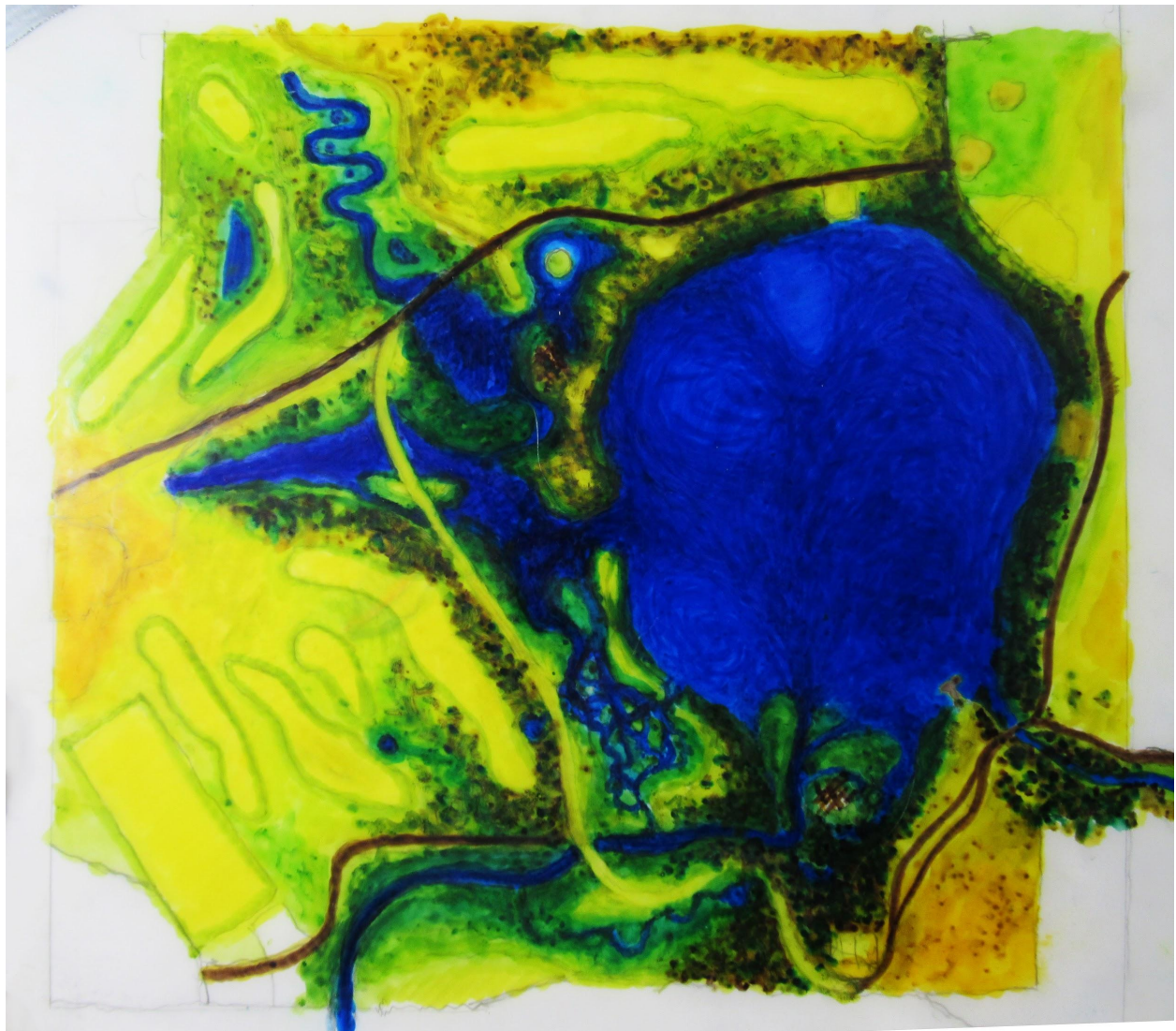




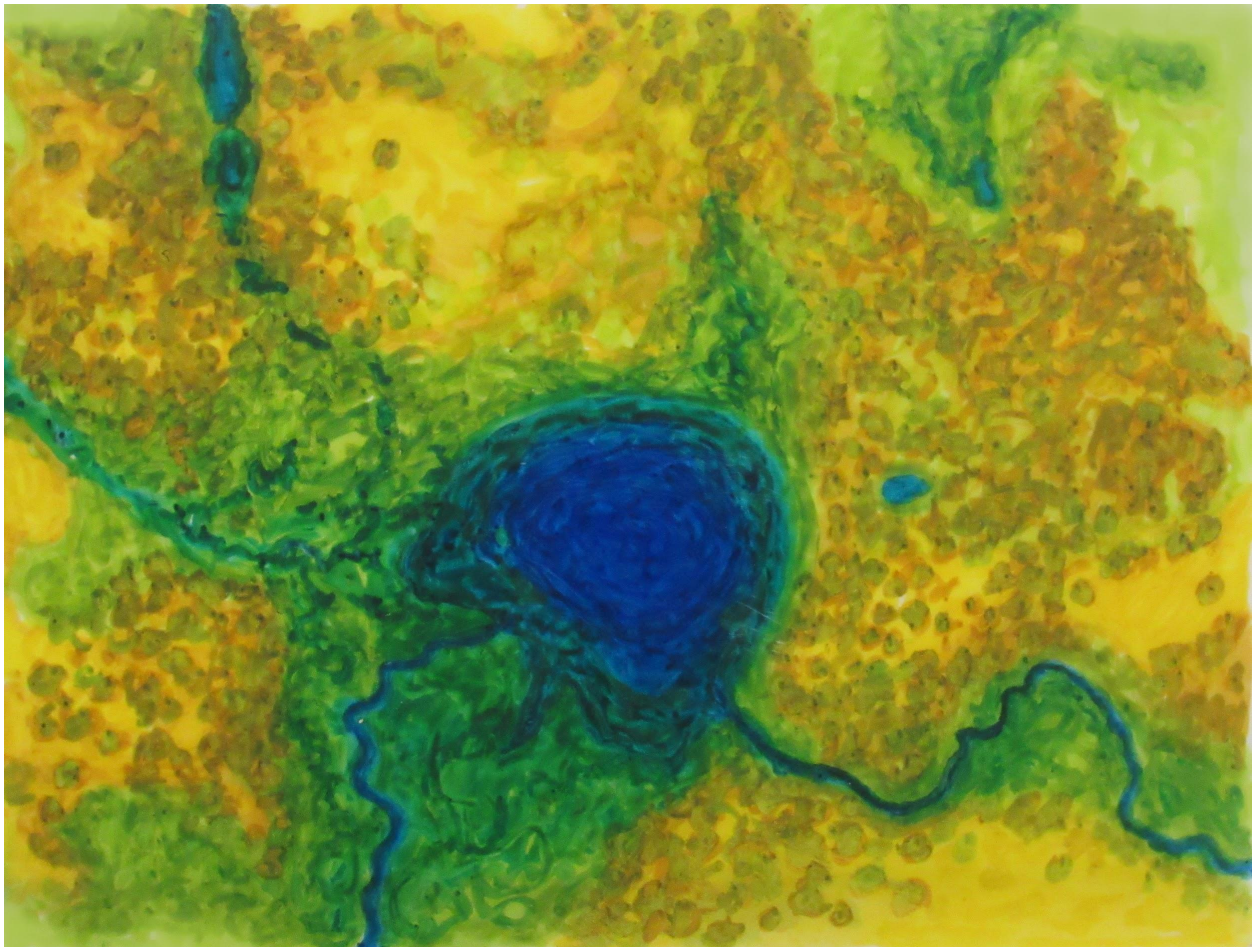
ANTHROPOCENIC MIDDEN SURVEY

Sean Connaughty and Friends of Lake Hiawatha

LAKE HIAWATHA STEWARDSHIP REPORT 2020



"Lake Hiawatha watermap- MPRB draft Masterplan comment and recommendation" Sean Connaughty 2020 ink on frosted mylar.



Land Acknowledgement Friends of Lake Hiawatha

When we visit Lake Hiawatha we remember, acknowledge and honor that this area (Bdote) is the sacred homeland and birthplace of Dakota Peoples, from which they were forcibly removed and the land stolen. Dakota and other Indigenous peoples were stewards of this land for millennia prior to the arrival of white settlers. We recognize that since colonization there has been a failure in our stewardship of Lake Hiawatha that continues to this day. We humbly ask permission to do our restorative work here. We want to work together with our Dakota and Indigenous friends to bring healing to the land. We will strive to treat the land, water and its inhabitants with the respect that is accorded those of familial status. Dakota people lived here in a reciprocal relationship with the Earth, understanding the necessary give and take that is essential to survival of our species. We aspire to this ethos.. 9/27/2020

ASKS of MPRB and City of Minneapolis:

- Prioritize and expedite the implementation of the comprehensive stormwater treatment system in the reconfiguration of Hiawatha Golf Course.
- In the Masterplan design move the walking trail away from sensitive otter habitat along the western shore of Lake Hiawatha. The plan should provide distinct



ANTHROPOCENIC MIDDEN SURVEY

protections for existing Lake Hiawatha wildlife and habitat, In the form of a clearly stated commitment to preserve and protect existing wildlife habitats at Lake Hiawatha. This includes the Delta Habitat, Owl Forest, western lakeshore otter area. Public foot trails should not be placed in these critical areas.

- Implement a temporary trash screen at the north pipe Lake Hiawatha.
- Clean up trash at Lake Hiawatha. The MPRB should hire staff to clean up trash at Lake Hiawatha in fulfillment of their obligation to keep the parkland free of trash.
- Given the MPRB's role as stewards of most of Minneapolis' natural spaces and their critical role in maintaining species biodiversity in our region, the MPRB should hire an ecologist.

SURVEY PURPOSE

Like the other stewardship reports and surveys in the *Anthropocenic Midden Survey series*, this document is intended as a public resource for data and historical reference. This document is a summary of activities and observations centered around Lake Hiawatha, Minneapolis, MN in the year 2020. The report makes recommendations for the forthcoming reconfiguration of the parkland surrounding Lake Hiawatha, in response to the *Hiawatha Golf Course Property [Draft Masterplan](#)*. Created by the Minneapolis Park and Recreation Board. This report includes recommendations to the City of Minneapolis and the MPRB.

This report satisfies the requirements of Sean Connaughty's Lake Hiawatha stewardship agreement with the MPRB. At the end of each season, volunteer leaders are asked to report how many hours and how many volunteers were involved in their stewardship efforts. This is the report for the year 2020. The report acknowledges the extraordinary events of 2020 and the impact they had on the work we did.

LETTER TO PARK COMMISSIONERS

February 15, 2021

Dear Minneapolis Park and Recreation Board,

We are writing to request the Minneapolis Park and Recreation Board approve the stormwater treatment plan for Lake Hiawatha as laid out in the *[Hiawatha Golf Course Property Master Plan](#)*.

With passage of the plan the MPRB will be able to act on its obligation to address the pollution of Lake Hiawatha while also protecting homes and maintaining the historic community asset of Hiawatha Golf Course.

Lake Hiawatha is home for more than 249 species of animals and is a key migratory stop along the Mississippi River Flyway. Improving the management of the golf course to address both the ecology and flood resilience of the Lake will also allow for an expansion of biodiversity in this critical location on the Minnehaha Creek ecological corridor. Minimizing or eliminating the use of fungicides, herbicide and



ANTHROPOCENIC MIDDEN SURVEY

pesticides will not only benefit wildlife, but will improve water quality throughout the downstream watershed.

