

**MELIADINE WEST GOLD PROJECT:
FISHERIES BASELINE STUDIES 2008**



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EXECUTIVE SUMMARY

Golder Associates Ltd. (Golder) was retained by Comaplex Minerals Corporation (Comaplex) to conduct baseline investigations of fish and fish habitat at the Meliadine West Gold Project (Project) in 2008. Most of the baseline information was collected during previous studies conducted by R.L.&L. Environmental Services Ltd. (RL&L) from 1997 to 2001 (RL&L 1998, 1999, 2000, 2001, 2002). Studies in 2008 were designed to fill gaps in available information on fish communities and habitat potential for fish use in the area that may be affected by the potential mine development and mining activities. This data report summarizes the results of studies conducted during the 2008 field season.

Fish and fish habitat assessments in 2008 were divided into three components:

- spring survey of 13 watercourses that potentially will be crossed by a proposed all-season road from Rankin Inlet;
- summer surveys of 37 small ponds that lie within or near proposed tailings areas; and
- summer assessments of fish populations and habitat in four lakes near the proposed zone of mine operations.

Of the sites surveyed, three road crossings and one lake (Chickenhead Lake) lie within the Discovery area of the Project; the remaining sites lie in the vicinity of the proposed Meliadine mine development or along the proposed road corridor linking Rankin Inlet to the proposed mine. Investigations were carried out between June 16 and August 6, 2008. Additionally, a mark-recapture study was performed at Lake B7 to estimate fish population size, focusing on Arctic grayling. A bathymetric survey was conducted in Chickenhead Lake to estimate lake volume and to map depth characteristics.

Watercourses investigated along the proposed road corridors were moderately diverse with respect to habitat potential for fish. Fish communities, where present, were dominated by small-bodied individuals, including Arctic grayling, ninespine stickleback, and slimy sculpin. Habitat quality was poor to moderate at most sites. Among the sites investigated, the Meliadine River crossing had the greatest potential to support multiple life stages of fish.

In general, the sampled ponds shared similar habitat characteristics that included shallow depth, warm water temperature, substrate dominated by fines, and low to moderate habitat potential for fish. Regardless of the habitat potential ratings, ponds in close proximity to fish-bearing waterbodies (e.g., Meliadine Lake) had a higher likelihood to support fish. This suggested that fish presence was more closely related to connectivity and proximity to fish-bearing waterbodies than to

the quality of habitat encountered. Where present, fish communities were dominated by ninespine stickleback; however, juvenile Arctic grayling were also captured in one pond.

Habitat quality in the sampled lakes was less variable than that observed in the sampled watercourses and ponds. All four lakes supported fish populations and three lakes (B6, B7, and Chickenhead) were rated as having excellent fish habitat. In contrast, Lake A52 had lower quality habitat and contained only ninespine stickleback. Lakes B6 and B7 supported both forage fish and sport fish species including Arctic grayling and cisco. Lake trout were captured only in Chickenhead Lake.

The results of a mark-recapture study of fish in Lake B7 estimated the size of the Arctic grayling population at 1,345 fish, with 95% confidence intervals ranging from 836 to 2,507 individuals. Population estimates could not be calculated for other fish species in the mark-recapture study, due to low sample size (i.e., only 19 cisco, four ninespine stickleback, and two burbot were captured). Bathymetric profiling in Lake B7 (RL&L 1999), in combination with habitat assessments from 2008, indicated the presence of a variety of habitats that were capable of supporting multiple life-stages of species known to inhabit the lake.

In summary, fish populations and fish habitats were highly variable within the Project study areas. Lakes B6, B7, Chickenhead Lake, and the Meliadine River were identified as important areas supporting sport fish species such as Arctic grayling. In total, 1,060 fish were captured during the 2008 study. Fish presence was confirmed (either by captures or observations) in all four sampled lakes, 9 of the 13 sampled streams, and 13 of the 37 sampled ponds.

TABLE OF CONTENTS

| <u>SECTION</u> | <u>PAGE</u> |
|---|--------------------|
| 1 INTRODUCTION | 1 |
| 1.1 BACKGROUND | 1 |
| 1.2 BASELINE STUDIES - 2008 | 5 |
| 2 ROAD CROSSING ASSESSMENTS | 7 |
| 2.1 INTRODUCTION | 7 |
| 2.2 METHODS | 7 |
| 2.2.1 Habitat Assessments | 7 |
| 2.2.2 Discharge | 11 |
| 2.2.3 Fish Data Collection and Analyses | 11 |
| 2.2.4 Egg Sampling | 12 |
| 2.3 RESULTS | 12 |
| 2.3.1 Habitat Assessments | 12 |
| 2.3.2 Fish Populations | 15 |
| 2.4 SUMMARY | 16 |
| 3 POND ASSESSMENTS | 19 |
| 3.1 INTRODUCTION | 19 |
| 3.2 METHODS | 19 |
| 3.2.1 Habitat Assessments | 19 |
| 3.2.2 Fish Data Collection and Analyses | 19 |
| 3.3 RESULTS | 23 |
| 3.3.1 Habitat Assessments | 23 |
| 3.3.2 Fish Populations | 24 |
| 3.4 SUMMARY | 27 |
| 4 LAKE ASSESSMENTS | 29 |
| 4.1 INTRODUCTION | 29 |
| 4.2 METHODS | 29 |
| 4.2.1 Habitat Assessments | 29 |
| 4.2.2 Fish Data Collection and Analyses | 29 |
| 4.2.3 Population Estimate | 37 |
| 4.3 RESULTS | 38 |
| 4.3.1 Lake A52 | 38 |
| 4.3.2 Lake B6 | 39 |
| 4.3.3 Lake B7 | 40 |
| 4.3.4 Chickenhead Lake | 42 |
| 4.4 SUMMARY | 47 |
| 5 CONCLUSION | 49 |
| 5.1 ROAD CROSSING ASSESSMENTS | 49 |
| 5.2 POND ASSESSMENTS | 49 |
| 5.3 LAKE ASSESSMENTS | 50 |
| 6 CLOSURE | 51 |
| 7 REFERENCES | 53 |

LIST OF TABLES

| | | |
|----------|---|----|
| Table 1 | Common and Scientific Names of Fish Species in the Meliadine Study Area, and their Coded Abbreviations..... | 6 |
| Table 2 | Fish Captured or Observed in Watercourses along the Meliadine West Road Corridor, June 2008 | 15 |
| Table 3 | Fish Captured or Observed in Watercourses along the Discovery Road Corridor, June 2008 | 16 |
| Table 4 | Fish Captured in Fish-Bearing Ponds within the Meliadine West Gold Project Area, Jul-Aug 2008..... | 24 |
| Table 5 | Fish Capture Methods, Total Effort and Total Catch in All Studied Ponds within the Meliadine West Gold Project Area, Jul-Aug 2008 | 24 |
| Table 6 | Fish Capture Methods Used During Lake Investigations in the Meliadine West Gold Project Area, Jul-Aug 2008..... | 30 |
| Table 7 | Fish Capture Methods, Effort, and Catch for Lake A52, August 2008 | 38 |
| Table 8 | Fish Capture Methods, Effort, and Catch for Lake B6, July 2008 | 39 |
| Table 9 | Fish Capture Methods, Effort, and Catch for Lake B7, Jul-Aug 2008..... | 40 |
| Table 10 | Fish Capture Methods, Effort, and Catch for Chickenhead Lake, August 2008..... | 43 |
| Table 11 | Fish Captured at All Studied Sites in the Meliadine West Gold Project Area, Jun-Aug 2008..... | 49 |

LIST OF FIGURES

| | | |
|----------|---|----|
| Figure 1 | Location of the Meliadine West Gold Project..... | 3 |
| Figure 2 | Watercourse Crossings along Proposed Road Alignment | 9 |
| Figure 3 | Fish Sampling Locations in Ponds within the Meliadine West Gold Project Area, Jul-Aug 2008 | 21 |
| Figure 4 | Distribution of Fish Species in Ponds Sampled within the Meliadine West Gold Project Area, Jul-Aug 2008 | 25 |
| Figure 5 | Fish Sampling Locations in Lake A52, August 2008 | 31 |
| Figure 6 | Fish Sampling Locations in Lakes B6 and B7, Jul-Aug 2008..... | 33 |
| Figure 7 | Fish Sampling Locations in Chickenhead Lake, August 2008 | 35 |
| Figure 8 | Length Frequency Distribution of Marked and Recaptured Arctic Grayling in Lake B7, Jul-Aug 2008..... | 41 |
| Figure 9 | Chickenhead Lake Bathymetry..... | 45 |

