APPENDIX 6-K

Portt 2015 Whale Tail Pit Baseline Report

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Report No. 1541520

AGNICO EAGLE

Golder Associates

WHALE TAIL PIT 2015 FISH AND FISH HABITAT FIELD INVESTIGATIONS: AGNICO EAGLE MINES LTD. - MEADOWBANK DIVISION

Submitted to:

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EXECUTIVE SUMMARY

Agnico Eagle Mines Limited: Meadowbank Division (Agnico Eagle) is proposing to develop Whale Tail Pit, a satellite deposit on the Amaruq property, in continuation of mine operations and milling of the Meadowbank Mine. Preliminary field investigations were undertaken in September 2014, which included aerial reconnaissance and photographing the study area by helicopter and two gill net sets in the three largest lakes in the study area. In 2015, field investigations examining fish and fish habitat in the Whale Tail Pit study area were undertaken during the period June 19 – August 30. The 2015 field investigations focussed on Whale Tail Lake and Mammoth Lake, and the tributary watercourses and smaller lakes within the study area that are most likely to be affected by future mining activity.

The primary activities conducted in 2015 were:

- downstream reconnaissance to determine if there are barriers to upstream fish migration,
- deployment of hoop nets on potential migration routes at the beginning of the field season to detect spring migrations if they occurred,
- habitat characterization, visual inspections for spawning fishes, and fish sampling to determine seasonal fish use using electrofishing and large minnow traps, in the tributaries to Whale Tail Lake,
- fish sampling in Whale Tail Lake and Mammoth Lake using gill nets, shoreline electrofishing and minnow traps to characterize the fish community,
- habitat characterization and fish sampling to determine species presence:absence, by gill netting and shoreline electrofishing, in smaller lakes and ponds with surface connections to Whale Tail Lake during the summer,
- collection of tissue samples from Lake Trout in Whale Tail Lake and Mammoth Lake for the determination of the concentrations of mercury and other metals,
- characterization of periphyton development at locations in Whale Tail Lake, Lake A53 and Mammoth Lake.

A total of six fish species were captured, comprised of four large-bodied species (Lake Trout , Arctic Char, Round Whitefish and Burbot) and two small-bodies species (Slimy Sculpin and Ninespine Stickleback). Lake Trout were the most abundant in gill net catches and the most widely distributed among the lakes, followed by Round Whitefish and Arctic Char. Only one Burbot was captured. Low numbers of juvenile Arctic Char and juvenile Lake Trout were captured in some of the Whale Tail Lake tributaries. Ninespine Stickleback and Slimy Sculpin were widely distributed in the larger lakes and in the tributaries.

Netting catch per unit effort was low for all species. In Mammoth, Whale Tail and Nemo Lakes combined, average catch per unit effort in gill nets, calculated as the number of individuals captured per hour of soak time using a standard AEM gill net was 0.5, 0.1 and 0.01 for Lake Trout, Round Whitefish and Arctic Char, respectively. Large mesh hoop nets set between June 19 and July 13, 2015, in areas where there was thought to be potential for fish movement between lakes caught one Lake Trout and one Arctic Char in 3000 hours of soak time. In total, electrofishing 1,978 m of lake shoreline resulted in

the capture of 145 Ninespine Stickleback, 55 Slimy Sculpin, 2 juvenile Arctic Char and 3 juvenile salmonids, either Arctic Char or Lake Trout, which were not identified to species. There were, however, several isolated or nearly isolated small lakes and ponds in which no fish were captured. Most of these were located north of Whale Tail Lake.

Electrofishing effort on study area tributaries over the 2015 field season totalled 24,709 electroseconds and 3,569 m. The most abundant species in the catches was Ninespine Stickleback (n=469) followed by Slimy Sculpin (n=237). Low numbers of juvenile Arctic Char (n=13), juvenile Lake Trout (n=8), as well as one juvenile each of Round Whitefish and Burbot were captured in the tributaries. Juvenile Arctic Char were captured by electrofishing in five of the tributaries to Whale Tail Lake and juvenile Lake Trout were captured in three. Large minnow traps set in tributaries caught 9 Slimy Sculpin and 1 juvenile Round Whitefish in 2640 hours of soak time.

There were several isolated or nearly isolated small lakes and ponds in which no fish were captured. There was only interstitial flow connection during the 2015 spring freshet between Whale Tail Lake and four of the larger lakes that drain to it. This was also the case for two lakes that drain to Mammoth Lake. The connection between Whale Tail and Mammoth Lake had only interstitial flow once water levels and flows subsided.

No Arctic Grayling were observed or captured in the study area. Their apparent absence is consistent with the paucity of suitable spawning habitat and absence of riverine adult habitat in the tributaries to Mammoth and Whale Tail Lake.