Community members have long asked for stormwater treatment at Lake Hiawatha. The Hiawatha CAC (Community Advisory Committee) agreed that the number one priority for this project should be to address the pollution problem at Lake Hiawatha. The community has gone so far as to organize Friends of Lake Hiawatha. FOLH with the help of hundreds of local volunteers have dedicated thousands of hours of labor to remove over 8,000 lbs. of plastic and styrofoam trash from Lake Hiawatha. Over half a million pieces were removed by hand. The MPRB dredged and filled what was once a massive and critical wetland until no trace of habitat or its wildlife inhabitants remained. In 1935 the City created the stormsewer system that empties the unfiltered pollution of 920 acres of South Minneapolis' streets directly into Lake Hiawatha. This problem has persisted and gone unaddressed for 86 years. FOLH is relieved that the plan will finally address pollution and trash in the lake.

Additionally, FOLH hopes the MRPB will build upon the relationships developed throughout the process. For example, the MPRB's groundbreaking *Dakota and Indigenous People's History Focus Session*, led by Healing Place Collaborative and the MPRB, was a highly effective and meaningful focus session and was well attended by neighbors, Indigenous and community leaders. Many participants asked the MPRB to do better in their stewardship of the land and water and to address and acknowledge the ongoing trauma of colonization and the legacy of the US Dakota War. FOLH has continued to work with Healing Place Collaborative in our restoration work at Lake Hiawatha. Dakota and Indigenous peoples' knowledge of this place is critical to restoring health to the community and the ecology. Let's continue to work with and listen to our Indigenous communities to bring healing to the Lake and Land.

The plan to restore wetland function to this landscape will restore adaptivity and resilience to this landscape as we face a climate crisis, whether the future brings increased flooding or drought. The restoration of wetland function will add resilience to this landscape.

Our main reservation about this plan is that there are too many amenities and buildings added. The area to be restored to natural function should be greater. That is why we support amendment E WET 014 which will *expand natural restoration areas where appropriate*.

We urge MPRB commissioners to vote in favor of the plan and amendment E WET 014. In doing so the MPRB will further achieve its mission to "... permanently preserve, protect, maintain, improve, and enhance its natural resources, parkland, and recreational opportunities for current and future generations."

Sincerely,

Friends of Lake Hiawatha



ANTHROPOCENIC MIDDEN SURVEY

www.friendsoflakehiawatha.org



Photo: Lake Hiawatha spring 2020

<http://www2.minneapolismn.gov/publicworks/stormwater/nokomisgroundwater>

ANTHROPOCENIC MIDDEN SURVEY



Above: bags #346-406 2020 all trash bags removed from Lake Hiawatha in 2020 alone.

On November 9th, 2020, the 400th bag of trash was removed from Lake Hiawatha. Each bag must weigh at least 20 lbs before it is counted in the tally. That surpasses 8,000 lbs. or four tons of mostly plastic and styrofoam trash we have removed from Lake Hiawatha since we began cleaning. That's 506,800 individual pieces of trash picked one piece at a time; over half a million pieces.

Some of the trash item totals include:

100,666 plastic wrappers

97,040 plastic bottle caps

89,440 styrofoam pieces

30,266 plastic straws

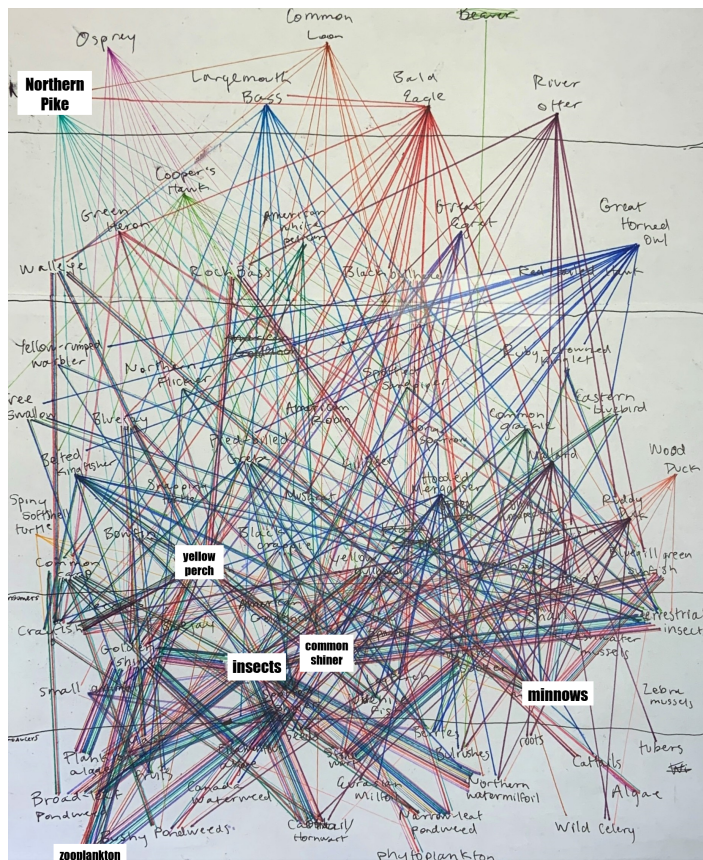
Despite this effort, tons of trash still remain in Lake Hiawatha. Microplastics in the soil will never be removed and are now part of the anthropocenic fossil layer for time immemorial. This trash pollution came from the streets of Minneapolis, with more washing into the Lake with every rainstorm and snow melt.

The corporations that produce, sell and profit from the sale of these products in their plastic containers and packaging take no responsibility and are unwilling to contribute to the cleanup of

their waste legacy here. The top corporations identified in the lake trash include Coca Cola, PepsiCo, McDonalds, Nestle and Mars corporation. Consumers bear responsibility as well, but consider that hundreds of volunteers from our community have dedicated hundreds of hours in cleanup at Lake Hiawatha.

The state of Minnesota does not consider trash as a pollutant. It is not measured or monitored by any of our public agencies. Because of this, the City of Minneapolis and the Minneapolis Park and Recreation Board have made no effort to cleanup the trash at Lake Hiawatha. The result is the massive accumulation of plastic and styrofoam we see today, arising from decades of ignoring this worsening problem. The shattered remnants of this trash accumulation litter the soil in the form of millions of pieces of microplastics and styrofoam beads. SPC 2020

LAKE HIAWATHA BIODIVERSITY SURVEY 2020



Above: artwork by Elizabeth Arnold Fall 2020 Art and Ecology UofM "Lake Hiawatha Food Web"

LAKE HIAWATHA BIODIVERSITY

ANIMALS

249 species identified total (in progress)

<https://www.inaturalist.org/people/lakehiawatha>



ANTHROPOCENIC MIDDEN SURVEY

Sean Connaughty has documented the following with photographs:

- | | | |
|-------------------------------|-------------------------------|---------------------------------|
| 1. Bald Eagle | 41. Common Merganser | 82. Blue-winged Teal |
| 2. American Beaver | 42. Canvasback | 83. Virile Crayfish |
| 3. North American River Otter | 43. Canada Goose | 84. Hairy Woodpecker |
| 4. Red-tailed Hawk | 44. Cedar Waxwing | 85. Common Raccoon~ |
| 5. Hooded Merganser | 45. Brown Creeper | 86. Eastern Cottontail ~ |
| 6. Spiny Softshell Turtle | 46. American Crow | 87. Eastern Mole |
| 7. Snapping Turtle | 47. Northern Cardinal | 88. Meadow Vole |
| 8. Muskrat | 48. White-throated Sparrow | 89. Muskellunge |
| 9. Downy Woodpecker | 49. Baltimore Oriole | 90. Largemouth Bass MN DNR |
| 10. Green Heron | 50. Red-winged Blackbird | 91. Walleye MN DNR |
| 11. Cooper's Hawk | 51. Brown-headed Cowbird | 92. Yellow Perch MN DNR |
| 12. Osprey | 52. Barn Swallow | 93. Black Crappie MN DNR |
| 13. Ruddy Duck | 53. House Sparrow | 94. Green Sunfish, MN DNR |
| 14. Mallard | 54. White-breasted Nuthatch | 95. Hybrid Sunfish, MN DNR |
| 15. Blue Jay | 55. Gray Catbird | 96. Pumpkinseed, MN DNR |
| 16. Song Sparrow | 56. Great Crested Flycatcher | 97. Rock Bass, MN DNR |
| 17. Common Grackle | 57. Eastern Kingbird | 98. Yellow Bullhead, MN DNR |
| 18. Dark-eyed Junco | 58. Eastern Phoebe | 99. Brown Bullhead, MN DNR |
| 19. Tree Swallow | 59. Red-bellied Woodpecker | 100. Black Bullhead, MN DNR |
| 20. American Robin | 60. Painted Turtle | 101. Common Carp, MN DNR |
| 21. Eastern Bluebird | 61. Coyote | 102. White Sucker, MN DNR |
| 22. Pileated Woodpecker | 62. Red Fox | 103. Common Shiner, MN DNR |
| 23. Northern Flicker | 63. Eastern Gray Squirrel | 104. Golden Shiner, MN DNR |
| 24. Great Horned Owl | 64. American Red Squirrel | 105. Logperch, MN DNR |
| 25. Northern Pike | 65. Monarch | 106. Minnows, MN DNR |
| 26. Bowfin | 66. Bluegill | 107. Spottail Shiner MN DNR |
| 27. Zebra Mussel | 67. Eastern Cicada Killer | 108. Smallmouth Bass* |
| 28. Ruby Crowned Kinglet | 68. European Carp | 109. White Crappie* |
| 29. Giant Floater Mussel | 69. Eastern Tiger Swallowtail | 110. Bluntnose minnow* |
| 30. Great Egret | 70. American Toad | 111. Creek Chub* |
| 31. Yellow-rumped Warbler | 71. Magnificent Bryozoa | 112. Fathead Minnow* |
| 32. American Goldfinch | 72. American Mink | 113. Golden Shiner* |
| 33. American Coot | 73. Lake Sturgeon | 114. Iowa Darter* |
| 34. Wild Turkey | 74. Smooth Turtle Leech | 115. Johnny Darter* |
| 35. Mourning Dove | 75. Striped Fishing Spider | 116. Spotfin Shiner* |
| 36. American Avocet | 76. Caspian Tern | 117. Spottail Shiner* |
| 37. Great Blue Heron | 77. Black-capped Chickadee | 118. Tiger Muskellunge* |
| 38. Trumpeter Swan | 78. House Finch | |
| 39. Common Goldeneye | 79. Herring Gull | |
| 40. Bufflehead | 80. American Tree Sparrow | |
| | 81. Snow Goose | |

<https://www.inaturalist.org/people/lakehiawatha>

Asterisk * MN DNR additional species at Lake Nokomis- likely in Hiawatha:

EBIRD confirmed Lake Hiawatha sightings:

- | | | |
|---------------------------|---------------------------------|-----------------------------|
| 1. White-winged Crossbill | 9. Yellow-bellied Sapsucker | 16. White-breasted Nuthatch |
| 2. Cackling Goose | 10. Black-throated Blue Warbler | 17. Ring-billed Gull |
| 3. Rusty Blackbird | 11. American Redstart | 18. Red-breasted Nuthatch |
| 4. Fox Sparrow | 12. Merlin (Prairie) | 19. Common Redpoll |
| 5. Red-necked Grebe | 13. American Black Duck | 20. Pine Siskin |
| 6. Red-breasted Merganser | 14. Savannah Sparrow | 21. Herring Gull |
| 7. Greater Scaup | 15. Northern Shoveler | 22. Ring-necked Duck |
| 8. Northern Shrike | | 23. Lesser Scaup |



