburn will be delivered at the end of the project period. This report will provide recommendations for next steps if the need for additional biomass removal is needed to meet MCWD carp management goals.

Schedule

Task	September	October	November	January	February	March	April	May	June
Task 1									
Task 2									
Task 3									
Task 4									

We anticipate the project starting in late September 2021 and concluding in June 2022 with the submission of a report detailing the project activities and recommendations for next steps.

Project Budget Summary

Task/Activity	WSB Cost (Hourly)
Task 1. Project Management	\$ 985.50
Task 2. Seine event coordination	\$ 1,008.00
Task 3. Open water seine event	\$ 7,376.00
Task 4. Reporting	\$ 1,114.00
Totals	\$10,483.50

**.-Not to exceed limit.

WSB fees are calculated on an hour hourly basis. Additional WSB staff time will be billed at an hourly rate according to the attached rate sheet, and only under approval by MCWD.



Scope of Work for East and West Auburn Lakes Carp Management Radiotagging Effort

This statement of work applies to both East and West Auburn Lakes and addresses carp biomass reduction efforts in these lakes to meet Minnehaha Creek Watershed District (MCWD) carp management goals to improve water quality and ecological integrity. This SOW supports efforts under a separate scope that outlines a carp removal plan for these basins “Scope of Work for East and West Auburn Lakes Carp Management Removal Plan”.

A detailed description of tasks, as well as a budget and project schedule are provided below.

Project Approach

Both East and West Auburn support carp population densities that exceed the management threshold identified by the MCWD. Efforts have been made to reduce the carp population through baited box-netting on East and West Auburn and stream trapping at the West Auburn outlet but have had limited success.

A reconnaissance was completed in Spring 2021 that focused on carp removal plan development. A separate document describes the scope of work that is recommended based off that effort to remove carp from East and West Auburn via commercial seine netting. One task that was identified was to implant a subset of common carp with radiotags that can help guide timing for seine netting attempts based on their locations and proximity to one another. The effort required to radiotag a subset of carp is outlined in this document.

Task 1. Project Management

Project management includes reviewing and ensuring scope items are being completed and tracking budget, as well as miscellaneous administrative items that need to be addressed during the course of the project.

MCWD currently holds a Fisheries Research permit from the MN DNR that will be amended by MCWD to include this project.

Task 2. Radiotag Implants

Radiotag data is available from a separate but related project that was conducted from 2014-2016. The radiotags are no longer functioning due to loss of battery power. We propose to implant a new subset of carp with radiotags so that their movement can be tracked as part of the East and West Auburn Lakes Carp Management Removal Plan.

Under this task, we propose to implant up to twenty (20) carp with radiotags as a part of ongoing carp capture events. In the Fall of 2021, MCWD has a scheduled site visit to conduct catch per unit effort (CPUE) surveys on East and West Auburn Lakes and a seine event is expected to occur in late fall open water season. These events are expected to capture carp that can be implanted with radio-tags. WSB staff will be on site during these events to conduct surgeries.

This task includes the purchase of fourteen (14) radiotags. MCWD has six (6) radiotags in possession that will also be used in the tagging effort.



Schedule

Task	September 2021	October 2021	November 2021
Task 1			
Task 2			

We anticipate the project starting in September 2021.

Project Budget Summary

Task/Activity	WSB Cost (Hourly)
Task 1. Project Management	\$ 357.00
Task 2. Radiotag Surgeries	\$ 1155.00
Radiotags (14)	\$ 2800.00
Totals**	\$ 4669.00

**.-Not to exceed limit. See below for detailed description of costs.

Task 2, radiotag implants includes 8 hours for one (1) WSB staff to be present for MCWD's planned CPUE event in Fall 2021 and 3 hours of additional effort during anticipated seine event.

WSB fees are calculated on an hour hourly basis. Additional WSB staff time will be billed at an hourly rate according to the attached rate sheet, and only under approval by MCWD.