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1.0 INTRODUCTION

Agnico Eagle Mines Limited: Meadowbank Division (Agnico Eagle) is proposing to develop Whale Tail Pit, a satellite deposit on the Amaruq property, in continuation of mine operations and milling of the Meadowbank Mine. The Amaruq Exploration property is a 408 square kilometre (km^2) site located on Inuit Owned Land approximately 150 kilometres (km) north of the hamlet of Baker Lake and approximately 50 km northwest of the Meadowbank Mine in the Kivalliq region of Nunavut (**Figure 1-1**). The property was acquired by Agnico Eagle in April 2013 subject to a mineral exploration agreement with Nunavut Tunngavik Incorporated.

The Meadowbank Mine is an approved mining operation and Agnico Eagle is looking to extend the life of the mine by constructing and operating Whale Tail Pit (referred to in this document as the Project). As an amendment to the existing operations at the Meadowbank mine, it is subject to an environmental review established by Article 12, Part 5 of the *Nunavut Land Claims Agreement* (NLCA). Baseline data have been collected in support of the Environmental Review to document existing conditions and to provide the foundation for a qualitative and quantitative assessment of project operations and the extension of the mine development, to be evaluated in the Environmental Impact Statement (EIS) for the Project.

Preliminary field investigations were undertaken by C. Portt and Associates in September 2014. On September 2, 2014, oblique aerial photographs were taken from a helicopter of the shoreline and near-shore of Mammoth Lake, Whale Tail Lake, Nemo Lake and adjacent smaller lakes and ponds. In addition, two gill net sets were conducted in each of Mammoth Lake, Whale Tail Lake and Nemo Lake from September 4-6, 2014. In 2015, field investigations examining fish and fish habitat in the Whale Tail Pit study area were undertaken by C. Portt and Associates during the period June 19 – August 30. The 2015 field investigations focussed on Whale Tail Lake and Mammoth Lake, and the tributary watercourses and smaller lakes within the study area that are most likely to be affected by future mining activity. Preliminary field investigations conducted in September of 2014 had determined that Lake Trout (*Salvelinus namaycush*) and Arctic Char (*Salvelinus alpinus*) were present in Whale Tail Lake.

The primary activities conducted in 2015 were:

- downstream reconnaissance to determine if there are barriers to upstream fish migration,
- deployment of hoop nets on potential migration routes at the beginning of the field season to detect spring migrations if they occurred,
- habitat characterization, visual inspections for spawning fishes, and fish sampling to determine seasonal fish use using electrofishing and large minnow traps, in the tributaries to Whale Tail Lake,
- fish sampling in Whale Tail Lake and Mammoth Lake using gill nets, shoreline electrofishing and minnow traps to characterize the fish community,
- habitat characterization and fish sampling to determine species presence:absence, by gill netting and shoreline electrofishing, in smaller lakes and ponds with surface connections to Whale Tail Lake during the summer,

- collection of tissue samples from Lake Trout in Whale Tail Lake and Mammoth Lake for the determination of the concentrations of mercury and other metals,
- characterization of periphyton development at locations in Whale Tail Lake, Lake A53 and Mammoth Lake.

This report documents the methods and results of these investigations.

1.1 Scope

This report presents the investigations of fish and fish habitat conducted in the Whale Tail Pit study area based on field work conducted during the period June 19 to August 30, 2015.

1.2 Objectives

- Characterize the existing fish and fish habitat conditions in Mammoth Lake, Whale Tail Lake, and smaller lakes and watercourses that would potentially be impacted by future mining.

- Collect fish tissue samples from Mammoth Lake and Whale Tail Lake for metals, including mercury, determinations.

1.3 Physical Setting

The study area is located on the Canadian Shield within a Low Arctic ecoclimate of continuous permafrost, which is one of the coldest and driest regions of Canada (Azimuth, 2010). The lakes within the Whale Tail pit study area are ultra-oligotrophic/oligotrophic (nutrient poor, unproductive) headwater lakes that are typical of the Arctic. The ice-free season on the lakes is very short. Ice break-up usually occurs during mid- to late-June, and ice begins to form again on the lakes in late September or early October. Complete ice cover is attained by late October, with maximum ice thickness of about 2 m occurring in March/April (Azimuth, 2013). Many small watercourses become dry once the land begins to freeze in the fall and, where water is present, most freeze to the bottom during the winter (BAER, 2005; Jones *et al*, 2010). Flows during the spring melt and the summer vary with drainage area.