ANTHROPOCENIC MIDDEN SURVEY

- | | | |
|----------------------------------|-----------------------------------|----------------------------------|
| 24. Rock Pigeon | 60. Northern Parula | 97. Sora |
| 25. Peregrine Falcon | 61. Great Crested Flycatcher | 98. American Bittern |
| 26. Hermit Thrush | 62. Black-and-white Warbler | 99. Meadowlark sp. |
| 27. Golden-crowned Kinglet | 63. Blackburnian Warbler | 100. Field Sparrow* |
| 28. Sedge Wren | 64. Yellow Warbler | 101. Red-shouldered Hawk |
| 29. Northern Pintail | 65. Northern Waterthrush | 102. Redhead |
| 30. Winter Wren | 66. Canada Warbler | 103. Lesser Black-backed Gull |
| 31. Black-crowned Night-Heron | 67. Ruby-throated Hummingbird | 104. White-crowned Sparrow |
| 32. Wilson's Snipe | 68. Mourning Warbler | 105. Pectoral Sandpiper |
| 33. Barred Owl | 69. Ovenbird | 106. Greater Yellowlegs* |
| 34. European Starling | 70. Tree Swallow | 107. Clay-colored Sparrow |
| 35. Northern Harrier | 71. Spotted Sandpiper | 108. Indigo Bunting |
| 36. Lincoln's Sparrow | 72. Chimney Swift | 109. Harris's Sparrow |
| 37. Swamp Sparrow | 73. Eastern Wood-Pewee | 110. Golden-winged Warbler |
| 38. Gadwall | 74. Warbling Vireo | 111. Cape May Warbler |
| 39. American Pipit | 75. Solitary Sandpiper | 112. Pine Warbler |
| 40. Orange-crowned Warbler | 76. Broad-winged Hawk | 113. Eared Grebe |
| 41. Tundra Swan | 77. Cliff Swallow | 114. Bonaparte's Gull |
| 42. Palm Warbler | 78. American Kestrel | 115. Vesper Sparrow |
| 43. Chipping Sparrow | 79. Blue-gray Gnatcatcher | 116. Bank Swallow |
| 44. Purple Finch | 80. Red-eyed Vireo | 117. Greater White-fronted Goose |
| 45. Nashville Warbler | 81. Northern Rough-winged Swallow | 118. Northern Saw-whet Owl |
| 46. Common Yellowthroat | 82. Turkey Vulture | 119. Blue-winged Warbler |
| 47. Magnolia Warbler | 83. Carolina Wren | 120. Purple Martin |
| 48. Franklin's Gull | 84. Alder Flycatcher | 121. Forster's Tern |
| 49. Blue-headed Vireo | 85. Olive-sided Flycatcher | 122. Eastern Screech-Owl |
| 50. Rose-breasted Grosbeak | 86. Yellow-throated Vireo | 123. Willet |
| 51. House Wren | 87. Gray-cheeked Thrush | 124. Eastern Towhee |
| 52. Swainson's Thrush | 88. Bay-breasted Warbler | 125. American Wigeon |
| 53. Common Nighthawk | 89. Veery | 126. Long-eared Owl |
| 54. Brown Thrasher | 90. Sandhill Crane | 127. Philadelphia Vireo |
| 55. Tennessee Warbler | 91. Green-winged Teal | 128. Prothonotary Warbler |
| 56. Chestnut-sided Warbler | 92. American Woodcock | 129. LaConte's Sparrow |
| 57. Scarlet Tanager | 93. Horned Lark | 130. Lapland Longspur |
| 58. Black-throated Green Warbler | 94. Sharp-shinned Hawk | 131. Ross's Goose |
| 59. Wilson's Warbler | 95. Marsh Wren | |
| | 96. Blackpoll Warbler | |

EBIRD Identified 131

<https://ebird.org/hotspot/L1455050>

<https://ebird.org/printableList?regionCode=L1455050&yr=all&m=>

[\(https://ebird.org/barchart?r=L1455050&yr=all&m=](https://ebird.org/barchart?r=L1455050&yr=all&m=)

According to ebird sightings 200 species of birds at Lake Hiawatha

249 Species Of Animals Total so far.

Bruce Fall: "You correctly noted that there are 200 bird species that have been recorded in eBird at the lake and park, from nearly 2,000 checklists by many different observers. The bar charts (<https://ebird.org/barchart?r=L1455050&yr=all&m=>), which show the species and their seasonal abundance, might be worth a separate link."

AMERICAN BEAVER *castor canadensis*

Bioengineer, keystone species, critical to the success of the reconfiguration.





ANTHROPOCENIC MIDDEN SURVEY

Above: photo on the left by Wildlife Rehabilitation Center of Minnesota 2020

This baby beaver was found just below Minnehaha Falls. he/she was brought into Wildlife Rehabilitation. They contacted me to see about reuniting the baby with his/her family. In the evening we brought the baby to the Lake Hiawatha beaver family. The adults emerged, swam around the baby and took it down. However the following day a baby beaver was again found by a park visitor below Minnehaha Falls. Since the first baby beaver was not tagged, we don't know if it is the same beaver. The second beaver was taken to Wildlife Rehabilitation to be raised in a refuge with other rescued beavers. If successfully raised the beaver may be introduced into the wild after two years.

Keystone species and bioengineer.

Beavers are natural inhabitants to this area. They are important members of this ecological web and are an important part of a healthy ecosystem. They have also lived here long before Minneapolis existed as a city.

A family of Beavers live at Lake Hiawatha.

Lots of willow grows along Lake Hiawatha. The beavers thin the willow and utilize the volunteer tree growth at Lake Hiawatha for food. They have worked to thin the new Maple forest that has emerged in the Creek Delta area, preventing overcrowding and making room for trees to mature. They rarely take down 'curated' or intentionally planted trees, because they do not venture far from the water. It is an easy matter to wrap selected trees to prevent beavers from eating them.

Beavers at Lake Hiawatha Delta Habitat have worked to create meanders in the creek by constructing partial dams and restoring meanders to the previously straightened Creek. Meanders at Minnehaha Creek help to slow down water and to reduce the amount of sediment deposited into Lake Hiawatha. The beavers at Lake Hiawatha have created channels that move through the wetland complex. These channels have brought the movement of water into previously stagnant portions of the wetland complex flushing out trash and debris and pollutants. This combined with our effort to remove hundreds of pounds of trash from this wetland have improved plant and animal biodiversity in the Lake Hiawatha Delta Habitat. Since the MPRB stopped trapping beavers we have seen the return of Great Horned Owls, otters, mink and more.

It is vitally important that the reconfiguration incorporates the adaptivity necessary for climate and flood resilience. The MPRB should not create potential chokepoints in water courses. In their natural state, the course of Minnehaha Creek and the shape of Lake Hiawatha change and adapt based on climatological circumstances, as well as the activities of wildlife, including beavers. The reconfiguration of this parkland provides an opportunity to restore adaptivity to this portion of our landscape.

INVASIVE SPECIES

Zebra Mussels

ANTHROPOCENIC MIDDEN SURVEY

Note: Zebra mussels have been found in increased numbers this year in Lake Hiawatha. They are found primarily attached to trash items in the Lake. Zebra mussels were regularly found attached to aluminum cans, plastic bottles, cups, plastic bags and other trash items. It is less common to see them attached to logs or rocks. This reinforces the importance of removing trash from the Lake and preventing additional trash items from entering the Lake via our stormwater infrastructures and Minnehaha Creek. Zebra mussels are eaten by many animals and birds including mink, otters, and mergansers, grebes etc. A population of native mussels remains in the Lake. Recommend taking care in addressing this problem though we are not confident that experimental treatments or chemical interventions will be effective and we express concern that the delicacy of the food web may be endangered by the removal of any piece of the food web including zebra mussels and we generally oppose the introduction of chemical agents into the waters of Lake Hiawatha.

Our proposed solution is to address the trash problem through stormwater treatment.



Above: photos of zebra mussels attached to Lake Hiawatha trash in 2020

RESTORATION AND PLANTINGS





ANTHROPOCENIC MIDDEN SURVEY



These are photos of volunteers working on planting and restoration at the Lake Hiawatha Delta Habitat

ANTHROPOCENIC MIDDEN SURVEY



Above: invasive purple loosestrife at Lake Hiawatha

We spent a lot of time removing purple loosestrife in 2020. It turns out there is quite a bit of it that made its way into the delta area and many other spots around the Lake. We caught much of it before it went to seed, pulling it up by the roots when possible other times cutting it back. I suspect that this will be an ongoing effort to control this invasive plant. Later in the season we had to cut off and bag the seedheads when the plant was found. We always tried to plant native species where patches were removed.



Above: This is one of our main restoration work sites at the end of this season. When we began this work the area was only turf grass.

PLANTS

Noted plants present before restoration work (partial)

Asterisk * indicates seedlings that were developed at home. Were introduced in late summer or fall.

Red indicates invasive species

Green indicates species recommended by Healing Place Collaborative.

- | | |
|--|--|
| 1. River Birch | 12. Solomon's seal |
| 2. Purple loosestrife ~ | 13. Virginia creeper |
| 3. Hackelia virginiana, stickseed | 14. Wild river grape |
| 4. Canada Thistle (Cirsium vulgare?) | 15. Yellow iris |
| 5. Alisma triviale Northern Water Plantain | 16. Red Osier dogwood |
| 6. Bee balm monarda | 17. Willow |
| 7. Angelica | 18. Phragmites ~ not sure yet if native or invasive version. |
| 8. Sedges | 19. Canary reed grass |
| 9. Cattail | 20. cutgrass |
| 10. Buckthorn | 21. Maple |
| 11. Garlic mustard | |



ANTHROPOCENIC MIDDEN SURVEY

22. Giant ragweed
23. Ragweed
24. Hoary Vervain
25. [Rough Cynquefoil](#)
26. Forget Me Not~
27. Blue Vervain
28. [Ground Ivy \(Creeping Charlie\)](#)
29. Arrow plant
30. Spotted jewelweed
31. Violet
32. [Hackberry](#)
33. [White Ash](#)
34. Canada Goldenrod
35. Common milkweed
36. red cedar - juniper
37. Bur cucumber
38. [Setaria viridis \(Green Foxtail\)](#)
39. Creeping Jenny
40. White ash
41. Bulblet-Bearing Water Hemlock Cicuta bulbifera Carrot family (Apiaceae)
42. [Quackgrass elymus repens](#)
43. Setaria viridis (Green Foxtail)
44. [Chenopodium standleyanum \(Woodland Goosefoot\)](#)
45. [Persicaria pensylvanica \(Pennsylvania Smartweed\)](#)
46. [Northern water plantain Alisma triviale](#)
47. [Pennsylvania Buttercup \(Ranunculus pennsylvanicus\)](#)

Plants Introduced 2020

1. Aster
2. Bee balm
3. Wild Ginger
4. Zigzag Goldenrod
5. Star-Flowered False Solomon's Seal
6. Wild Cucumber
7. Hyssop
8. Rattlesnake Master
9. Sweet Grass
10. Big Bluestem
11. Wild Rye
12. Heart Leaf Aster
13. Wood sedge
14. Ground nut
15. Fringed Brome
16. Bottlebrush sedge
17. River bulrush
18. Green bulrush
19. violet
20. Cardinal flower
21. [Monkey flower \(mimulus ringens\)](#)
22. [Wild strawberry*](#)
23. Great water dock*
24. Soft stemmed bulrush
25. Swamp Rose Mallow*
26. Obedient plant
27. Joe Pye Weed*
28. Black Chokeberry
29. High bush Cranberry
30. Swamp milkweed
31. Common milkweed
32. Gray dogwood
33. Pagoda dogwood
34. Spikenard
35. White Snakeroot
36. Cup Plant
37. Canada Anemone
38. Tussock sedge
39. Sorghastrum nutans*
40. Lake sedge*
41. [Blue cohosh* \(forest\)](#)
42. Moss - [\(climacium americanum\)](#) from Baker's Wife
43. [Sweetflag](#) (acorus calamus)
44. Northern Blue flag (iris versicolor)
45. Southern Blue Flag
46. [Slippery Elm](#)
47. "American Hog Peanut" Mouse peanut, Ground bean [\(Amphicarpaea bracteata\)](#)
48. [White Sage \(Artemisia ludoviciana\)](#)
49. River bulrush (Bolboschoenus fluviatilis)
50. Fringed brome (Bromus ciliatus)
51. Wool grass (Scirpus cyperinus)
52. Bottlebrush sedge (Carex comosa)
53. Tussock sedge (Carex stricta)
54. Rattlesnake master (Eryngium yuccifolium)
55. Soft-stem bulrush [\(Schoenoplectus tabernaemontani\)](#)
56. Green bulrush (Scirpus atrovirens)
57. [Sweetgrass](#)
58. [Carex retrorsa \(Retrorsed Sedge\)](#)