LIST OF APPENDICES

| | |
|------------|--|
| Appendix A | Habitat Data from Stream Crossings in the Meliadine West Road Corridor |
| Appendix B | Habitat Data from Stream Crossings in the Discovery Road Corridor |
| Appendix C | Habitat Summaries and Photos of Stream Crossing Sites |
| Appendix D | Raw Data from Individual Fish Captured in the Project Area |
| Appendix E | Habitat and Fish Capture Data for Ponds in the Project Area |

ACRONYMS

| | |
|----------|--|
| ATV | all-terrain vehicle |
| Comaplex | Comaplex Minerals Corporation |
| CPUE | Catch per Unit Effort |
| D | Discovery area (as prefix for site names) |
| EF | electrofishing |
| FL | Fork Length |
| FN | fyke net |
| Golder | Golder Associates Ltd. |
| GN | gill net |
| M | Meliadine West area (as prefix for site names) |
| MT | minnow trap |
| Project | Meliadine West Gold Project |
| RL&L | R.L.&L. Environmental Services Ltd. |
| UTM | Universal Transverse Mercator |

UNITS

| | |
|-------------------|-----------------------------|
| °C | degrees Celsius |
| h | hour |
| Hz | hertz |
| ha | hectares |
| km | kilometres |
| km ² | square kilometres |
| m | metres |
| mg/L | milligrams per Litre |
| mm | millimetres |
| ms | microsecond |
| m ² | square metres |
| m ³ | cubic metres |
| m ³ /s | cubic metres per second |
| <i>n</i> | number |
| s | seconds |
| µS/cm | microSiemens per centimetre |
| V | voltage |
| % | percent |
| < | less than |
| > | greater than |

1 INTRODUCTION

1.1 BACKGROUND

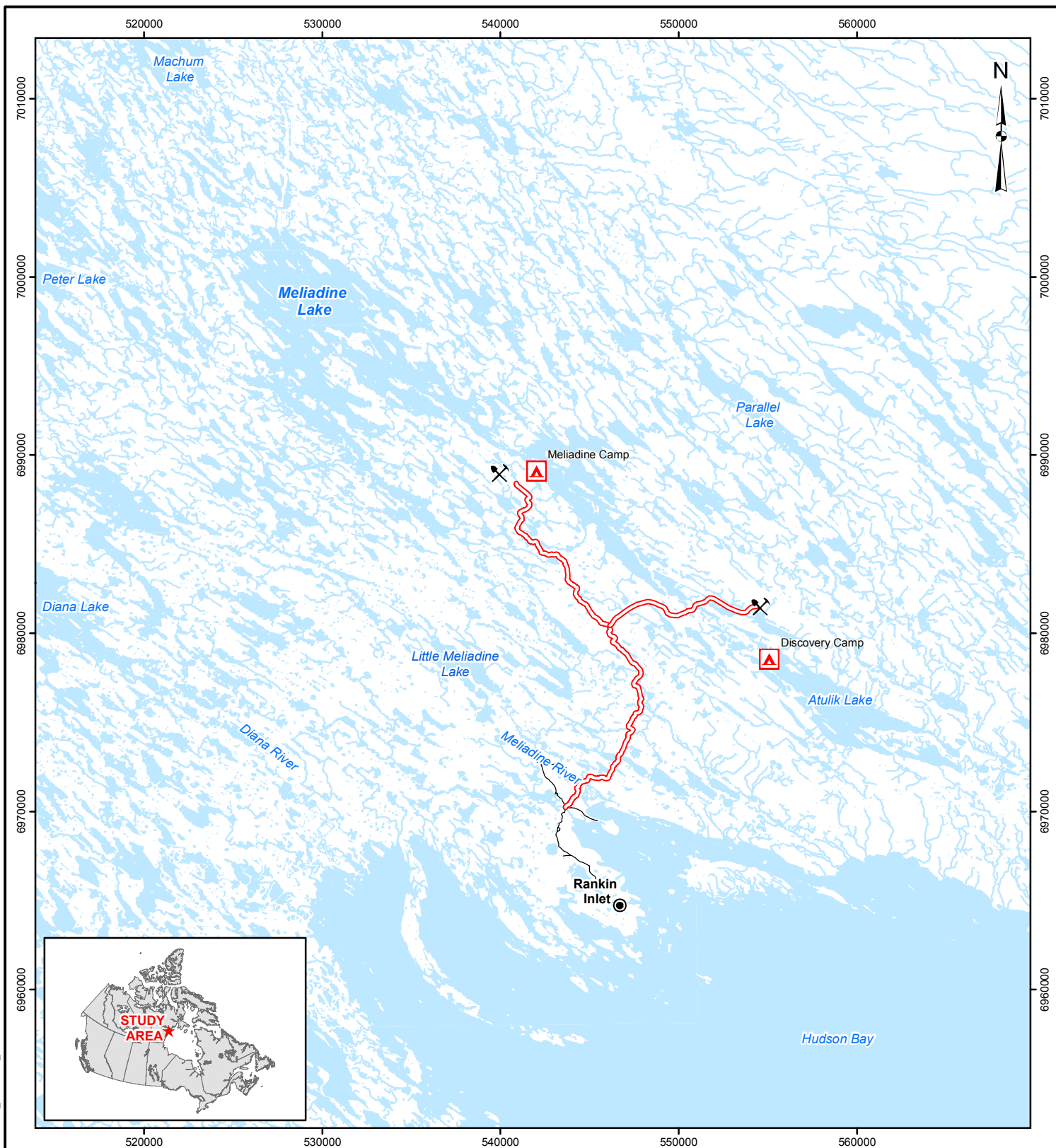
Comaplex Minerals Corporation (Comaplex) proposes to construct and operate a gold mine, known as the Meliadine West Gold Project (Project), located approximately 30 kilometres (km) northwest of Rankin Inlet, and 80 km south of Chesterfield Inlet in the Kivalliq Region of Nunavut (Figure 1). The proposed Project site is located on a peninsula between the east, south, and west basins of Meliadine Lake on Inuit Owned Land.

The Project area is within the zone of continuous permafrost approximately 400 km north of the tree line with typical sub-arctic vegetation. The terrain is dominated by glacial landforms that include drumlins of glacial till, eskers consisting of gravels and sands, and numerous shallow lakes. The glacial deposits form low relief ridges oriented in a northwest-southeast direction. Regional drainage patterns are controlled by these ridges and the prevailing permafrost.







Meliadine Lake covers an area of 107 square kilometres (km²) with a maximum length of 31 km (Environment Canada 1973). It features a highly convoluted shoreline (465 km in length) and over 200 islands. Most of the lake drains via the Meliadine River, which originates at the south end of the lake and flows through a series of waterbodies and short river segments into Hudson Bay (distance of 39 km). A second, smaller outflow from the west basin of Meliadine Lake drains into Peter Lake, which discharges into Hudson Bay through the Diana River system (distance of 70 km).

Several small watersheds drain into Meliadine Lake from a large peninsula between the south, east, and west basins of Meliadine Lake. These peninsula watersheds comprise networks of lakes, ponds, and interconnecting streams.

WMC International Ltd. undertook a multi-year gold exploration program in the Project area in 1995. That program included aquatic baseline studies from 1997 to 2001 (R.L. &L. Environmental Services Ltd. [RL&L] 1998, 1999, 2000, 2001, 2002). The main areas of emphasis within the Project study area included Meliadine Lake, Meliadine River, and several lakes and streams situated on a large peninsula at the southeast end of Meliadine Lake. Collected data included water quality and sediment quality, invertebrate communities, fish populations, and fish habitat. Stream crossings within a proposed road corridor between Rankin Inlet and the proposed Project were also sampled.