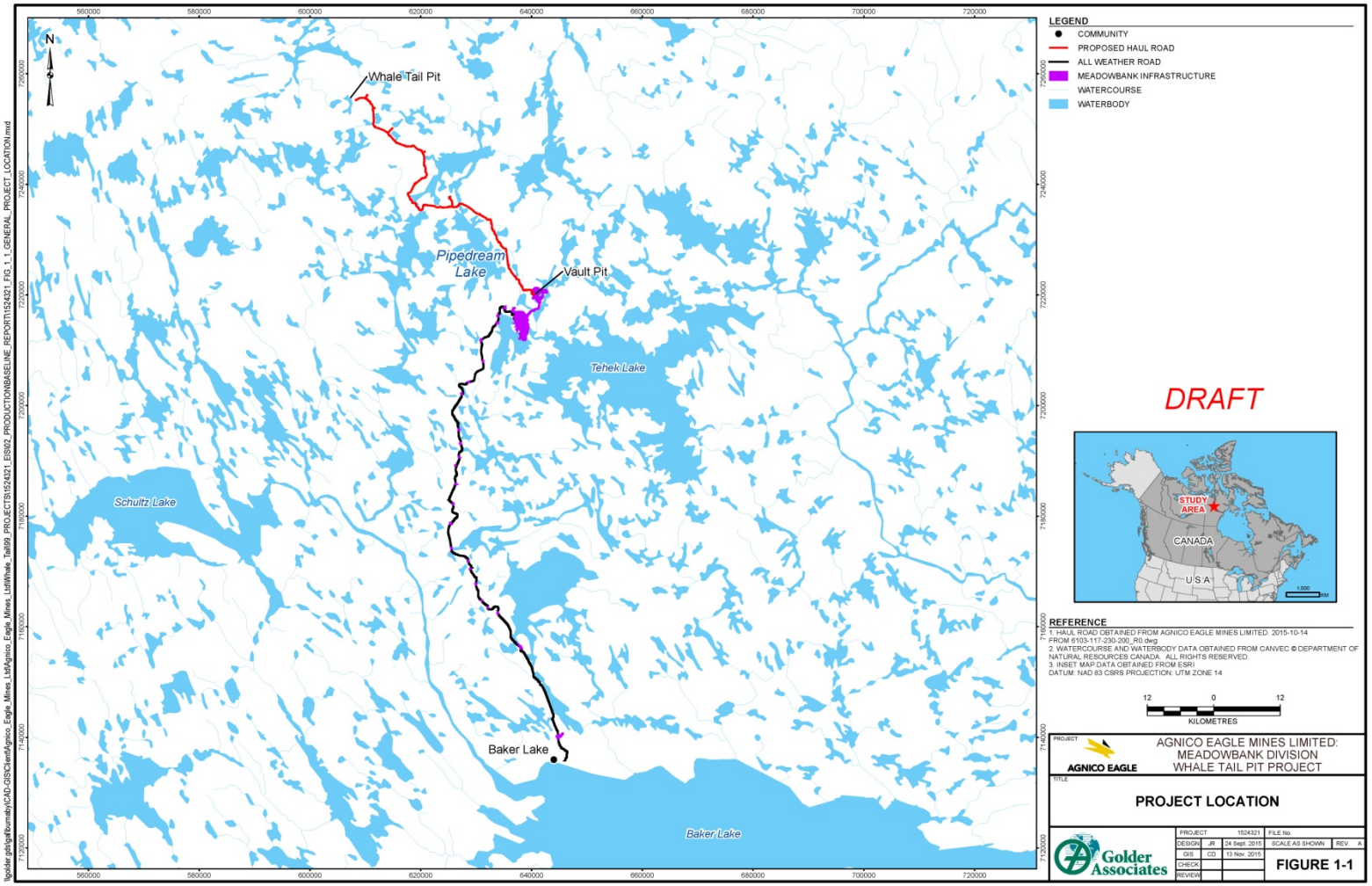

Figure 1-1. Location of the proposed Whale Tail Pit Study Area.

2.0 RECONNAISANCE TO ASSESS THE POTENTIAL FOR FISH PASSAGE FROM DOWNSTREAM

2.1 Methods

The hydrologic setting of the study area is shown in **Figure 2-1**. The lakes were assigned alpha-numeric codes to facilitate discussion, with the letter designating the subwatershed and, within each branch, the number increasing in an upstream direction. The primary study area is in the headwaters of subwatershed A, which drains via a series of lakes and connecting channels to a large lake downstream, labelled DS1.

On June 19, 2015, the lakes and connecting channels were observed and photographed, from the air, from the outlet of Mammoth Lake downstream to the connecting channel between lakes A10 and A9. On that date the spring melt was well underway, but ice still covered most of the surface of the lakes. No barriers to fish movement were observed. On July 4, 2015, the outlet of Mammoth Lake was examined and photographed on the ground. On July 12, 2015, the connecting watercourses from the outlet of Mammoth Lake downstream to the outlets of lake A75 were observed and photographed from the air, and the channel connecting lakes A76 and A75 was examined on the ground on July 13, 2015. On July 23, 2015, a video was taken from the air, flying from lake DS1 upstream along the lakes and connecting channels to lake A11, and the two outlets of lakes A12 and A76 were examined on the ground.