Dream plants for the future:

1. Wild Rice* only with consent and participation of Dakota and Anishinabe Communities.
2. Blueberries
3. Raspberries [Rubus idaeus](#) (Wild Red Raspberry)
4. Black Raspberries [Rubus occidentalis](#) (Black Raspberry)
5. Alder
6. Cottonwood
7. Cirsium flodmanii (Flodman's Thistle)



ANTHROPOCENIC MIDDEN SURVEY

8. *Cirsium altissimum* (Tall Thistle)
9. *Cirsium discolor* (Field Thistle)
10. *Cirsium muticum* (Swamp Thistle)
11. *Cirsium pumilum* var. *hillii* (Hill's Thistle)
12. *Hordeum jubatum* (foxtail barley)
13. *Zanthoxylum americanum* ([Prickly Ash](#))
14. *Prunus americana* ([Wild Plum](#))
15. Buffalograss
16. Pickerel weed ([Pontederia cordata](#))

Notes: *Amphicarpaea bracteata* "American Hog Peanut": Note that the common name is now considered disparaging to Native Americans. I try to use "ground bean" and to convince others to do so. The common name "hog-peanut" for *Amphicarpaea bracteata* carries racial stigma. Sam Thayer in *The Forager's Harvest*: "It is a derogatory term, meant to be demeaning to the Native Americans for whom this legume was common fare. Long ago in the American South, peanuts were considered food fit only for blacks; adding "hog" to the epithet suggested that this superb lentil, relished by Native Americans within its range, was even more lowly than the peanut and not fit for human consumption. This is typical of the way that Native Americans were made to feel ashamed of their heritage during the process of forced acculturation. The name has lost its derogatory connotation, but it still sounds terrible."

Sweetgrass grows in wet meadows, low prairies, and the edges of sloughs and marshes in Minnesota, North Dakota, Montana, South Dakota, northwest Iowa, and western and central Montana.

<https://www.ecoseeds.com/sweetgrassinfo.html>

<https://www.minnesotawildflowers.info/grass-sedge-rush/wild-rice>

<https://www.minnesotawildflowers.info/page/grasses-sedges-rushes/grasses?plD=0>

https://en.wikipedia.org/wiki/List_of_Minnesota_grasses,_sedges,_and_rushes

<http://www.woodducksociety.com/WDHouse.pdf>

Message from Facebook Plant identification group regarding phragmites:

It was hard to tell which form of Phragmites you have from your photos.

However, the following are few quick pointers I use to help distinguish between the introduced form and native form of Phragmites while in the field:

- *Leaf Color:* Side by side, the leaves of the introduced appear bluish, while native leaves are more yellow (this determination is difficult to make when you only have one haplotype at hand).
- *Stem Color:* Live stems of introduced are dull green and slightly ridged, whereas native stems frequently appear reddish or purplish and are smooth and shiny.
- *Spots on Stem:* Stems of the introduced may have a sooty like mildew but do not have the distinctive black fungal spots, whereas black spots caused by a native fungus are sometimes found on culms of native.
- *Leaf persistence:* On dead introduced stems, leaf sheaths are difficult to remove, whereas on dead native stems, leaf sheaths are easily removed or fall off by themselves.
- *Ligule length:* The introduced ligules are approximately half the length of native ligules (0.1-0.4 mm for invasive haplotype compared to 0.4-1.0 mm for native).
- *Density:* Stands of introduced Phragmites are typically very large, tall, and dense (i.e. hard to walk through easily) while native stands are usually integrated with a more diverse plant community and not as dense.

Darin L. Banks 2020

Sean P Connaughty response:

Thanks so much Darin that is a huge help! The stems have a reddish color even some when it was earlier in the season. I did not see the black fungus spots but do see some mildew as they die off in the fall. These have only been present for two seasons so hard to tell about density. the sheaths are coming off the stalks. and I don't have the native



ANTHROPOCENIC MIDDEN SURVEY

present to compare color. hmmm. I think I will cut the seed heads off in case they are non native. The patch is small.so still manageable. I will take a closer look at the ligules and measure them. Thanks!

MDA NOXIOUS WEEDS LIST:

<https://www.mda.state.mn.us/plants-insects/minnesota-noxious-weed-list?fbclid=IwAR0pw pVNBUGYGU-9pWdjWjj9OIADVa-N1I-HdGsFU1RoYZyt8PamkKM>

LAKE HIAWATHA WATER CLARITY

The secchi readings showed a significant drop in water clarity this season.

2020 SECCHI READINGS - LAKE HIAWATHA

- 8/10/2020 **secchi depth 2'6"** pt cloudy 12pm light wind
- 7/29/2020 **secchi depth 3'4"** 11am.sunny, calm.
- 7/25/2020 **secchi depth 2'8"** pt cloudy, calm 3pm
- 7/17/2020 **secchi depth 3'8"** sunny, light wind 12pm
- 7/3/2020 **secchi depth 3'11"** 10am sunny, calm.
- 6/30/2020 **secchi depth 3'3"** overcast, calm 11:30 am
- 6/19/2020- **secchi depth 3'3"** pt sunny, calm. 3PM
- 5/25/2020 **secchi depth 5'2"** pt sunny, light wind 3pm
- 4/27/2020 **secchi depth: 5 feet** 2:30pm sediment, pt cloudy, light wind.

Max Water depth measurement 2020 - 20 ft.

2020 was exceptionally dry with low water levels at Lake Hiawatha.

LAKE HIAWATHA OWL'S NEST REPAIR

Lake Hiawatha 2020

First there was a nest in a commandeered squirrel's nest in a white pine tree at Lake Hiawatha in which two owls were raising a family. A storm blew the nest down with three owlets in it. The Raptor Center came and repaired the nest with branches, zip ties and a metal basket. Two of the owlets were placed back in the nest and the third was raised at The Raptor Center. The owl family returned to successfully raise the owlets to maturity.the next year they returned to the same nest and again raised a family. The third year the nest was too badly degraded to use. That was two years ago. I received permission from the MPRB to repair the nest, which is what I have done.

ANTHROPOCENIC MIDDEN SURVEY



ANTHROPOCENIC MIDDEN SURVEY





ANTHROPOCENIC MIDDEN SURVEY



Above: This wood duck box was built by my father Curtis S Connaughty. We installed it in the Lake Hiawatha Delta Habitat.



THE NORTH PIPE/43rd STREET PIPE

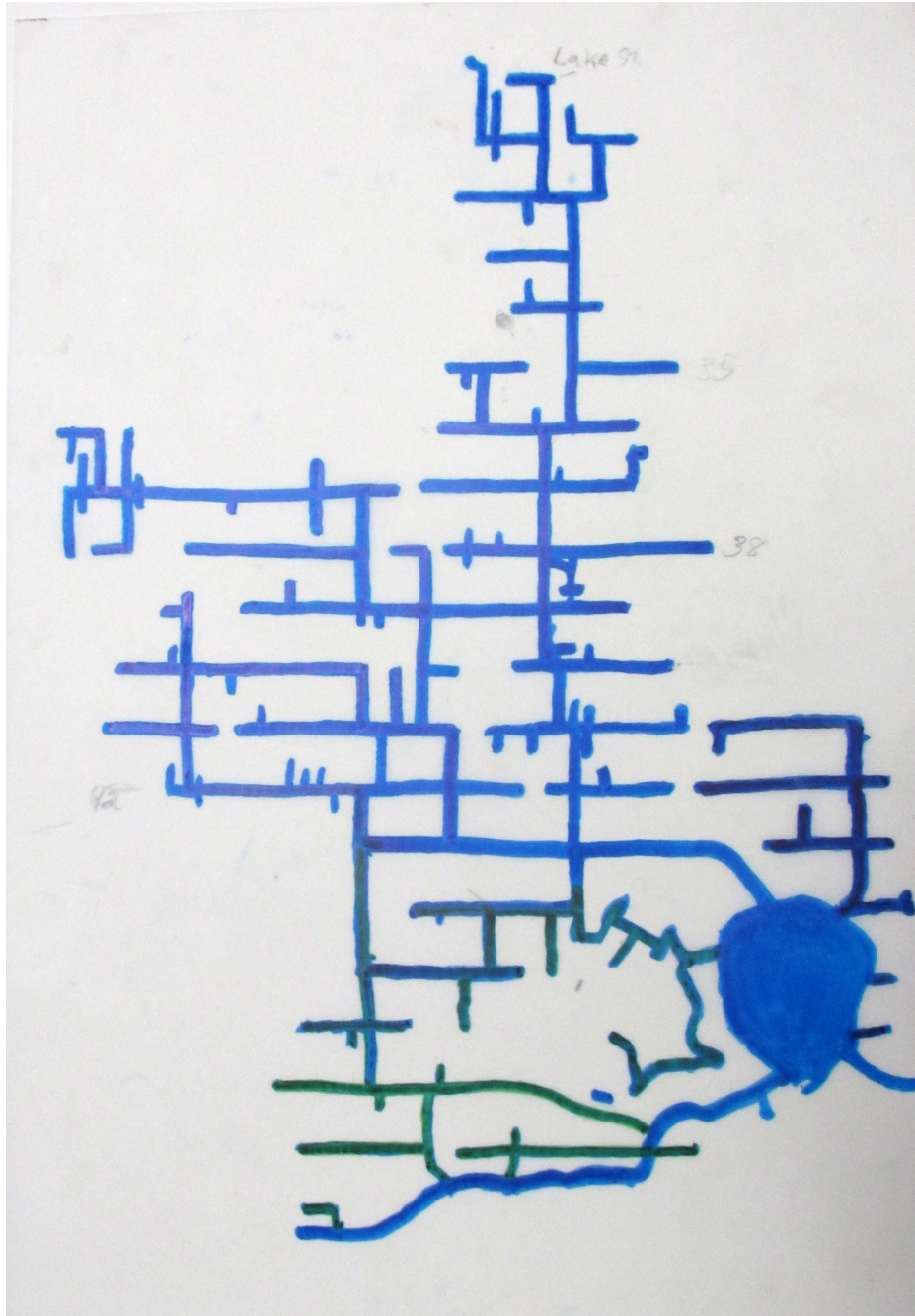
Stormwater pollution

The north pipe is a 920 acre subwatershed that encompasses a large portion of South Minneapolis. Busy thoroughfares including Lake Street, Chicago Avenue, Cedar Avenue, Bloomington Avenue, and others empty, without filtration, directly into Lake Hiawatha via this stormwater system. Two 60" pipes installed in 1935 drain the pollution from our streets into our Lake. The highly visible pollutants include massive quantities of trash that spread throughout the Lake and continue downstream to the Mississippi River and on to the Gulf of Mexico. The accumulations of microplastics in the soils along the shore are permanently a part of the anthropocenic fossil record. Sediment from our streets including sand, soil and organic materials have accumulated in massive quantities near the outfall. Phosphorus and nitrogen from organic materials and synthetic fertilizers add hundreds of pounds of phosphorus to a Lake listed as impaired for phosphorus. Other pollutants include salt applied to our streets and sidewalks, lawn chemicals, pesticides and herbicides. Bacteria



ANTHROPOCENIC MIDDEN SURVEY

from human and animal feces has also caused beach closings and impairment status for Lake Hiawatha. We have been asking for comprehensive stormwater treatment since 2015. We have removed more than 8,000 lbs of plastic and styrofoam trash in that time.



Above: The pipesheds of Lake Hiawatha. The north pipe extends from Lake Street to the south and beyond Chicago Avenue to the west. The stormwater from these pipes empties 920 acres of South Minneapolis, without filtration, into Lake Hiawatha.