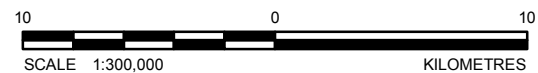



LEGEND

-  CAMP
-  PROPOSED MINE SITE
-  ROAD - EXISTING
-  ROAD - PROPOSED ALIGNMENT
-  WATERCOURSE
-  WATERBODY

REFERENCE

Base data obtained from the Government of Canada, Natural Resources Canada, Centre for Topographic Information (1:50,000).
Projection: UTM Zone 15 Datum: NAD 83



| | | | | | |
|--|--|---|----|----------------|-----------|
| PROJECT | | COMAPLEX MINERALS MELIADINE WEST | | | |
| TITLE | | LOCATION OF THE MELIADINE WEST GOLD PROJECT | | | |
|  | | PROJECT No. 07-1373-0055 | | SCALE AS SHOWN | REV. 1 |
| | | DESIGN | KS | 16 Sep. 2008 | FIGURE: 1 |
| | | GIS | CP | 20 Nov. 2008 | |
| | | CHECK | DE | 20 Nov. 2008 | |
| | | REVIEW | LY | 20 Nov. 2008 | |

1.2 BASELINE STUDIES - 2008

Baseline investigations of fish and fish habitat conducted by Golder Associates Ltd. (Golder) in 2008 were divided into three components:

- spring survey of 13 watercourses that may be crossed by an all-season road from Rankin Inlet;
- summer surveys of 37 small ponds that lie within or near under consideration to receive tailings; and
- summer assessments of fish populations and habitat in four lakes near the proposed zone of mine operations.

Of the sites surveyed, three road crossings and one lake (Chickenhead Lake) lie within the Discovery area of the Project; the remaining sites lie within the vicinity of the proposed Meliadine West mine development and activity, or along the proposed road corridor linking Rankin Inlet to the mine. Results obtained from these two areas are presented separately within each study component.

Studies were designed to fill gaps in information available on fish communities and habitat potential for fish use in the area. Some of the study sites (e.g., Lakes B6 and B7) were surveyed previously during 1997 to 1999 and the present surveys were intended to update and expand the existing information. Other sites (mainly the road crossings and several small ponds) were investigated for the first time because of the need to examine potential alternatives for specific aspects of the Project configuration.

Field investigations in 2008 were conducted during three field visits: June 17 to 24, July 10 to 14, and July 31 to August 5. All streams along the proposed road corridor were sampled during the first visit, 16 ponds and 2 lakes were assessed during the second visit, and the remaining 21 ponds and 2 lakes were visited during the third visit. One lake (B7) was visited multiple times during the second and third field sessions to collect detailed fish information designed to generate a population estimate of the current number of fish in Lake B7.

Surveys focused on evaluating fish habitat (including baseline water quality parameters) and assessing fish community composition. Proposed stream crossing sites were assessed for habitat type, instream cover for fish, substrate composition, and channel morphology. Habitat information collected in ponds and lakes included maximum depth, basic water quality measurements, and qualitative assessments of instream cover and substrate composition. Fish were captured using a backpack electrofisher. Arctic grayling spawning use was assessed by egg sampling using kick nets. Fish communities in ponds and lakes

were assessed using minnow traps, backpack electrofisher, gill nets, fyke nets, and angling.

In addition to an assessment of the fish community, a mark-recapture study was conducted on Lake B7 to estimate the number of fish in the lake, with particular focus on the Arctic grayling population. Fish were caught and marked during the second field session and recaptured during the third, using gill nets and a fyke net.

To facilitate data recording and presentation of results, all species were assigned a four-letter code in accordance with Mackay et al. (1990). The common and scientific names of all fish species mentioned in this report, as well as their corresponding coded abbreviations, are presented in Table 1.

Table 1 Common and Scientific Names of Fish Species in the Meliadine Study Area, and their Coded Abbreviations

| Family | Common Name | Scientific Name | Code |
|----------------|-----------------------|---|------|
| Salmonidae | lake trout | <i>Salvelinus namaycush</i> (Walbaum) | LKTR |
| Salmonidae | Arctic grayling | <i>Thymallus arcticus</i> (Pallas) | ARGR |
| Salmonidae | Arctic char | <i>Salvelinus alpinus</i> (Linnaeus) | ARCH |
| Salmonidae | cisco | <i>Coregonus artedii</i> (Lesueur) | CISC |
| Salmonidae | round whitefish | <i>Prosopium cylindraceum</i> (Pennant) | RNWH |
| Gadidae | burbot | <i>Lota lota</i> (Linnaeus) | BURB |
| Cottidae | slimy sculpin | <i>Cottus cognatus</i> Richardson | SLSC |
| Gasterosteidae | ninespine stickleback | <i>Pungitius pungitius</i> (Linnaeus) | NNST |

2 ROAD CROSSING ASSESSMENTS

2.1 INTRODUCTION

Assessments of fish and fish habitat were conducted at 13 watercourse crossings along two proposed road corridors. Ten watercourse crossings were located along a primary corridor extending from Rankin Inlet to the proposed Project site (Figure 2). Three crossings were located along a secondary corridor that extends from the primary road to the Discovery Area, located approximately 16 km southeast of the Meliadine West camp (Figure 2). The stream crossings surveyed were assigned a unique designation that included a corridor prefix (M for Meliadine West area, D for Discovery area) followed by the distance (in kilometres) along the road alignment from south to north.

Crossing assessments were performed from June 16 to 25, 2008. The area was free of snow but ice was present along the margins of some of the watercourses investigated, especially the Meliadine River. Most meltwater had drained from the study area; however, standing water was observed along stream margins.

2.2 METHODS

2.2.1 Habitat Assessments

Habitat was surveyed at each of the proposed crossings to assess spawning, rearing, overwintering, and movement potential for fish. Parameters surveyed included channel and flooded width (metres [m]), depth (m), habitat type (e.g., riffles, pools), substrate, as well as general observations such as channel type (e.g., single, double, braided, and dispersed) and the presence of movement barriers. Channel width was defined as the edge of the watercourse with a defined bank. Flooded sections of watercourses were observed at widths greater than that of the defined channel; therefore, some study reaches had a wetted width greater than that of the channel. Flooded width was a measurement of wetted width beyond, and including, that of the defined channel. Substrates were assessed using a modified Wentworth scale as follows:

- Detritus (decomposed organic matter);
- Fines (<2 millimetres [mm] diameter);
- Gravel (2 to 64 mm);
- Cobble (65 to 256 mm); and
- Boulder (>256 mm).

Water quality measurements, including temperature (°C), pH, and conductivity (microSiemens per centimetre [$\mu\text{S}/\text{cm}$]) were taken in situ using calibrated hand-held water quality meters. Dissolved oxygen (milligrams per liter [mg/L]) was measured using a colorimetric kit (Chemetrics, Chemets dissolved oxygen kit).

As the watercourses investigated were often small and poorly defined, it was not practical to map individual habitat types as they were often less than 1 m in length. Instead, watercourses were divided into reaches of equal length (typically 50 m) with assessments of habitat parameters reflecting average conditions within each respective reach. Subsequently, means were calculated for each habitat parameter to describe average conditions for the stream as a whole. Cover types were described as proportions of available cover rather than proportions of stream area surveyed. Habitat conditions within inlets and outlets were also recorded; however, they were not included in habitat calculations. Digital photos were taken to supplement site descriptions.

2.2.2 Discharge

Velocity was recorded with a direct-readout meter (Swoffer Model 2100). Readings were taken while wading along a tag line positioned perpendicular to flow. Water depth and mean column velocities (at 60% depth) were measured at a representative number of vertical stations along the cross-section. Discharge was calculated according to methods outlined by Bovee and Cochnauer (1977). Most of the sites did not have sufficient flow and/or depth to measure discharge while the Meliadine River was flowing at a rate that precluded discharge from being measured safely.

2.2.3 Fish Data Collection and Analyses

Assessments of fish populations were conducted using a backpack electrofisher (Smith Root, POW Type 12B, settings: 100-300 V, 30-60 Hz, 4-6 ms). Field biologists waded upstream and sampled available habitats in equal proportions. A netter collected stunned fish and placed them in a holding container filled with water. Field biologists recorded sampling effort, electrofisher settings, and the number of fish captured and observed. Time constraints limited capture methods to backpack electrofishing; no other fish sampling method was used.

Life history information collected included fork length (FL, mm) weight in grams (g), and sexual maturity (if discernible through external examination). Relative abundance of fish was calculated in terms of catch-per-unit-effort (CPUE). CPUE was based on the number of fish captured per unit (100s) of sampling effort. Efforts were made to minimize mortalities and unnecessary harm to fish.