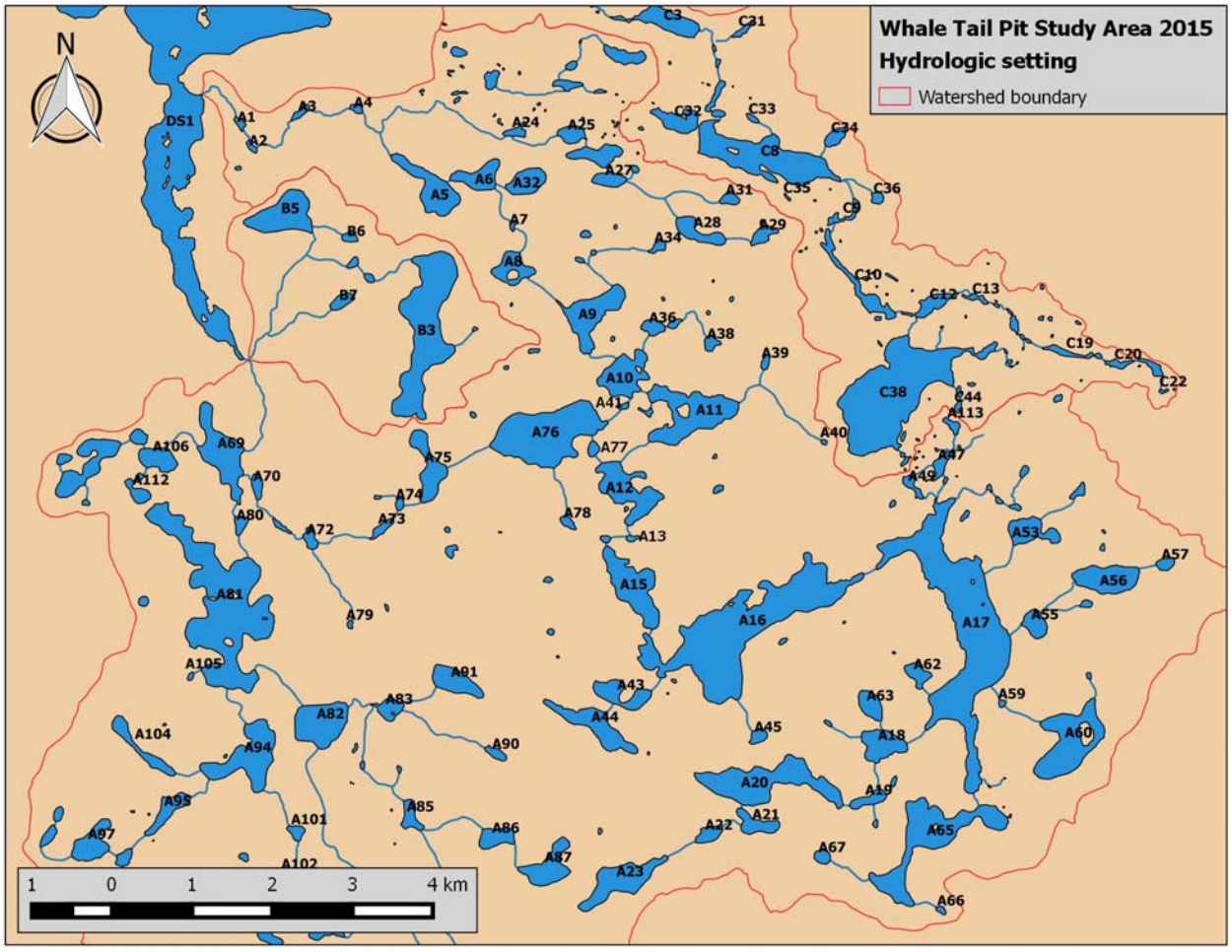

Figure 2-1. Hydrologic setting and lake identification codes. Mammoth Lake is A16 and Whale Tail Lake is A17.

2.2 Results

There was surface flow through the connecting channels and no barriers to fish movement were observed between lake A9 and Mammoth Lake on June 19, 2015. There was no barrier to fish movement between Mammoth Lake and lake A15 on July 4, 2015, although most of the rapids was less than 20 cm deep.

There are two locations downstream from Mammoth Lake where water flows out of a lake in two directions. There is flow from lake A12 to lake A11 and also to lake A77. There is flow from lake A76 to lake A75 and to lake A10. The connection between lakes A76 and A75 is via a boulder feature that is over 0.5 km long (**Figure 2-2**). Based on the aerial reconnaissance on July 12 and examination of watercourse A76-A75 on the ground on July 13 and July 23, 2015, it

is considered unlikely that there is ever a surface connection that would allow large fish passage between these two lakes.