ANTHROPOCENIC MIDDEN SURVEY



Below: If you doubt that the north pipe or 43rd street pipe is the primary source of trash for Lake Hiawatha please observe these photos (below) taken in March of 2020. These photos are taken at the outfall of the north pipe stormwater system that empties into Lake Hiawatha on its north side. The salt and warmer temperatures of spring melt water coming through the stormwater system creates an area of open water directly in front of the north

ANTHROPOGENIC MIDDEN SURVEY

pipe outfall. These photographs are proof that this trash could only have come from the north pipe and thus the streets of our community and not from users of the park or Minnehaha Creek. I do not deny that trash at the Lake also is contributed to by users of the park and Minnehaha Creek. When I began my journey of cleaning at Lake Hiawatha in 2015, MPRB officials denied the north pipe as the source of trash in Lake Hiawatha. On this occasion 3 bags or 60 lbs. of trash was removed from this accumulation.



SITE CONTEXT 2020

essay by Sean Connaughty January 7, 2021



I would be remiss if I neglected to address the unprecedented contexts in which we conducted our work in 2020. It was an historic year in South Minneapolis. In the midst of the turbulent Trump presidency comes the COVID 19 pandemic which so far has cost 350,000 lives and has changed forever the way we live and work with massive economic consequences. On Memorial Day occurred the murder of George Floyd outside of Cup Foods at the corner of 38th and Chicago. George Floyd, an unarmed African American man who suffocated and died after 9 minutes under the knee of police officer Derek Chauvin. This event marked a breaking point in the long line of injustices visited on African Americans in our country. The tears of George Floyd would wash down Chicago avenue and into Lake Hiawatha, then on to the Mississippi River, finally reaching the Gulf of Mexico and his birthplace Houston Texas. This is because the streets at 38th and Chicago drain directly into Lake Hiawatha. The two spots are directly connected by the flow of water. On the morning after the killing on my way to the grocery, I stopped at the corner to do a trash



ANTHROPOCENIC MIDDEN SURVEY

cleanup of the area as I have often done over the years. I had not heard the terrible news of his death which had occurred mere hours ago. As I cleaned I noticed two women consoling each other. I saw a pile of police tape in the city trash can. It was only after leaving that I learned the news. Then I watched the terrible video. I returned that afternoon to 38th and Chicago to attend the peaceful protest. The ensuing peaceful protests, Uprising, rioting and fires had national and global impacts. Peaceful protests were inflamed into rioting and destruction. The “umbrella man” smashed the windows of the Autozone on Lake Street and spray painted “free shit” on its walls. Over 700 businesses were damaged or destroyed in the ensuing conflagration and finally the Third Precinct was abandoned and torched. Lake Street was the epicenter of this destruction. The destruction resulted in the loss of services and vital businesses to our community. Lake Street is also directly connected to Lake Hiawatha via the 920 acre stormwater system. Burned pieces of lumber and insulation were found in Lake Hiawatha. Additionally flowers were found in the Lake which may well have come from the newly named George Floyd Global Memorial. The impacts of the destruction on Lake Hiawatha were incidentally ameliorated by the efforts of thousands of volunteers who came out to clean up the debris from the rioting. Like others I led a small group of friends to clean up trash and debris starting at 38th and Chicago and working our way down to Lake Street then going all the way to Hiawatha Avenue. There we encountered the line of National Guard soldiers blocking off Lake Street and access to the area surrounding the Third Precinct. After that we worked our way back along Cedar Avenue finally returning to Powderhorn Park and then George Floyd Square. As we cleaned we witnessed the efforts of thousands who were also cleaning up the debris, while firefighters were still vanquishing the flames from the night before.

These tense days saw martial law, and the organizing of neighborhoods to guard against further damage and the displacement of homeless people. We will not soon forget the anxiety of these times. The ever present drone of helicopters, the smell of smoke, explosions, sirens, lurking white nationalists in unmarked cars. We spent tense nights locked down in our homes, watching events unfold locally and nationally. The plight of Minneapolis became a national political football with widespread disinformation and blaming spread. Over the summer I continued to return to George Floyd Square to assist in small ways. I continued cleanup efforts at the square and surrounding neighborhood. I have had the pleasure to work with Jeanelle Austin, [lead caretaker](#) of the George Floyd Memorial. Jeanelle met with my Art and Ecology class on our field trip to visit the memorial. I cannot think of a more eloquent person to discuss this now historic place and the struggle for black liberation. The area is being cared for by her and other caretakers who tend the offerings, tributes and artworks as well as the gardens and planters that now adorn the square. These caretakers also keep the memorial free of trash.

Now as I write this it is January 9th, 2021. In the time between the violent attempted coup at the Capitol on January 6th and the inauguration of Joe Biden, things remain uncertain. Our democracy is on the brink of collapse. And the hope of a better future, a new administration just days away, seems an eternity. Looking back at the year. Now in the wake of a violent insurrection at the nation’s capitol yesterday. How close we have come to losing everything. We thought the arc of events must necessarily ever draw us closer to justice, progress, equality and freedom. Now we know that that can only occur with endless vigilance and effort.

SPC 2021



The above image is an assortment of items found in Lake Hiawatha that may have come from George Floyd Square Memorial and the Uprising.



Above: An arrangement of letters and numbers found in Lake Hiawatha in 2020

ANTHROPOCENIC MIDDEN SURVEY





ART AND ECOLOGY 2020

Sean Connaughty's Fall 2020 Art and Ecology class met at George Floyd Global Memorial Square. In a collaboration with Jeanelle Austin, Geno Okok and Freshwater, Krisas part of Ryan Seibold's WaterTable project and the [Art for Water/ Minnesota Water Stewards program](#).

ARTS w3206 University of Minnesota Department of Art.



Ryan Seibold [Projects](#):

Here is the art for water link: [Art for Water](#)

Artists Geno Okok and Ryan Seibold, both are Freshwater 2020 Art for Water program artists, teamed up with Sean's University of Minnesota Art & Ecology class students for a Water Table class. Water Table is a meandering educational program that will evolve and shift topics as participants explore the creek together and share knowledge with each other. Seven events in

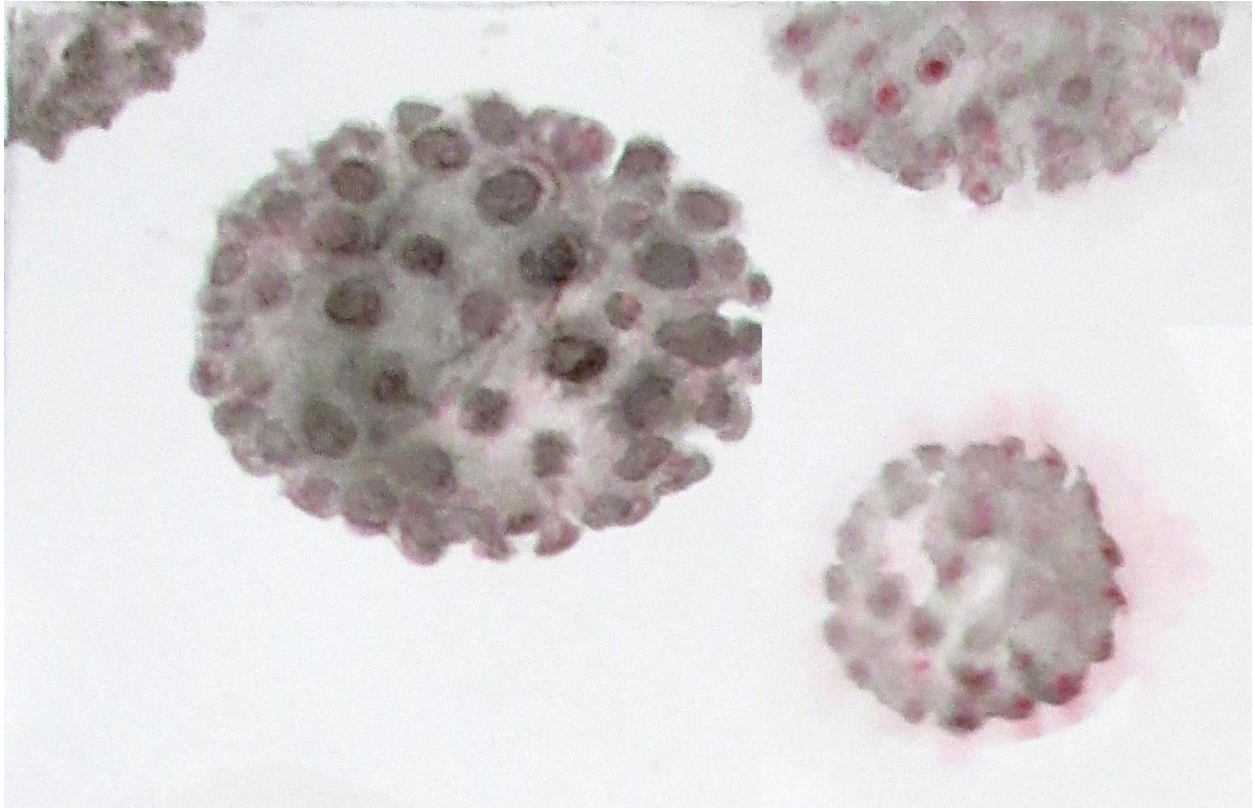


ANTHROPOCENIC MIDDEN SURVEY

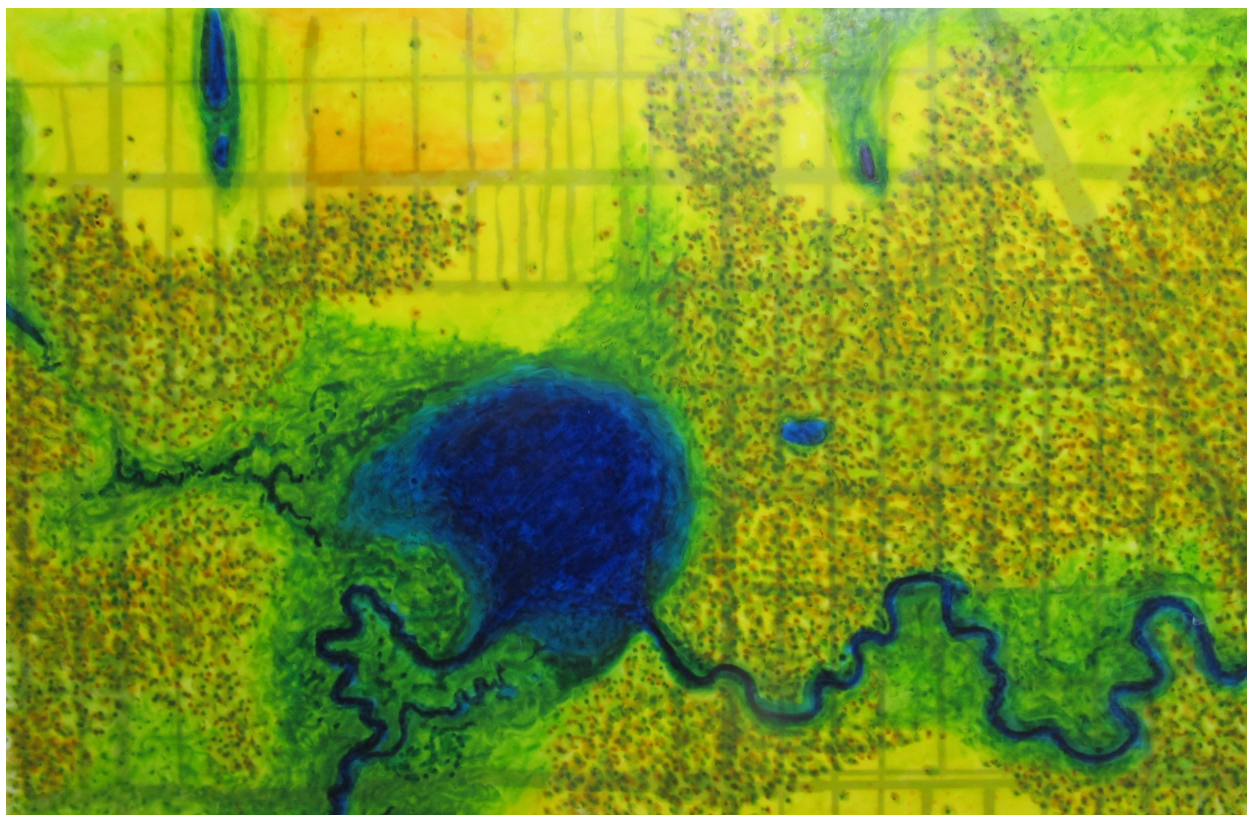
2020 explored various topics: boundaries and migrations, bat detecting, birdwatching, foraging, and fun playtime with Kindergartners. We met with the students at George Floyd Square for a tour with Jeanelle Austin, the lead caretaker of the square, who graciously provided wisdom about the role of the square and community, art, and the movement for Black Liberation. Artists and students listened to Jeanelle speak about the process of healing, mutual aid, resistance, placemaking, art, and community building taking root at 38th Street and Chicago Avenue, in response to the murder of George Floyd by the MPD. Together we joined to bear witness to the memorial building process and how art, created by many, was received as a gift to honor the many black lives taken from this world by police officers. After reflecting at the "Say Their Name" memorial, the group planned to reconvene at Lake Hiawatha. It became an important part of discussion to answer the question why these two sites are connected.