2.2.4 Egg Sampling

Egg sampling was conducted to assess spawning habitat potentially used by Arctic grayling. All suitable spawning substrates observed by the field biologists were sampled. The procedure involved positioning a fine mesh D-ring kick net on the stream bottom immediately downstream from a potential egg deposition site and disturbing the substrate with a foot for approximately 30 seconds (s) (approximate area of 0.4 square metres [m²]). The contents of each kick net were examined in the field. Recorded data included the number of areas sampled, number of areas with eggs, total number of eggs encountered, and the maximum number of eggs per sampled area. Eggs were returned to the watercourse immediately.

2.3 RESULTS

With the exception of the Meliadine River, the majority of the watercourses to be crossed by the proposed roads were small, ephemeral streams, often characterized by poorly defined channels. The watercourses were comprised primarily of shallow-water habitats with occasional riffles and pools with moderate depth. Habitat potential for fish in the areas investigated was typically poor to moderate and use by fish appeared seasonal. However, habitat at some of the larger watercourses with perennial flow, such as the Meliadine River, had higher potential to support fish populations.

2.3.1 Habitat Assessments

The majority of the stream crossings were assessed for habitat and channel characteristics along their entire length (i.e., entire channel between two lakes or ponds). Detailed habitat data for individual sites are provided in Appendices A and B. Data summaries and photographs of each crossing are presented as a crossing atlas in Appendix C. The majority of watercourses had similar characteristics so data were grouped and summarized together in the text.

2.3.1.1 Meliadine West Road Corridor

Except for the Meliadine River crossing (discussed separately at the end of this section), surveyed stream sections ranged from 29 to 140 m in length. A variety of channel types were encountered including single, double, multiple, and braided, as well as areas of dispersed flow (i.e., without a well-defined stream channel). Generally, individual reaches consisted of more than one channel type. Multiple braids and dispersed channels were the main channel types observed (Appendix A).

Channel morphology was variable and attributable to the wide variety of habitat types observed at watercourses, even within single study reaches. Mean channel widths ranged from 3.7 to 8.9 m and mean depths were shallow ranging from 0.04 to 0.25 m; maximum depths did not exceed 0.6 m. Given the shallow conditions encountered, discharge could only be calculated for Sites M5.0 and M11.5 (0.03 and 2.60 m³/s, respectively) (Figure 2). Instream cover for fish was available in a variety of forms and was abundant in each of the streams surveyed.

Given the semi-flooded conditions, aquatic and terrestrial plants provided the majority of cover ranging in proportion from 5 to 100% within individual reaches. Undercut banks were observed in small portions representing 2 to 30% of cover available for fish in four of the streams and were absent from the remaining six sites. Undercut banks were less common as low flow and relief in the area are not conducive to their formation. Cover provided by depth and/or turbulence was rarely observed, again, owing to shallow, low-gradient channels. Boulder gardens provided additional cover for fish, but considerably less than vegetation. Given the small size of the watercourses, instream cover mainly provided habitat for small-bodied fish, such as ninespine stickleback and juvenile Arctic grayling.

It is noteworthy that Site M6.7 (Figure 2) was dry at the time of visit. The watercourse had sections of moderately defined bed and bank and showed evidence of recent flow. Therefore, this seasonal watercourse may only provide fish habitat for short periods in the spring, and perhaps during large summer precipitation events. The channel showed damage resulting from all-terrain vehicle (ATV) activity (Appendix C, Figure C5, Photos 118, 121). Damage to tundra has accelerated erosion and subsequent deposition of sediment downstream of ATV crossings (Appendix C, Figure C5, Photo 122).

Another site of special note is Site M5.0 (Figure 2, Appendix C, Figure C3) where the crossing location is situated at a short, connecting watercourse between two large ponds. This site was short in length (29 m) but contained high quality fish habitat, especially for small-bodied forage fish. Although no game species were captured or observed, habitat potential for Arctic grayling rearing and spawning was good. Substrates were dominated by gravel, cobble, and boulders, and aquatic plants offered excellent cover for small fish. Hence, migration, rearing, and spawning potential were rated high; however, there was no overwintering potential because the watercourse will freeze to bottom during winter. Similar to what was observed at Site M6.7, ATV activity at Site M5.0 resulted in damage to portions of the stream bed and bank.

Habitat and channel characteristics at the Meliadine River (Site M2.1, Figure 2, Appendix C, Figure C1) were investigated over a length of 690 m. Along this section, the river was confined to a single channel with a few small rock-piles

scattered throughout. Wetted widths ranged widely from 34 to 134 m ($n=4$). The flooded width of the river ranged from 58 to over 200 m. At the time of visit, flows at the proposed crossing location precluded safe measurement of depth; however, depths were greater than 1.5 m along the periphery. Instream habitat consisted of run (72%), riffle (20%), and pool (8%) habitats. Substrate and instream habitat were difficult to gauge because the river was turbid; however, bank-side estimates suggested that substrates were dominated by boulder and cobble with gravel and fines present to lesser degrees. Aquatic plants were observed but uncommon.

2.3.1.2 Discovery Road Corridor

Within the Discovery road corridor, surveyed stream sections ranged in length from 140 to 530 m (Appendix B). Mean channel widths were less variable (2.2 to 4.9 m) than those at the Meliadine West road corridor. Mean flooded widths; however, ranged greatly from 21.5 to 63 m. Mean depths were low ranging from 0.03 to 0.18 m; maximum depths did not exceed 0.42 m. Multiple braids and dispersed channels were the main channel types observed along the Discovery road corridor. Given the shallow conditions encountered, discharge could not be calculated for any of the surveyed sites.

Instream habitats consisted primarily of shallow runs and pools. Water velocities were low as the majority of the watercourses were situated along shallow gradients. Hence, riffles were only observed occasionally and their overall contribution to the total habitat area was low. In contrast, shallow pools contributed substantially (>50%) to the total surveyed area of the streams. These pools existed in areas with terrestrial vegetation and poorly defined bed and bank, indicative of ephemeral flows.

In two of the streams surveyed (Sites D1.2 and D6.7) (Figure 2, Appendix C, Figures C11 and C13), substrate consisted primarily of detritus, mainly because of partial flooding along stream peripheries, which inflated the relative contribution of detritus. In sections of the watercourses bounded by defined bed and banks, cobble, boulders, and fines were more common and were present in relatively equal proportions. Small patches of gravel were observed but were less common and their contribution to total substrate area did not exceed 5 to 10% in a given stream. The third site, Site D5.8 (Figure 2, Appendix C, Figure C12) was dominated by coarse substrates, especially cobble.

Instream cover was available in a variety of forms. Aquatic and terrestrial plants provided the majority of cover, with boulders and undercut banks contributing to a lesser extent. Depth and/or turbulence provided little cover for fish owing to shallow, low-gradient channels. Given the small size of the watercourses, instream cover served mainly to provide habitat for small-bodied fish.

Of the three sites evaluated, Site D5.8 was rated the highest with respect to habitat quality for fish. Habitat features including coarse substrates, undercut banks, small pools, and aquatic plants contributed to this stream's high potential to support spawning and rearing fish. Overwintering was not deemed possible, given the shallow depths of the stream.

2.3.2 Fish Populations

2.3.2.1 Meliadine West Road Corridor

In total, 103 fish representing three species were captured from 5 of the 10 sites surveyed (Table 2 and Appendix D). Ninespine stickleback ($n=98$) was the most abundant species captured, accounting for 95% of the catch. Slimy sculpin ($n=3$) and Arctic grayling ($n=2$) were also captured. Site M5.0 was the most productive with respect to fish; 60 ninespine stickleback were captured and over 200 were observed. Overall, CPUE was moderate (3.4 fish/100s, including sites where no fish were captured) but highly variable between sites where fish were captured (0.2 to 20.5 fish/100s).