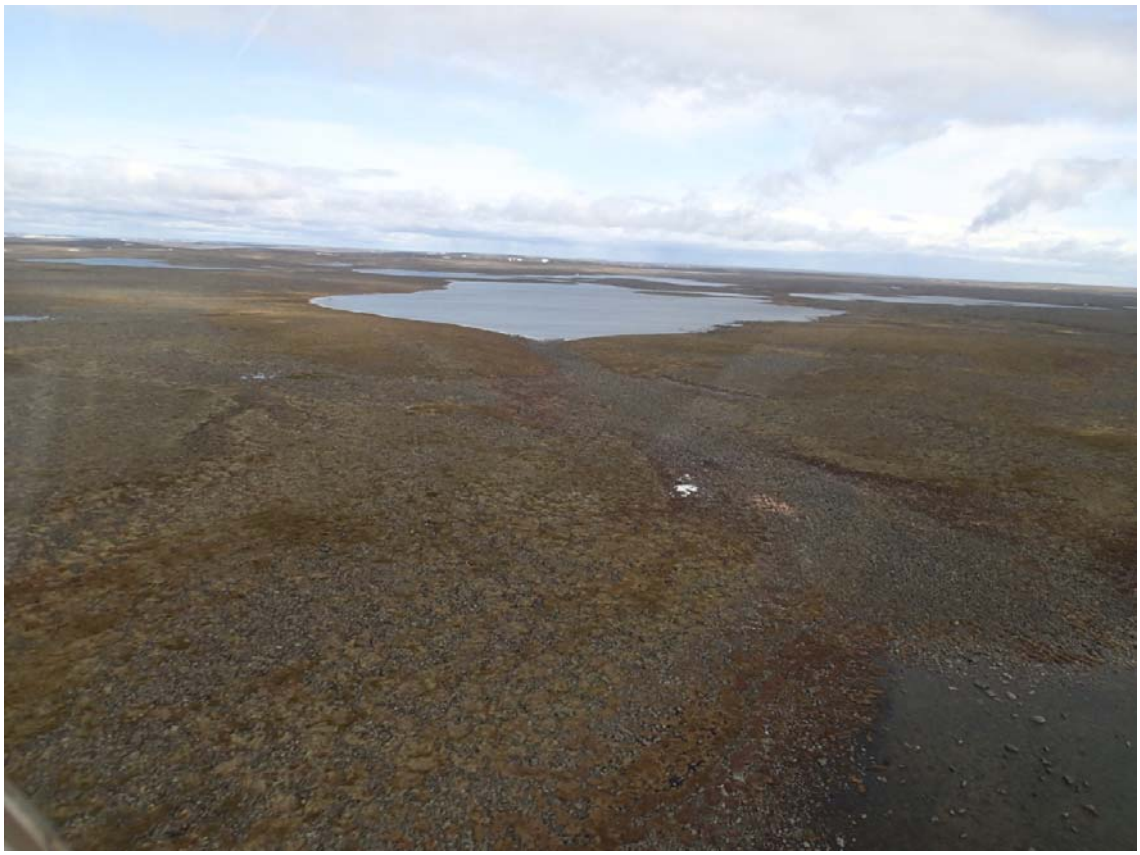

Figure 2-2. Connecting channel between lake A75 (foreground) and lake A76. July 12, 2015.

The primary flow path and the most likely route for fish passage, if it occurs, between lake DS1 and Mammoth Lake is via lakes A1-A2. . . . A10-A11-A12, etc. Via this route, the distance between lake DS1 and the outlet of Mammoth Lake, estimated from satellite imagery, is approximately 12.2 km. No waterfall or other vertical barrier to upstream fish migration was observed between lake DS1 and Mammoth Lake along this route, and large fish passage may be possible during the spring freshet. There are, however, a number of connecting channels where there is no surface connection, only interstitial flow, after water levels and flows decrease. Based on the July 12, 2015, aerial reconnaissance and photographs, large fish passage between lakes A13 and A12, between lakes A12 and A11, and between lakes A76 and A41 would have been difficult, if not impossible, under the prevailing flow conditions because there was only interstitial flow in portions of those connecting channels. The connections between lakes A10 and A76 (**Figure 2-3**), lakes A11 and A12 (**Figure 2-4**) and lakes A77 and A12 (**Figure 2-5**) were all considered impassable to large fish when examined on the ground on July 23, 2015. Based on the July 23, 2015, observations and a review of the aerial video taken on that date, it is thought that large fish passage would have been difficult or impossible on that date due to interstitial flow in portions of each of the connecting channels from lake A10

downstream to lake A6 and from the downstream end of lake A5 to where the tributary from lake A24 enters, approximately 9 km downstream from the Mammoth Lake outlet. There were no significant impediments to flow observed from that point downstream to Lake DS1.

Figure 2-3. Connecting channel between lake A10 and lake A76. July 23, 2015.

Figure 2-4. Connecting channel between lakes A11 and A12. July 23, 2015.