White Supremacy on this continent began with the attempted genocide of Indigenous People and theft of Indigenous Land by newly arrived white settler society. Land was stolen and then African slaves were taken from their homelands to the Americas, treated as property and used for free labor, which further enriched the white settler landowner class. Continued oppression of Black and Indigenous people continues today. Water connects these two places where trauma has been inflicted on both groups... and this land-based/cultural oppression continues today in the form of systemic and institutionalized racism. At the lake, Geno provided everyone with blank canvas and paint and talked about his own emotions and experiences being a black man. The act of painting freed our minds to reflect and talk about our own experiences from the day and make deeper connections between the two sites we visited. By Ryan Seibold 2021

THE PANDEMIC - COVID 19 - 2020



The COVID19 pandemic has impacted our work at Lake Hiawatha. We had to cancel plans for a large Earth Day cleanup. Instead we organized a staggered cleanup extended over a month's time. All of our restoration work this season was conducted with the greatest care in maintaining social distancing and mask wearing etc. Signs of the pandemic are present in the trash found in the Lake. Masks and gloves were found in every cleanup after the mask mandate was declared. These PPE are a vital tool in preventing the spread of the coronavirus, however they need to be disposed of properly.



Rice Lake prior to colonization with street map overlay. Sean Connaughty 2020

THE FUTURE

After the year we have experienced it is time to begin work to realize the future we want. "You have to act as if it were possible to radically transform the world. And you have to do it all the time." — Angela Davis . In order to restore balance to our ecosystem we begin preparations for the return of bison to Lake Hiawatha. In acknowledgement of Indigenous peoples' knowledge and prophecies. Also, as a [keystone species](#) which is absent from here. Ruminants. Bioengineers, keystone to the tallgrass prairie habitat native to this region. Bison are vital in Nitrogen cycling, soil aeration, fire management and increasing species heterogeneity (biodiversity). Prairie habitat connects with Coldwater springs. Longfellow Gardens, Bdote and beyond along the Minnesota River on to the Dakotas. Following the ancient River Warren back to its ancient source Lake Agassiz.



ANTHROPOCENIC MIDDEN SURVEY

Dream big.

This goal is difficult to achieve. I choose this dream because when we meet the necessary conditions required to achieve this goal, a host of major problems will be solved in its accomplishment. Including:

- Restoring wildlife connectivity and biodiversity,
- Addressing pollution issues and cleaning our water.
- Increased public access to healthy and functioning natural spaces
- Increase pollinator health
- climate resiliency and carbon sequestration
- addressing and ameliorating historical trauma and violence to Dakota and Indigenous peoples.

How would this be done?

- Reopen migration routes and develop connections between fragmented habitats
- Recreate contiguous tall grass prairie in multiple locations
- Identify and inventory existing habitat zones.
- Identify the ways in which existing critical ecologies have been degraded and begin the work to restore them to health.
- Design and implement Infrastructure that connect ecologies across freeways and roads;. land bridges, under and overpasses.

References: [linnii Initiative: The Return of the Buffalo](#) [Boy-zshan Bi-den \(Buffalo Return\)](#)

The following excerpt is from an article in *Future Past - Public Art St Paul*, where I propose possible solutions to help a post COVID and Uprising Minneapolis:

SOLUTIONS

• No Net Loss - Habitat Policy

What if we change our view to regard each ecosystem as sacrosanct and work to generate new ecosystems by utilizing public and private spaces to develop contiguous habitat throughout the city? We could re-wild or naturalize spaces that are underutilized or abandoned. A policy could be put into place that stops the consumption of remaining habitat. Incentives could be offered for the development of new habitats. Key zones would initially attract more attention because of their proximity to major existing habitat zones and water bodies. We could create land bridges across freeways and highways to connect fragmented habitat spaces. Residential and business lawn spaces and urban agricultural spaces could become habitat.

• WPA Minneapolis and St Paul 2.0

On the national level, we see leaders proposing the Green New Deal. We also know change at the national level will take some time. Locally, what if we created a work program in our cities to address local problems and opportunities now? People need work, and there is much work to be done. We can begin this work ourselves. Maybe the Parks, Watershed Districts, City, County and possibly the State, can collaborate to commission a jobs program to do the work that needs to be done (in no particular order):



ANTHROPOCENIC MIDDEN SURVEY

- Reconnecting fragmented ecologies
- Stormwater treatment
- Repairing infrastructure
- Naturalizing and re-wilding public and private spaces
- Wetland development
- Community gardening and food production
- Cleaning trash and plastic debris from bodies of water and streets.
- Repairing businesses and properties damaged during the recent uprising about George Floyd's murder
- Local food production and distribution
- Creating homes for the homeless
- Conflict resolution, community-based crime prevention and de-escalation—and more.

We can finally put to rest the doctrine of Manifest Destiny and establish a safe and just community that is self-sufficient and lives in a reciprocal relationship with the Earth.

Sean Connaughty

[published](#) 8/13/2020

2020 VOLUNTEER DATA

Trash cleanup and habitat restoration work

Cumulative Lake Hiawatha Trash cleanup total 2015-2020: 406 bags, **8,120 lbs.** 514,402 trash items.

Volunteer data for 2020:

346-406 bags = 59 bags 1,180 pounds or 74,753 individual trash items

Restoration and cleanup volunteers:

Ellen Wahl 25 hours. Sarah Bergen 17 hours, hours, Penny Fuller 30 hours, Lynn Ford 15 hours, Susan B Fall 24 hours, Kerry Morgan (3) 18 hours, Kyle Samejima 18 hours, John Schuerman 15 hours, Melisa Christensen 4 hours, Robert Bergad 12 hours, Ellen Maguire-Kilkelly 30 hours, Debbie McGee 6 hours, Nina Clark 5 hours, Michael Lynch 2 hours, Rebekah Rexius 1 hour, Carol Nordstrom 1 hour, Matt Fistler 15 hours, Sarah Sampedro 4 hours, Xavier Tavera 4 hours, Susan Opitz 3 hours, Judy Wachner (2) 3 hours, Curtis Connaughty 6 hours, Ryan Seibold 6 hours, Tim Clemens 10 hours, Geno Okok 3 hours, Jeanelle Austin 1 hour, Louise and ___ 4 hours, Petra Iverson 4 hours, Sean Gosiewski 3 hours, Melisa Christensen and family (3) 3 hours, Jessica Miller (2) 2 hours, Eliza Leahy (2) 2 hours, Kate Sheldon (2) 2 hours, Sika Johnson (2) 2 hours, Jan Bailey 1.5 hours, Constance Pepin 6 hours



ANTHROPOCENIC MIDDEN SURVEY

TOTAL number of volunteers 43

Volunteer hours 310.5 hours

Sean Connaughty 224 hours

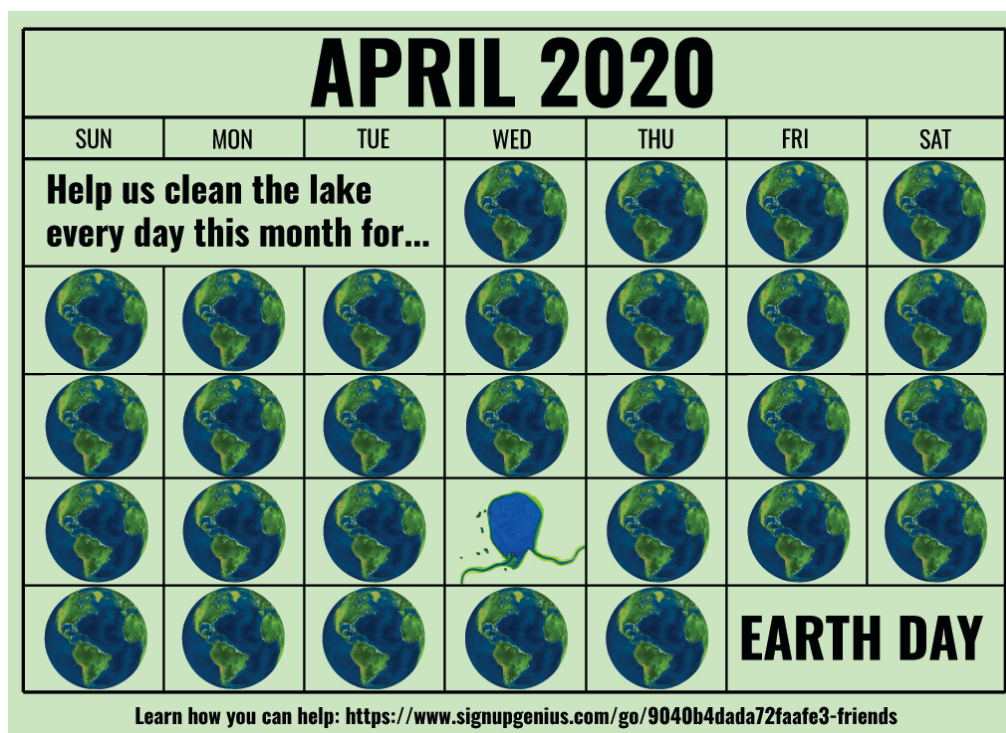
TOTAL 2020 volunteer hours 534.5 hours

Lake Hiawatha Earth Month Trash Cleanup 2020

volunteer trash weight totals:

Nina Clark 20 lbs. Sika Johnson 30 lbs. Kerry Morgan and Michael Morgan 60 lbs., Lynn Ford, Louise and Susan H Fall- Ellen Wahl 55 lbs, Sara Bergen (3) 20 lbs. Melisa Christensen and family (3), Jessica Miller (2) 20 lbs., Evan ___ 20 lbs., Sika Johnson 50 lbs. Jessica Miller (3) 17 lbs. Eliza Leahy (2) Kate Sheldon (2) 20 lbs. Jan Bailey 10 lbs., Matt Fistler 20 lbs.

Lake Hiawatha Earth Month trash cleanup TOTAL 342 lbs. of trash.



Above Ryan Seibold- Design

Sean Connaughty: Lake Hiawatha restoration work and lake trash cleanup- 189 hours.

Sean Connaughty: South Minneapolis George Floyd Square and surrounding community street cleanup 35 hours.

= 224 hours total.



ANTHROPOCENIC MIDDEN SURVEY

Sean: Lake Hiawatha R&D art practice = 300+ hours

Consultation: Denise Nelson, Ethan Neerdaels, Michael Lynch, Constance Pepin, Brian Crotteau, Jymme Golden. Mona Smith, Bruce Fall.

Plant and Seed Sources: Prairie Moon Nursery, Prairie Restoration, Outback Nursery, friends.

"Earth Month Cleanup" staggered cleanup signup. COVID 19 precautions; social distancing and masks.