Table 2 Fish Captured or Observed in Watercourses along the Meliadine West Road Corridor, June 2008

| Site | Effort (s) | Species | Number Captured ^a | Number Observed | Size Range (mm) | CPUE ^b (fish/100s) |
|--------------|--------------|----------------------|------------------------------|-----------------|-------------------------|-------------------------------|
| M2.1 | 557 | ARGR NNST | 1 | 2 | 48 | 0.2 |
| M3.0 | 211 | NNST | | 2 | | |
| M3.9 | 185 | - | | | | |
| M5.0 | 293 | NNST | 60 | 200 | 34 to 74 ^(a) | 20.5 |
| M6.7 | 0 | - | | | | |
| M8.6 | 262 | - | | | | |
| M11.5 | 520 | ARGR NNST | 1 18 | 5 20 | 89 32 to 67 | 0.2 3.5 |
| M13.3 | 222 | NNST | | 10 | | |
| M22.6 | 398 | NNST | 2 | 25 | 28 to 68 | 0.5 |
| M23.7 | 409 | ARGR SLSC NNST | 3 18 | 1 | 69 to 94 38 to 67 | 0.5 4.4 |
| TOTAL | 3,057 | | 103 | 265 | 28 to 94 | 3.4 |

a 20 of 60 captured fish were measured.

b Catch-per-Unit-Effort (CPUE) calculated for captured fish only

Note: mm= millimetres; s=seconds

Single Arctic grayling juveniles (48 and 89 mm FL) were captured at Sites M2.1 (Meliadine River) and M11.5, respectively. In addition, one Arctic grayling was observed at Site M23.7 (inflow to Peg Lake below Pump Lake). Based on age-length statistics for Arctic grayling captured in the Meliadine Study Area in the past (RL&L 1999), these fish were likely yearlings.

Sampling for Arctic grayling eggs was conducted at four streams (Sites M2.1, M8.6, M11.5, and M5.0); the remaining sites did not contain suitable spawning substrate. In total, 21 individual areas were sampled; however, eggs were not encountered.

2.3.2.2 Discovery Road Corridor

Within the Discovery road corridor, Site D5.8 was the only site where fish were captured (Table 3 and Appendix D). Seven Arctic grayling and 12 ninespine stickleback were captured and another four Arctic grayling and 20 ninespine stickleback were observed. The overall CPUE for captured fish was 5.9 fish/100s. This site was the most productive with respect to Arctic grayling in either of the two road corridors.

Table 3 Fish Captured or Observed in Watercourses along the Discovery Road Corridor, June 2008

| Site | Effort (s) | Species | Number Captured | Number Observed | Size Range (mm) | CPUE ^a (fish/100s) |
|--------------|------------|---------|-----------------|-----------------|------------------|-------------------------------|
| D1.2 | 265 | NNST | | 2 | | |
| D5.8 | 322 | ARGR | 7 | 4 | 67 to 127 | 2.2 |
| | | NNST | 12 | 20 | 36 to 71 | 3.7 |
| D6.7 | 138 | - | | | | |
| TOTAL | 725 | | 19 | 26 | 36 to 127 | 2.6 |

a Catch-per-Unit-Effort (CPUE) calculated for captured fish only

Note: mm= millimetres; s=seconds

Egg sampling was conducted at Site D5.8; the remaining sites did not contain suitable spawning substrate. In total, nine Arctic grayling eggs were encountered in two of 10 areas sampled at Site D5.8 (Appendix C, Figure C12, Photo 853), indicating that the watercourse at Site D5.8 provides habitat for spawning and rearing Arctic grayling.

2.4 SUMMARY

The 13 proposed road crossings assessed during this investigation varied widely with regards to habitat potential for fish. Aquatic habitat at crossings along both road corridors was highly variable, with some streams supporting spawning and rearing, whereas others were dry or contained poor fish habitat. Based on data

collected during a hydrological assessment in July 2008 (Golder 2008), overwintering potential for fish at the proposed crossing of the Meliadine River was rated as nil as the river will freeze to bottom at this location.

Fish were captured at six sites (M2.1, M5.0, M11.5, M22.6, M23.7, and D5.8) and were observed but not captured at three others (M3.0, M13.3, and D1.2) for a total of nine confirmed fish-bearing streams. Arctic grayling were captured at three sites (M2.1, M11.5, and D5.8) and observed but not captured at Site M23.7. Ninespine stickleback was captured at five sites (M5.0, M11.5, M22.6, M23.7, and D5.8) and were observed but not captured at four sites (M2.1, M3.0, M13.3, and D1.2). Slimy sculpin were captured only at Site M23.7.

Within the Meliadine West road corridor, Site M2.1 (Meliadine River) was of particular importance. Because of high depths and velocities, this section was not fished and surveyed effectively; however, high fisheries potential was evident. One juvenile Arctic grayling was captured, indicating that rearing was occurring in the area. Furthermore, the presence of deep run and pool areas indicated high quality habitat for various life-stages of fish species known to inhabit the river.

Fish populations in the lower Meliadine River were studied intensively during the August-September periods of 1997, 1998, and 1999 using a fish fence that captured upstream migrants at a location approximately 2 km upstream from the proposed road crossing location (RL&L 1998, 1999, 2000). In total, 3761 fish were captured during the three-year study. Arctic char (3240 fish) predominated the catch, followed by Arctic grayling (263 fish), and round whitefish (227 fish). Lake trout and cisco were also captured at the fish fence site, but much less frequently (18 and 13 fish, respectively). These results confirmed the importance of the lower Meliadine River as a fish movement corridor, particularly for Arctic char adults that undergo feeding migrations to the sea in spring and return in fall to overwinter in the freshwater habitats of the Meliadine River drainage.

Other noteworthy watercourses within the Meliadine West road corridor include Site M23.7, where slimy sculpin were captured, and habitat quality for rearing and migration were rated as moderate to good. Sites M5.0, M11.5, and M22.6 also featured suitable rearing habitat for Arctic grayling. Although not confirmed by egg sampling, Sites M5.0 and M11.5 are likely used by Arctic grayling for spawning, based on the availability of suitable habitat and/or the presence of Arctic grayling juveniles in the catch. In contrast, Sites M3.0, M3.9, M6.7, M8.6, and M13.3 had relatively poor fish habitat potential, as evidenced by no fish captures and only 12 observed fish (ninespine stickleback) at Sites M3.0 and M13.3. Shallow depths, dry channels (e.g., Site M6.7), poor spawning substrates (detritus), and a lack of instream cover contributed to poor habitat ratings.

Within the Discovery road corridor, Site D5.8 (Figure 2) was most important for fish and fish habitat. Ninespine stickleback and Arctic grayling juveniles were captured and Arctic grayling eggs were collected. High quality spawning and rearing habitats were also present throughout the surveyed section. In contrast, Sites D1.2 and D6.7 featured poor quality fish habitat because of shallow depths and an absence of well defined channels.

Site M22.6 was the only previously studied (RL&L 1999) crossing location. Little has changed since the previous visit; watercourse dimensions were comparable, pools remained the dominant habitat type, substrates were dominated by detritus and fines, and vegetation was the dominant source of instream cover for fish. With respect to fish populations, electrofishing efforts in 2008 found only ninespine stickleback, as did sampling in 1999. Sampling for eggs did not occur during either survey because no suitable spawning habitat for Arctic grayling was observed.

3 POND ASSESSMENTS

3.1 INTRODUCTION

Assessments of fish and fish habitat were conducted at 37 ponds within Basins A, B, and H in the Project area (Figure 3). The purpose of the investigation was to assess fish presence and fish habitat potential in the waterbodies that are within or near the proposed mine development and mining activities. Assessments were performed from July 11 to 14 and August 1 to 5. The water levels were lower than those encountered during the investigations for the proposed road corridor and many of the ponds lacked stream flow to adjacent waterbodies.