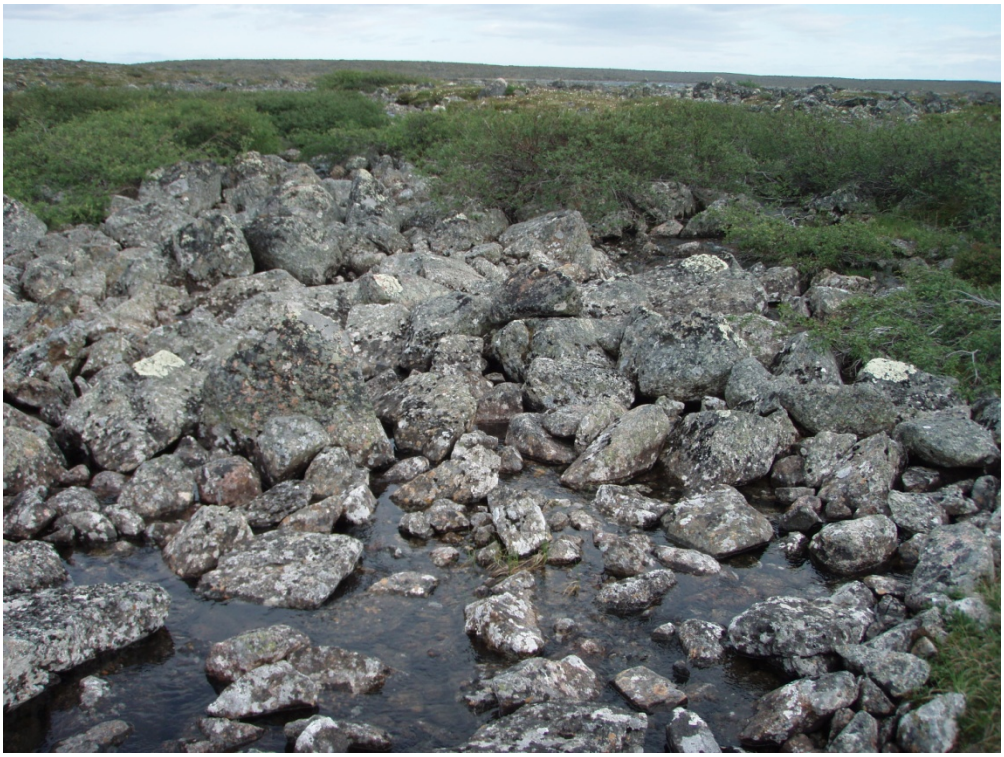

Figure 2-5. Connecting channel between lakes A77 and A12. July 23, 2015.

3.0 HOOP NETTING ON POTENTIAL MIGRATION ROUTES

3.1 Methods

Large-mesh hoop nets were set at four general locations (**Figure 3-1**): in the outlet from Mammoth Lake (LHN1; June 19-July 4), in the narrows between Mammoth and Whale Tail Lake (LHN2 and LHN3; June 19 – July 13), at the south end of Whale Tail Lake near the mouth of tributary A18-A17 (LHN4; June 26-July 13) and at the mouth of tributary A55-A17 (LHN5, June 26-July 13). These nets were constructed of 4.75 cm stretch mesh and are 3 m long. The D-shaped front 'hoop' was 0.76 m high with a 0.51 m base, followed by four circular hoops, with 0.14 m diameter funnel throats attached to the first and third circular hoops. The wings were 0.76 m high and constructed of the same 4.75 cm stretch mesh. Four of these nets (nets 2, 3, 4 and 5, **Table 3-1**) had 3 m long wings and two (nets 1 and 6, **Table 3-1**) had 6 m long wings. No leaders were attached.