George Floyd Global Memorial Square and South Minneapolis street cleanup - the Uprising trash and debris cleanup - 35 hours.

Invasive removal: Garlic Mustard pull, Buckthorn pull, Purple Loosestrife removal, Canary Reed Grass-and phragmites seed head cutting.

Plantings- seeds and plants. See Plant Biodiversity Survey.

Highpoint Printmaking and Green Partners trash survey with Nellie Stone Johnson Elementary and Burroughs Elementary 5th grade.

https://www.highpointprintmaking.org/highpoint-news/2020/8/25/highpoint-amp-green-partners?fbclid=IwAR1V_0qyVFfIOM1-Gh-t2xoFT1dLzgEF8Pku-NBIBUb3wrlftta7foMIK3k



ANTHROPOCENIC MIDDEN SURVEY



Sean Met with MCWD officials to plead for keeping Grays Bay Dam open during winter time to maintain healthy water flow to Lake Hiawatha in wintertime to prevent winter kill .and other ecological detriment.



ANTHROPOCENIC MIDDEN SURVEY



Above: Presentation at Minnetonka Middle School East - Mr. Bill Fnnerty's 8th Grade Class. January 2020



ANTHROPOCENIC MIDDEN SURVEY

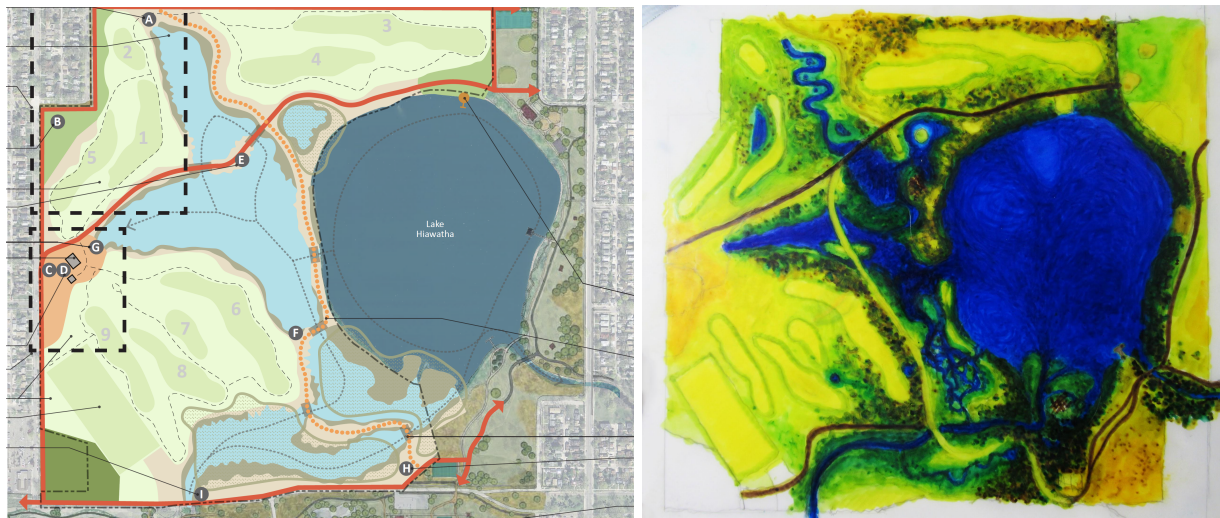


Above: A collaboration with Highpoint Printmaking and .Green Partners, and Sean Connaughty. Working with students and faculty from Nellie Stone Johnson Elementary 2020 at MWMO Headquarters .



Above: we removed this couch found in Minnehaha Creek in 2020.

APPENDIX



Moving the foot trail away from the western lakeshore otter habitat.

MPRB DRAFT MASTERPLAN COMMENTS 2020

Reestablishing wildlife connectivity along the Minnehaha Creek corridor is a key goal in developing climate resilience in our city and aligns with the Nokomis Hiawatha Regional Plan and the Comprehensive Plan. Throughout this 5 year public process the MPRB has been responsive to our recommendations. We hope that they will adopt our final recommendations to ensure protections for existing wildlife residents.

The following are comments submitted to the MPRB by Sean Connaughty on behalf of Friends of Lake Hiawatha. 9/13/2020

2.2 Existing Site Conditions

we (Friends of Lake Hiawatha) are working very hard to limit foot traffic and resulting damage in key habitat areas that are home to wildlife and we don't want to encourage people hanging out in the Lake Hiawatha Delta Habitat area. We hope that the new plan will implement measures to limit foot and watercraft traffic in key designated areas - defined as the "Nature First" areas in the draft. These measures could include creating protected "no go zones" and also by using topography, plantings and water to discourage intrusion and maximize biodiversity and ecological function in these critical habitat zones. It is so important that the project does not diminish biodiversity and habitat viability that already exists nor displace the animals who have survived the devastation of colonization.

4.3.7 Restoration Opportunities Abound -Habitat Preservation and Ecological Restoration



ANTHROPOCENIC MIDDEN SURVEY

Lake Hiawatha is home to a very diverse and successful population of fish and this has occurred largely without intervention. The current population of fish at Lake Hiawatha does include some non native species such as carp. It does not have a population of grass carp or silver carp which are of greater concern. I fear that interventions in removing carp or treatments for zebra mussels or milfoil etc will only disrupt the balance.

concerning zebra mussels- It has been known since 2010 that zebra mussels are in our Lakes. Lake Hiawatha also has a population of freshwater clams. The primary place where I find zebra mussels is attached to trash. they are attached to cans, bags, plastic bottles, gloves wrappers, etc. Addressing the trash problem may very well reduce dramatically the presence of zebra mussels in Lake Hiawatha.

Supportive of the general outlay in approaches to existing habitat protection.

Current winter time foot traffic in recent years has had a deleterious effect on wildlife at Lake Hiawatha. People walking along the western shore have displaced some mammals from the Lake shore. Especially problematic has been off leash dogs allowed to perform hunting behavior in habitat areas. particularly the delta and western shore. **The current plan to place a walking path along the western shore of the Lake will increase traffic in this area where otters and beavers reside. Making a small adjustment to the course of the path to avoid critical areas is recommended.** Also, in the meantime, it would be great if there was education and enforcement of rules regarding off leash dogs. As much as I love dogs as a dog owner myself the increase in traffic needs to be addressed if we are to preserve the biodiversity of Lake Hiawatha.

New Island spaces without trails or easy access would be a wonderful way to provide safe habitat for wildlife.

Please provide definitive language in the master plan that states: key existing wildlife habitat zones will be protected and will remain unchanged.

Topics- Costs, funding etc.

Comment:

The high cost of the project threatens the viability of its implementation.

I'm afraid the high cost of the project might result in further delays in implementing critical infrastructure changes. Infrastructure changes are desperately needed to address egregious pollution which has been ignored for too long and has worsened without attention. Stormwater treatment work should begin immediately, regardless of the status of fundraising for the other elements of the project.

Essential priorities in order importance:

1. Pollution - stormwater treatment, new wetland establishment,
2. Climate - new wetland establishment, reduced pumping, wildlife - existing wildlife population protection and new habitat creation.
3. Recreation/Social- golf course and park access, social engagement, public art.



ANTHROPOCENIC MIDDEN SURVEY

Some costs could be cut by lessening the scope the project to include only essential features.

I consider these items to be non-essential:

- *Lake House*
- *Kayak rental enterprise*
- *Restaurant enterprise*
- *Winter Activities enterprise*

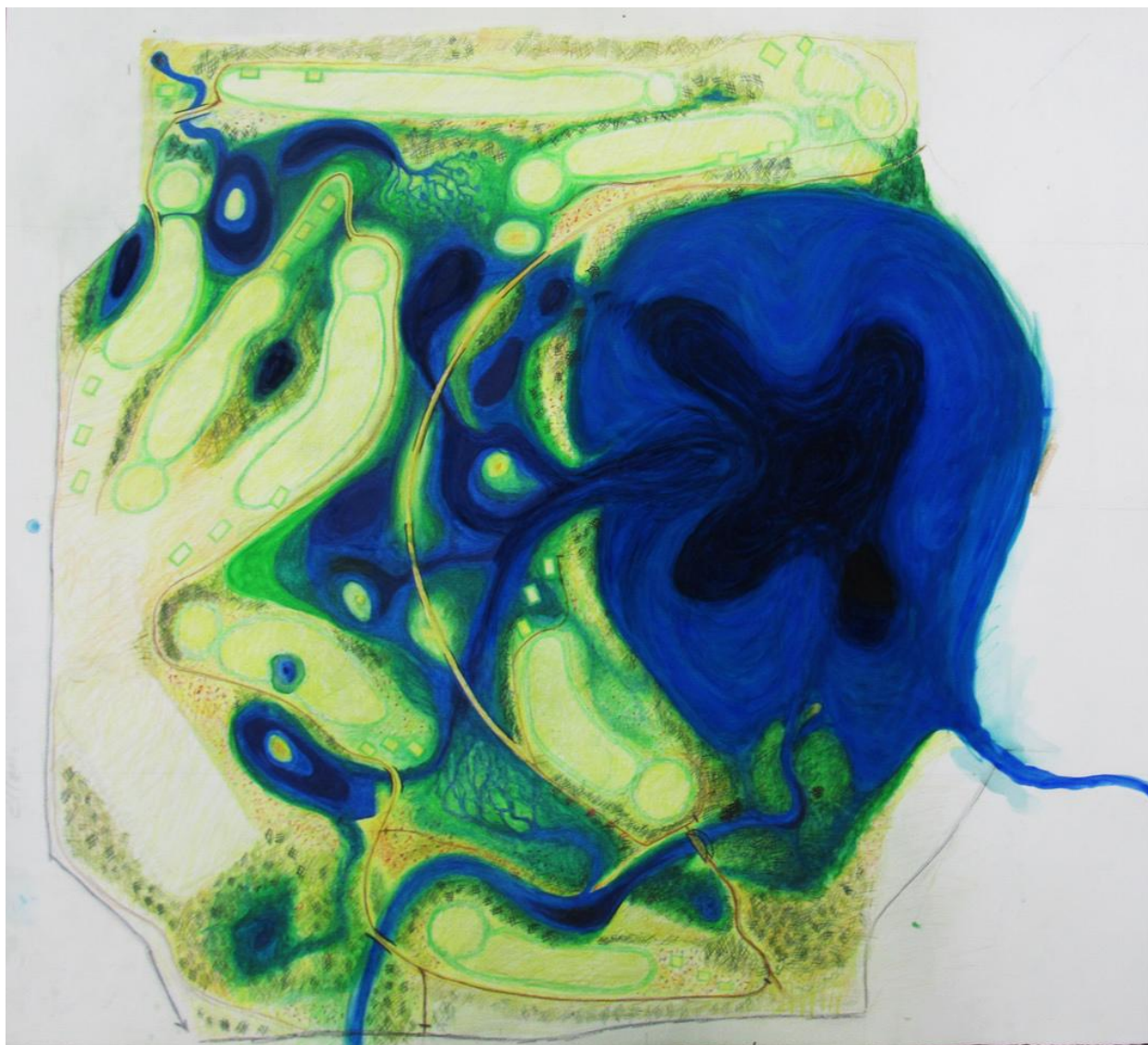
Comment:

We support the plan as it relates to habitat protection, ecological restoration, stormwater treatment and the continuation of Hiawatha Golf Course in an ecologically driven 9 hole configuration. Many of the additional recreational amenities included in the plan, beyond golf, drive the cost of the plan up, even though the costs of the primary and essential work of stormwater treatment and ecological restoration are reasonable. Essential infrastructure changes (stormwater treatment) should be prioritized and implemented with concerted alacrity at Lake Hiawatha. Whether or not they are able to raise the sums asked for in the plan in its entirety. The high cost of the project must not result in further delays in stormwater treatment. Can the essential stormwater treatment be funded separately and thus be safe from further delay?