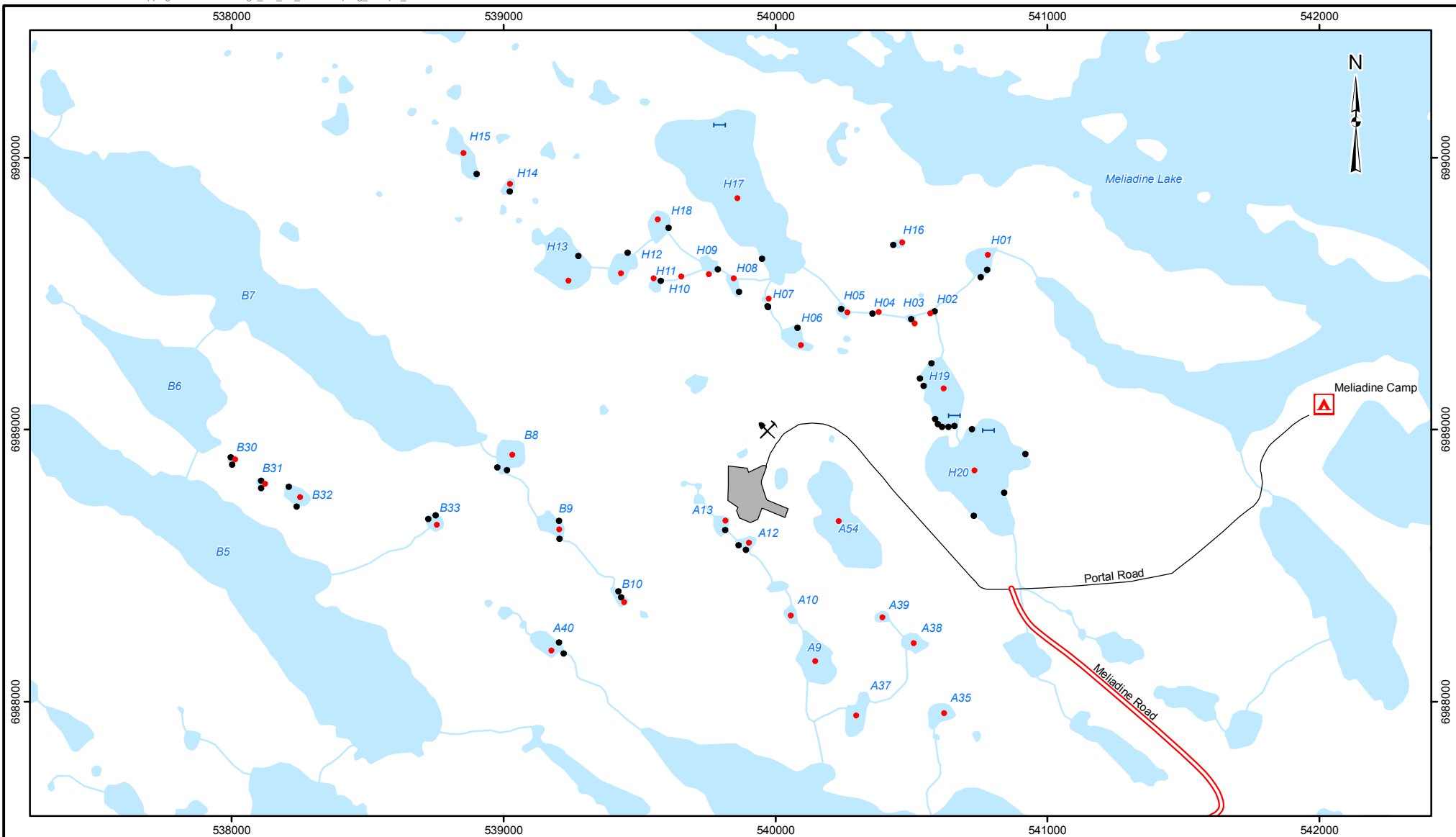
3.2 METHODS

3.2.1 Habitat Assessments

Fish habitat was assessed qualitatively for potential for overwintering, movement, spawning, and rearing. Specifically, observations were made regarding habitat quality, substrate, and available cover. Water temperature (°C), conductivity (µS/cm), and pH were measured using a calibrated water quality meter. Pond area and shoreline perimeter length were calculated using ArcGIS 9.2 software based on data (1:50,000) available from the National Topographic Database. Maximum depth was assessed by wading or from a boat. Digital photos were taken to supplement site descriptions.

3.2.2 Fish Data Collection and Analyses

Assessments of fish populations were conducted using the same procedures as those used during the road crossing investigation. However, in addition to a backpack electrofisher, baited Gee-type minnow traps were also used where sufficient depth allowed (Figure 3). Monofilament gill nets (25 mm mesh), each 15.2 m long and 1.8 m wide, were used to assess fish presence in large ponds. Relative abundance of fish was calculated in terms of CPUE based on the number of fish captured per unit of electrofishing effort (100 s) or per trap- or net-hour.

**LEGEND**

CAMP



PROPOSED MINE SITE



ELECTROFISHING PERFORMED



GILL NET



MINNOW TRAP

ROAD - EXISTING

ROAD - PROPOSED ALIGNMENT

WATERCOURSE

PORTAL WORK AREA

WATERBODY

REFERENCE

Project Infrastructure provided by Comaplex Minerals Inc. Base data obtained from Government of Canada, Natural Resources Canada, Centre for Topographic Information (1:50,000).
 Projection: UTM Zone 15 Datum: NAD 83

500 0 500
 SCALE 1:20,000 METRES

PROJECT

COMAPLEX MINERALS
 MELIADINE WEST

TITLE **FISH SAMPLING LOCATIONS IN PONDS WITHIN
 THE MELIADINE WEST GOLD PROJECT AREA**

JUL - AUG 2008



| PROJECT NO. 07-1373-0055 | | | SCALE AS SHOWN | REV. 0 |
|--------------------------|----|--------------|----------------|--------|
| DESIGN | RP | 29 Sep. 2008 | | |
| GIS | CP | 26 Nov. 2008 | | |
| CHECK | JP | 20 Nov. 2008 | | |
| REVIEW | LY | 26 Nov. 2008 | | |

FIGURE: 3

3.3 RESULTS

3.3.1 Habitat Assessments

The majority of the waterbodies investigated were small, shallow ponds with little potential to support fish for an extended period of time. The ponds ranged in size from approximately 0.04 ha (H10) to 15.8 ha (H17) with an average size of 1.4 ha (Appendix E). Pond size was considered in the evaluations of fish habitat because it provided insight towards assessments of overwintering and movement potential for fish. Habitat potential for fish was typically poor to moderate; however, habitat within the larger waterbodies was more favourable as evidenced by the capture of sportfish species. Waterbodies had similar dimensions and characteristics, and as such, descriptions are grouped and summarized below.

Sampled ponds were shallow (maximum depth range: 0.1 to 1.6 m), warm (temperature range: 15.0 to 22.1 °C), and offered little potential to support fish on an annual basis. Good quality habitat within the majority of ponds was limited in abundance and suitable only for small fish. Substrates were dominated by fines but gravel and some cobble were observed along pond margins. Boulders, while present, did not contribute substantially to available fish habitat in general. Proportionally, vegetation offered the most potential to provide cover for fish.

Most ponds were capable of supporting important life stages of fish, including spawning and rearing for forage species, and if accessible, rearing areas for juvenile Arctic grayling. Spawning potential for Arctic grayling, however, was limited by the lack of suitable coarse substrates. Furthermore, overwintering potential was particularly poor because most ponds likely freeze to bottom during winter. Movement within ponds was unimpeded and movement between ponds appeared possible only during periods of increased flow (e.g., spring freshet and precipitation events). Given the propensity of the ponds to winterkill, this would be the mechanism by which ponds are populated.

Habitat quality varied somewhat between ponds. For example, Pond H20 is a large (9.5 ha), relatively deep (maximum depth of 1.6 m) pond with high quality habitat for both forage and sport fish. Pond H02 is significantly smaller (0.06 ha), shallower (maximum depth of 0.25 m) and contains poor fish habitat. The best habitat was found in Ponds H01, H15, H19, and H20. Maximum depth in these four sites ranged from 0.7 to 1.6 m, which was adequate to provide cover for small-bodied fish.

3.3.2 Fish Populations

In total, fish presence was confirmed in 13 of 37 ponds investigated (Figure 4). Two species, Arctic grayling ($n=2$, 49 to 55 mm in fork length) and ninespine stickleback ($n=18$, 48 to 72 mm in total length), comprised the catch from eight ponds (Table 4, Appendices D and E). In addition, 46 ninespine stickleback were observed but not captured; six fish were observed in two ponds (B30, 31) from which fish were captured and the other 40 stickleback were observed in five ponds (A10, A37, A54, H04, and H05) where fish were not captured (Appendix E).