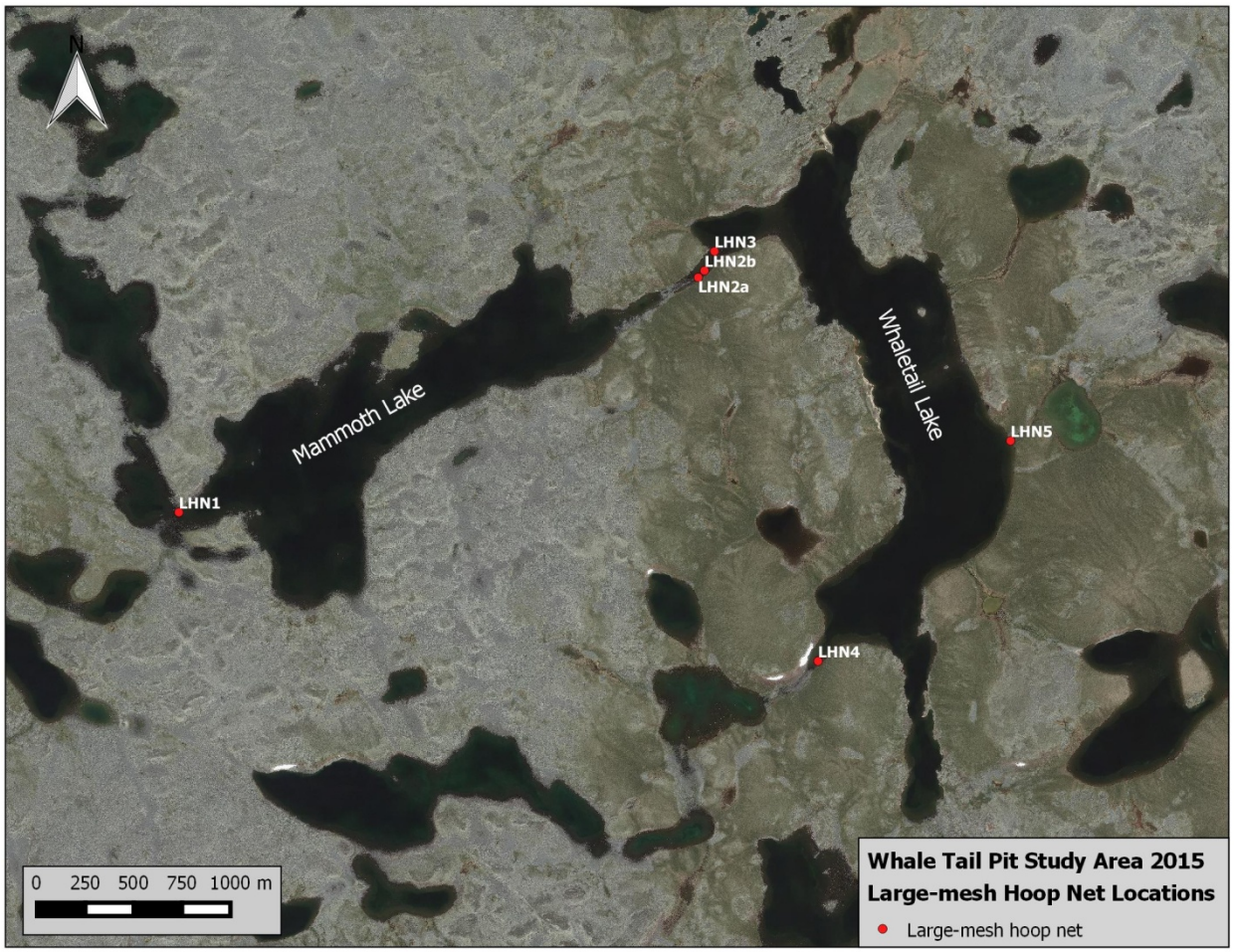

Figure 3-1. Locations where large-mesh hoop nets were set in 2015.

One net was deployed, facing downstream, in a narrows near the outlet of Mammoth Lake (LHN1) and in the narrows between Whale Tail and Mammoth lakes (LHN2a) on June 19, 2015. A second net was deployed at each of these locations, also facing downstream, on June 21, 2015. On June 27, 2015, one net at each of those locations was reversed to face upstream. At the outlet of Mammoth Lake water levels fell to below the first funnel in the net that was facing upstream between June 27 and July 3. The net was repositioned so that the funnels were all at least half submerged when it was lifted and redeployed on July 3. By July 4, 2015, however, the water level at the narrows near the outlet of Mammoth Lake had fallen to the point that there was no longer sufficient depth to deploy the large-mesh hoop nets. The two nets from that location were removed and redeployed, at Location LHN3, in the narrows between Whale Tail and Mammoth lakes, with one net facing upstream and the other facing downstream. The large-mesh hoop nets initially set in the narrows between Whale Tail and Mammoth lakes were moved to a deeper area (from LHN2a to LHN2b), approximately 50 m upstream from where they were originally deployed, on June 28, 2015. The net deployed in Whale Tail Lake near the mouth of tributary A18-A17 (LHN4) and at the mouth of tributary A55-A17 both faced downstream and remained in the same location for the duration of their deployments. The nets were typically lifted and redeployed daily, but longer soak times occurred on occasion due to weather conditions and other logistic factors.

3.2 Results

Dates of deployment and removal, the direction (upstream or downstream) that the opening of the net was facing, and total soak time are provided in Table 3-1. The dates and times that each net was checked for fish are provided in Appendix A. In a total of 3000 hours of soak time, only two fish were captured by the large-mesh hoop nets. Both of these fish, one lake trout (fork length=69 cm) and one Arctic Char (fork length=27cm) were entangled in a wing of the net at LHN5, at the mouth of tributary A55-A17, on July 6, 2015, while the net was being checked.

Table 3-1. Large-mesh hoop nets locations, deployment and removal dates, net orientation and total soak time. Refer to Figure 3-1 for locations.

Location description	Location code	Net #	Opening facing	Date set	Date removed	Total soak time (days)
Narrows near outlet of Mammoth Lake	LHN1	1	downstream	June 19, 2015	July 4, 2015	15
		3	downstream	June 21, 2015	June 27, 2015	6
			upstream	June 27, 2015	July 4, 2015	7[1]
Between Whale Tail and Mammoth Lakes	LHN2a	2	downstream	June 19, 2015	June 27, 2015	8
			upstream	June 27, 2015	June 28, 2015	1
		4	downstream	June 21, 2015	June 28, 2015	7
	LHN2b	2	upstream	June 28, 2015	July 13, 2015	15
		4	downstream	June 28, 2015	July 13, 2015	15
	LHN3	1	upstream	July 4, 2015	July 13, 2015	9
		3	downstream	July 4, 2015	July 13, 2015	9
South end of Whale Tail Lake	LHN4	6	downstream	June 26, 2015	July 13, 2015	17
Whale Tail tributary A55-A17	LHN5	5	downstream	June 26, 2015	July 13, 2015	17