The City of Minneapolis has declared a climate emergency. Climate change impacts locally are exacerbated by lost flood resilience, habitat fragmentation and pollution. The MPRB bears a large portion of responsibility for this condition. This is exemplified on this property in the destruction of the Rice Lake wetland complex and the failure to address the pollution of Lake Hiawatha and subsequent downstream waters. Friends of Lake Hiawatha has removed 7,500 lbs of mostly plastic and styrofoam trash from the Lake. Despite this volunteer effort the Lake remains littered with tons of trash. The shattered remnants of decades of unaddressed trash accumulation has resulted in permanent ecological damage in the form of microplastics in the soils which often outnumber organic matter on the shoreline. The City of Minneapolis and the MPRB removed 4 lbs. of trash in 2015. This is the only instance I am aware of in which these agencies removed any trash from Lake Hiawatha. This despite the MPRB's charge to keep the parkland free of trash. The MPRB and the City need to step up and hire new staff to pick up trash at our Lakes and on our streets. Volunteer efforts are not able to keep up with the trash that arrives with every rainfall. Further delays in stormwater treatment and trash mitigation are unacceptable. The CAC (community advisory committee) concurs with this assessment that addressing pollution is the number one priority for this property. Our agencies need to acknowledge this problem and prioritize this work in the implementation of the project plan.

Sean Connaughty and Friends of Lake Hiawatha 9/13/2020

The above was submitted to MPRB in public comment.



Lake Hiawatha watermap .Concept 1 response. 2019

PARKS FOR ALL - SURVEY COMMENTS 2020

The following are comments submitted to the MPRB public survey 8/13/2020:

Parks for All: Dream Park Survey

Minneapolis Park and Recreation Board 2021 Comprehensive Plan

1. What are your dreams and priorities for Minneapolis parks?

DREAMS:



ANTHROPOCENIC MIDDEN SURVEY

It is my belief that whether we know it or not there is within each of us a part that is mourning the loss of sacred spaces. We have within us memories of the health and vibrancy of the land that is lost or fast disappearing. When the first European settlers arrived they found people who have lived here for millennia. Who lived in intimate connection with all the living things and the land. Whose knowledge sustained them and contributed to the health of the interconnected ecology by careful harvest and stewardship. The Earth was able to sustain this kind of relationship through its bounty and the reciprocity of the human relationship to living systems that were part of the web of mutual health and survival.

In our region the explosion of human presence began here in Minneapolis, and continues to expand outward consuming the land that is now our suburbs, ex-urbs and beyond. Every day more land is consumed. The wetlands, forests and prairies and all of their inhabitants absorbed in the ever growing requirement for more space, more resources and more consumption. It was inevitable that the result of this would be imbalance. Now we face that imbalance and are called to correct it.

I believe we can restore some of what we have lost. That is my vision for our Parks.

The land and water; polluted, flattened, dredged, walled and fragmented as it still harbors the survivors of that initial devastation. They are living in pockets in our parks in fragile ecologies that are threatened by stormwater pollution and pressing human encroachment. They are the seed by which we can restore balance. It will not be easy and we will have to change the way we understand our relationship to the land and how it requires each of us to contribute to the web of life required for our survival. Here at the epicenter of that initial impact we see some revival happening, Lake Hiawatha has seen the return of the otters, humans here are converting their lawns to habitat that will help sustain and expand the new growth and connectivity that must necessarily be undertaken. Each of us must give back some of what we have taken. The major ecologies must be connected to the smaller ecologies and new habitats must be created. These new corridors of connection will allow for migration along these critical corridors and foster the restoration of balance. I believe the example we set here and the effects of our forthcoming restoration will ripple outward just as the initial impact has done. We can begin this work today!

PRIORITIES:

- 1. No net loss of habitat.*
- 2. Re-wilding manicured park areas to re-establish connectivity, habitat and much needed wetlands. reduce mowing, allow nature to reclaim areas. Consider new infrastructures such as land habitat bridges across freeways and roads.*
- 3. Extensive stormwater pollution treatment. Prioritize addressing these critical infrastructure failures which are resulting in tons of trash and pollution choking our waterways and wildlife.*
- 4. Protect and preserve critical habitat areas. Prioritize protections for keystone species such as otters and beavers who are already doing the restoration work in our parks that we need to undertake. They can help us more if we allow them to do so. No trapping, no killing. Elevate the status of wildlife. Incorporate strategies to limit infrastructure that puts human activity in conflict with nature, wildlife and water. Take steps to limit human encroachment in critical wildlife habitat areas such as the Lake Hiawatha delta and the Mississippi River Gorge.*
- 5. Change our approach to restoration. We cannot afford to sacrifice any more habitat, even for a long term outlook on restoration. In our parks the balance is too tenuous. construction plans should involve careful assessment of existing wildlife populations and their requirements, with protective buffers in place. No pesticides.*
- 6. provide meaningful and equitable access to clean water and natural spaces to all humans in balance and consideration of the need of some areas to be free from human intrusion. This can be done. Work in*



ANTHROPOCENIC MIDDEN SURVEY

partnership with local Indigenous communities at all stages to guide our restoration process towards health and balance.

Sean Connaughty and Friends of Lake Hiawatha

The above comments were submitted to the MPRB via online survey 8/13/2020

[Parks for All: Dream Park Survey](#)

ANTHROPOCENIC MIDDEN SURVEY - PREVIOUS DOCUMENTS

Anthropocenic Midden Survey Lake Hiawatha Final Report:

<http://forums.e-democracy.org/groups/mpis-staneric/files/f/kXqPcUAL9IOHZMaHIP1CQyILz4U-1gDTI-2MR6jCg/ANTHROPOCENIC%20MIDDEN%20SURVEY-%20FINAL%20REPORT%20-%20%20WHITE%20PAGE%20GALLERY%202019.pdf>

2019 Trash Survey:

<http://forums.e-democracy.org/groups/mpis-staneric/files/f/ocyQEnQ1FB98iyXYZIGcIO49TX6-1LUxT-2Mi2tr8/PICTURES%20LAKE%20HIAWATHA%20COMPREHENSIVE%20TRASH%20%20SURVEY%202019%20.pdf>

2018 Trash Survey:

<http://www.vortexnavigationcompany.com/trashsurvey.html>

2015-2017 stewardship report:

<http://forums.e-democracy.org/groups/mpis-staneric/files/f/7hlpXMLjr14TBQ0LnpXiQYOKQhk-NSDg-2GD6E7C/Lake%20Hiawatha%20-%20Stewardship%20Report%20%202015-2017.pdf>

2018 Lake Hiawatha Visioning Report:

<https://drive.google.com/file/d/1YDekbLqkgXVp2IX6hrFtLmIKKwuV-JEd/view?usp=sharing>

2018 Stewardship Report:

https://drive.google.com/file/d/1W5xF6sh4MlIhe6n_kOc0YIzkZXwS3bTTu/view?usp=sharing

2015 Trash Survey:

<https://drive.google.com/file/d/1RHXAtrVWB4Q3a4p5nE1FQSfj4mlcBwWR/view?usp=sharing>

2016 Chemical Analysis:

<https://drive.google.com/file/d/1-d89WoYDWaAkn2HnbPV5wzUTRe3wivV6/view?usp=sharing>

https://docs.google.com/document/d/1T_2L7z84pLo8-4NN_hC8hll_w9GilDq-NEXn3II5odc/edit?usp=sharing



ANTHROPOCENIC MIDDEN SURVEY

LAKE HIAWATHA - SITE CONTEXT:

Lake Hiawatha was known prior to 1929 as Rice Lake. This area, including Lake Hiawatha and the Chain of Lakes as well as the nearby confluence of the Mississippi and Minnesota Rivers (Bdote), is the home of and remains the spiritual center for the Dakota peoples. After the US Dakota War they were forcibly removed from this land and 1,658 Dakota women and children and were placed in a concentration camp at nearby Fort Snelling where they faced starvation and death. 302 Dakota men were slated for execution by the US government. 38 men were ultimately hanged at Mankato, MN in 1862 in the largest mass execution in American History. Additionally 2 Dakota Men were executed at Fort Snelling. (Šákpe and Wakhán Ožánžan) The surviving Dakota people were removed to reservations in North Dakota, South Dakota, Nebraska, Montana, Manitoba and Saskatchewan.

In 1929 the Minneapolis Park and Recreation Board purchased the land and the name Rice Lake was changed to Lake Hiawatha. Minnehaha Creek was straightened on the property, the Lake was dredged, and the spoils of the dredging were placed upon the adjoining wetland complex. Hiawatha Golf Course was created on the western side of the Lake on this former wetland. The shore of Lake Hiawatha was reconfigured and a stone and concrete wall was constructed along the shoreline. Some of this work was done by the WPA. In 1935 the north pipe or 43rd street pipe was constructed by the City of Minneapolis, redirecting stormwater runoff from 920 acres of South Minneapolis and emptying it directly into Lake Hiawatha without filtration. The portion of the north pipe south of 43rd street has remained unchanged since its construction in 1935.

Lake Hiawatha is one of the Chain of Lakes of Minneapolis, it is the only Lake in the chain which is directly connected to Minnehaha Creek. Lake Hiawatha is part of the Minnehaha Creek Watershed District. Minnehaha Creek originates at Lake Minnetonka 25 miles to the west. The Creek passes through Lake Hiawatha and then proceeds to the Mississippi River where the water runs all the way to the Gulf of Mexico. Communities downstream rely on the very same water as a source for drinking water. Lake Hiawatha is rich in biodiversity and is home to many species of wildlife including; beaver, muskrat, otter, mink, soft shelled, snapper and painted turtles, Great Horned Owl, eagle, osprey, kingfisher, Great Blue Heron and more. It is also a key migratory stop for birds of great diversity. There has recently been a notable loss of biodiversity at Lake Hiawatha, especially notable is the disappearance of frogs. Salamanders and snakes are also absent. There remains a population of American Toads. Lake Hiawatha is severely compromised by pollution including trash, sediment, chemical and nutrient pollution. The Lake is listed by the MPCA as impaired for phosphorous and bacteria and most notably is the recipient of tons of mostly plastic and styrofoam trash annually. Trash is not considered a pollutant in the state of Minnesota, which is one of the major reasons the 2015 and 2018 surveys were conducted. Because of this, no agency takes responsibility for the cleanup of trash at Lake Hiawatha. Trash in Lake Hiawatha comes from two major sources; the Creek and most notably the north pipe or 43rd street pipe which empties the litter from the streets of 920 acres of south Minneapolis, without filtration, directly into Lake Hiawatha. Consequently, trash levels in Lake Hiawatha far exceed that of the other lakes in Minneapolis.

FRIENDS OF LAKE HIAWATHA

Friends of Lake Hiawatha is a lake association comprised of community members who are dedicated to improving water quality at Lake Hiawatha, protecting the existing habitat and wildlife, providing equitable access to safe water recreation and natural spaces and restoring climate resilience. We are dedicated to seeing a comprehensive mitigation system installed for the north pipe storm sewer



ANTHROPOCENIC MIDDEN SURVEY

system. We wish to see sustainable green infrastructure and bioremediation used to address trash, sediment and pollution problems stemming from the north pipe.

We are supportive of the decision of the MPRB to go with a reduced pumping scenario. We support the compromise amendment that proposes to maintain a (min) 9 hole course at the property and to honor the African American History at Hiawatha Golf Course. We feel the MPRB has been responsive to the concerns that the community has expressed regarding pollution problems and the north pipe, golf interests and the concerns of homeowners. Though we have been critical of the lack of responsibility taken by our agencies regarding removing the trash at Lake Hiawatha, we feel that the direction of planning activities is moving toward a resolution of the problem of pollution at Lake Hiawatha. We are thankful to the City of Minneapolis - Public Works for taking measures to address litter and pollution at Lake Hiawatha by attempting various 'upstream' measures to reduce the pollutant load; Increased street sweeping, education, adopt a drain programming, storm drain stenciling, salt reductions, etc.

Sean Connaughty

and Friends of Lake Hiawatha

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