Table 4 Fish Captured in Fish-Bearing Ponds within the Meliadine West Gold Project Area, Jul-Aug 2008

| Pond | Method | Effort | Ninespine stickleback | | Arctic Grayling | |
|------|-------------------------|-------------|-----------------------|-------------------|-----------------|-------------------|
| | | | n | Length Range (mm) | n | Length Range (mm) |
| A12 | Minnow traps | 42 trap-h | 5 | 53 to 68 | 0 | - |
| A13 | Minnow traps | 42 trap-h | 1 | 54 | 0 | - |
| A40 | Minnow traps | 42.3 trap-h | 4 | 55 to 59 | 0 | - |
| B8 | Minnow traps | 43.5 trap-h | 1 | 48 | 0 | - |
| B30 | Minnow traps | 44.2 trap-h | 4 | 51 to 72 | 0 | - |
| B31 | Minnow traps | 44.2 trap-h | 2 | 52 to 59 | 0 | - |
| B32 | Minnow traps | 43.5 trap-h | 1 | 53 | 0 | - |
| H02 | Minnow traps | 21.5 trap-h | 0 | - | 1 | 52 |
| | Backpack electrofishing | 120 s | 0 | - | 1 | 49 |

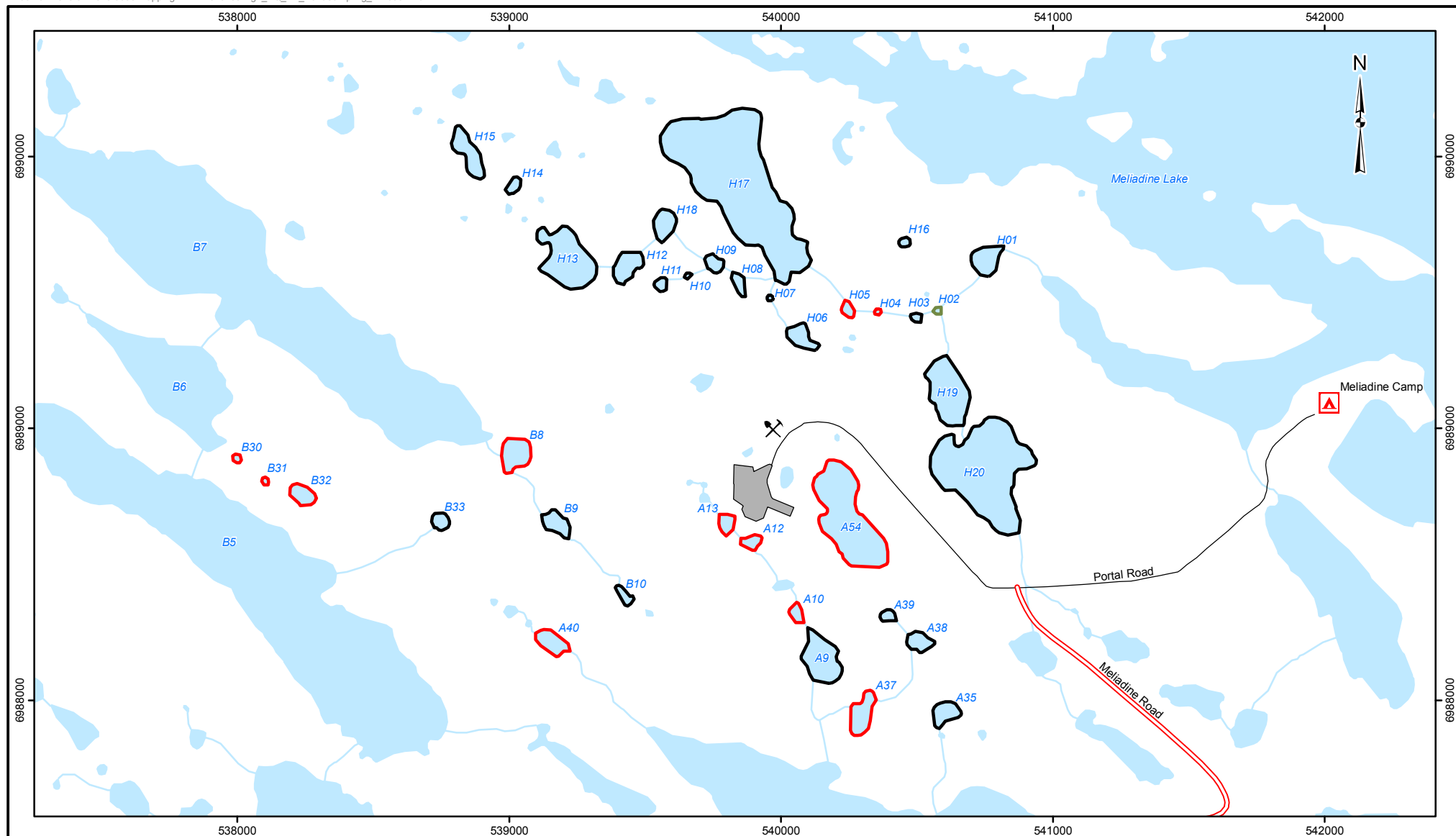
Note: h= hours; s= seconds n= number captured; mm= millimeters

Minnow traps captured 18 ninespine stickleback and one Arctic grayling. Backpack electrofishing accounted for one Arctic grayling. Gill nets were used in Ponds H17, H19, and H20 (total effort of 61 h) and were unsuccessful in capturing any fish, indicating that it is unlikely that large fish inhabit these ponds. Despite substantial sampling effort exerted (Table 5), CPUE was low for each of the methods used during pond assessments, suggesting that densities of fish in the ponds were low.

Table 5 Fish Capture Methods, Total Effort and Total Catch in All Studied Ponds within the Meliadine West Gold Project Area, Jul-Aug 2008

| Capture Method | Total Effort | Species Captured (n) | CPUE |
|-------------------------|--------------|----------------------|---------------------|
| Backpack electrofishing | 7481 s | ARGR (1) | 0.00013 fish/100 s |
| Minnow traps | 1289 h | NNST (18) | 0.013 fish/trap-h |
| | | ARGR (1) | 0.00078 fish/trap-h |
| Gill net | 61 h | 0 | 0 fish/net-h |

Note: s= seconds; h= hours; n= number captured; CPUE= catch per unit effort

**LEGEND**

- | | |
|---------------------------|--|
| CAMP | NINESPINE STICKLEBACK CAPTURED OR OBSERVED |
| PROPOSED MINE SITE | ARCTIC GRAYLING CAPTURED |
| ROAD - EXISTING | FISH NOT CAPTURED OR OBSERVED |
| ROAD - PROPOSED ALIGNMENT | |
| WATERCOURSE | |
| PORTAL WORK AREA | |
| WATERBODY | |

REFERENCE

Project Infrastructure provided by Comaplex Minerals Inc. Base data obtained from Government of Canada, Natural Resources Canada, Centre for Topographic Information (1:50,000).
 Projection: UTM Zone 15 Datum: NAD 83

500 0 500
 SCALE 1:20,000 METRES

| | | | | |
|--|--------------------------|---|----------------|--------|
| PROJECT | | COMAPLEX MINERALS MELIADINE WEST | | |
| TITLE | | DISTRIBUTION OF FISH SPECIES IN PONDS SAMPLED WITHIN THE MEDIALINE WEST GOLD PROJECT AREA, JUL - AUG 2008 | | |
| Golder Associates Edmonton, Alberta | PROJECT NO. 07-1373-0055 | | SCALE AS SHOWN | REV. 0 |
| | DESIGN | RP | 29 Sep. 2008 | |
| | GIS | CP | 26 Nov. 2008 | |
| | CHECK | JP | 20 Nov. 2008 | |
| | REVIEW | LY | 26 Nov. 2008 | |

FIGURE: 4

3.4 SUMMARY

With the exception of the large ponds (H17, H19, and H20), variability between ponds was low with respect to size, shape, and their potential to support fish. Depth and water temperature were similar, as was substrate composition. Habitat quality and fish presence did not seem to be related in the studied ponds. All 13 ponds where fish were recorded (either captured or observed), displayed poor to moderate fish habitat for both sport and forage fish. For example, Pond H02, the only waterbody where Arctic grayling were captured, was shallow (maximum depth: 0.25 m), warm (15.9 °C), had limited cover, and was rated as having a limited capacity to support fish. In contrast, among the 24 ponds where fish were not captured, 11 had moderate to high potential to support small-bodied fish. Ponds H01, H15, H17, and H20 were rated as having a good potential to support fish, yet no fish were captured or observed.

Given the locations of fish-bearing ponds and the relatively poor habitat observed, fish presence appeared to be more closely related to connectivity and proximity to fish-bearing waterbodies than to the quality of habitat. At the time of assessment, stream flow between ponds in the area was difficult to determine because potential channels connecting waterbodies were dry and poorly defined. However, evidence of recent flow was observed at a watercourse linking Pond H02 (the only site with Arctic grayling) to Pond H01, which in turn appears linked, at times, to Meliadine Lake. Therefore, seasonal variation in water levels likely dictates where and when fish can move to ponds and plays a prominent role in determining presence/absence of fish in different quality habitats. This was supported by the presence of fish in ponds that freeze to bottom during winter.