1. Front funnel was not submerged when lifted on July 3.

4.0 FISH SAMPLING IN WHALE TAIL, MAMMOTH AND NEMO LAKES

In 2014 fish sampling was limited to two gill net sets in each of Whale Tail, Mammoth and Nemo Lakes. In 2015, short-duration and overnight gill netting, shoreline electrofishing and minnow trapping were undertaken to characterize the fish communities in Whale Tail and Mammoth Lakes. Two overnight sets of small-mesh hoop nets were also conducted in Whale Tail Lake in 2015. Fish sampling in Nemo Lake, which is not expected to be directly affected by the project, was limited to two gill net sets in 2015. The sampling locations are shown in Figure 4-1, Figure 4-2, and **Figure 4-3** for Mammoth, Whale Tail and Nemo Lakes, respectively.

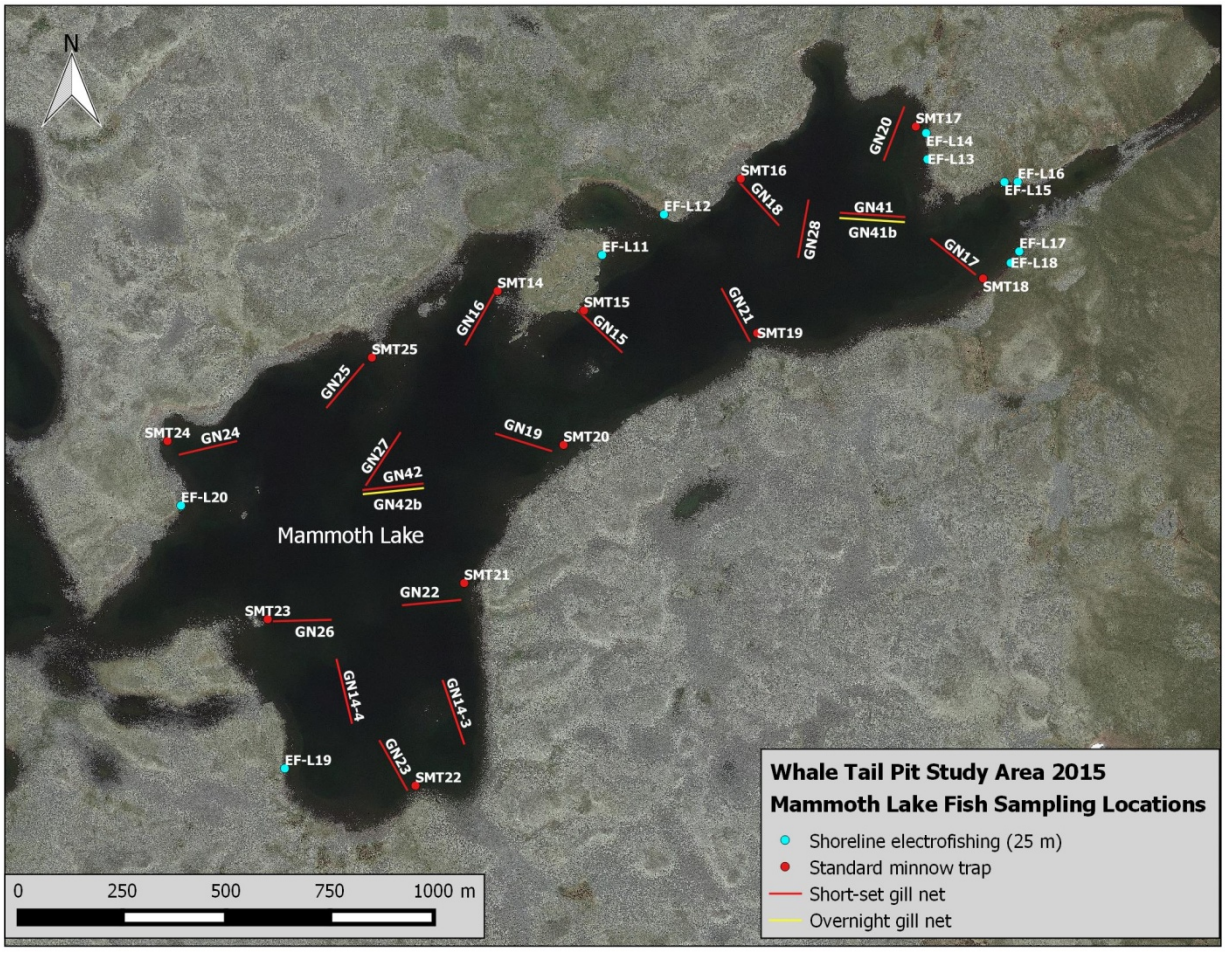

Figure 4-1. Fish sampling locations in Mammoth Lake in 2014 and 2015.