Similar observations were made during previous studies conducted on ponds B9, B10, and A54 (RL&L 1999). Field biologists documented poor fish habitat and considerable sampling (combined gill net effort of 91.7 net-h) in these three ponds did not yield any fish. The primary reason for the absence of larger fish in the ponds was reduced stream flow between the ponds and larger waterbodies in the area (RL&L 1999).

4 LAKE ASSESSMENTS

4.1 INTRODUCTION

Assessments of fish populations were conducted between July 10 to August 5, 2008 at three lakes in the Project area (lakes A52, B6, and B7) and at Chickenhead Lake in the Discovery area. The purpose was to assess fish populations with respect to community composition and habitat potential. Additionally, a mark-recapture study was performed at Lake B7 to estimate the size of the Arctic grayling population and a bathymetric survey was conducted in Chickenhead Lake to estimate lake volume and to map depth characteristics. Lakes B6 and B7, as well as the interconnecting stream B6-7, were studied previously in 1997 and 1998 (RL&L 1998, 1999). Relevant information from these studies is summarized to supplement 2008 data.

4.2 METHODS

4.2.1 Habitat Assessments

Habitat was assessed qualitatively with respect to movement, spawning, rearing, and overwintering potential for fish. Water temperature (°C), conductivity (µS/cm), and pH were measured using a calibrated water quality meter and dissolved oxygen (mg/L) was measured using a colorimetric kit (Chemetrics, Chemets dissolved oxygen kit).

The bathymetric survey of Chickenhead Lake was conducted on August 4, 2008 using a Garmin 298 depth sounder. The sounder recorded geo-referenced depth readings every 1 s. Isobath and volume determinations were done using ArcGIS 9.2 software.

4.2.2 Fish Data Collection and Analyses

Fish populations were sampled using fyke nets, gill nets, backpack electrofisher, baited Gee-type minnow traps, and angling (Table 6, Figures 5, 6, and 7). Together, these five capture methods provided representative samples of fish size-classes inhabiting different habitats of the studied waterbodies.

All fish captured were held temporarily in tubs filled with water from their respective waterbody. Water was changed frequently to provide suitable holding conditions for captured fish. Collected information included fork length (mm), weight (g) and sexual maturity (if possible through external examination). Scales

from selected Arctic grayling, cisco and lake trout were collected for possible future reference; however, they were not aged for this report.

Table 6 Fish Capture Methods Used During Lake Investigations in the Meliadine West Gold Project Area, Jul-Aug 2008

| Lake | Arctic Fyke Net | Small Fyke Net | Gill Nets | Backpack Electrofishing | Minnow Traps | Angling |
|-------------|-----------------|----------------|-----------|-------------------------|--------------|---------|
| A52 | | X | X | X | X | |
| B6 | | X | | | | |
| B7 | X | | X | | | X |
| Chickenhead | X | | X | | X | X |

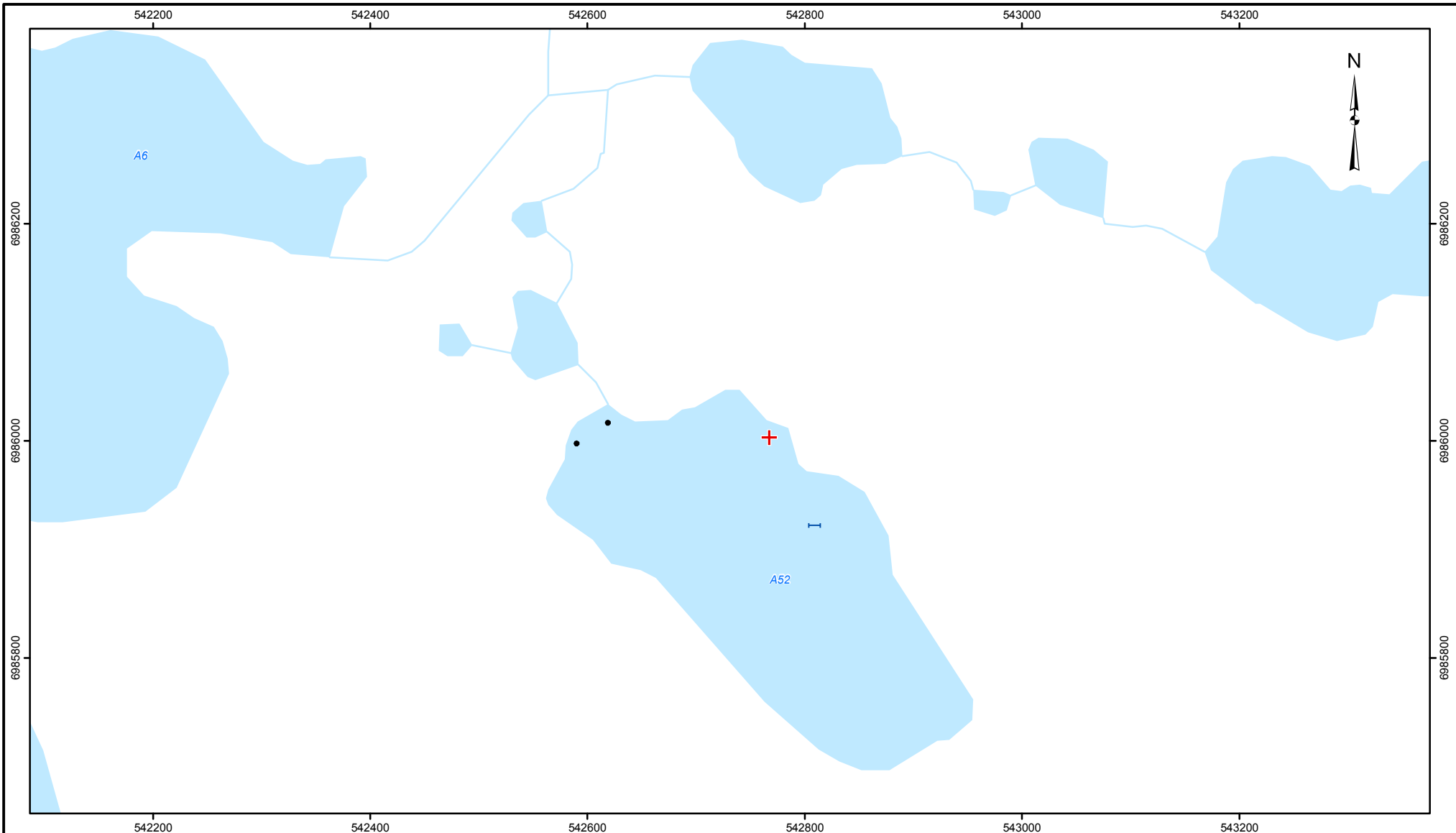
In Lake B7, fish larger than 300 mm FL were marked with a uniquely numbered Floy™ tag and an adipose fin was clipped for all fish smaller than 300 mm FL. All marked fish were released several hundred metres from their capture location to avoid immediate recapture.

Relative abundance of fish was calculated using CPUE based on the number of fish captured per unit (100s) of electrofishing effort or per trap-, net-, or angling-h. Detailed descriptions of each capture method are provided below.

4.2.2.1 Fyke Nets

An Arctic fyke net was used to sample fish in near-shore habitats in Lake B7 (July 12 to 14 and July 31 to August 3, 2008) and in Chickenhead Lake (August 3 to 5, 2008). The Arctic fyke net consisted of one opening (4 m²) comprised of nylon mesh tied into a metal frame. The mesh extended into a throat consisting of concentrically smaller compartments leading to a trap compartment. Two wings (each 15 m long) extended laterally from the trap, and one lead (30 m long) was attached to shore. The fyke net was installed in similar habitats in both Lake B7 and in Chickenhead Lake. Depth was 1.5 m, substrates at the sites consisted of boulders and large cobble with small patches of sand and gravel, and each had a slope of <5%.

A small fyke net (opening of 1 m²), consisting of one trap, two 10-m wings, and a 20-m lead attached to shore, was installed in Lakes B6 (July 12 to 14, 2008) and A52 (August 3 to 4, 2008). In Lake B6, the trap was installed at a depth of approximately 1 m in an area dominated by cobble and boulders with a shallow (<5%) slope. In Lake A52, the trap was installed in 0.5 m of water in an area with a shallow (<5%) slope dominated by fines. Both the Arctic and small fyke net traps were checked for fish daily.

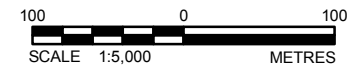



LEGEND

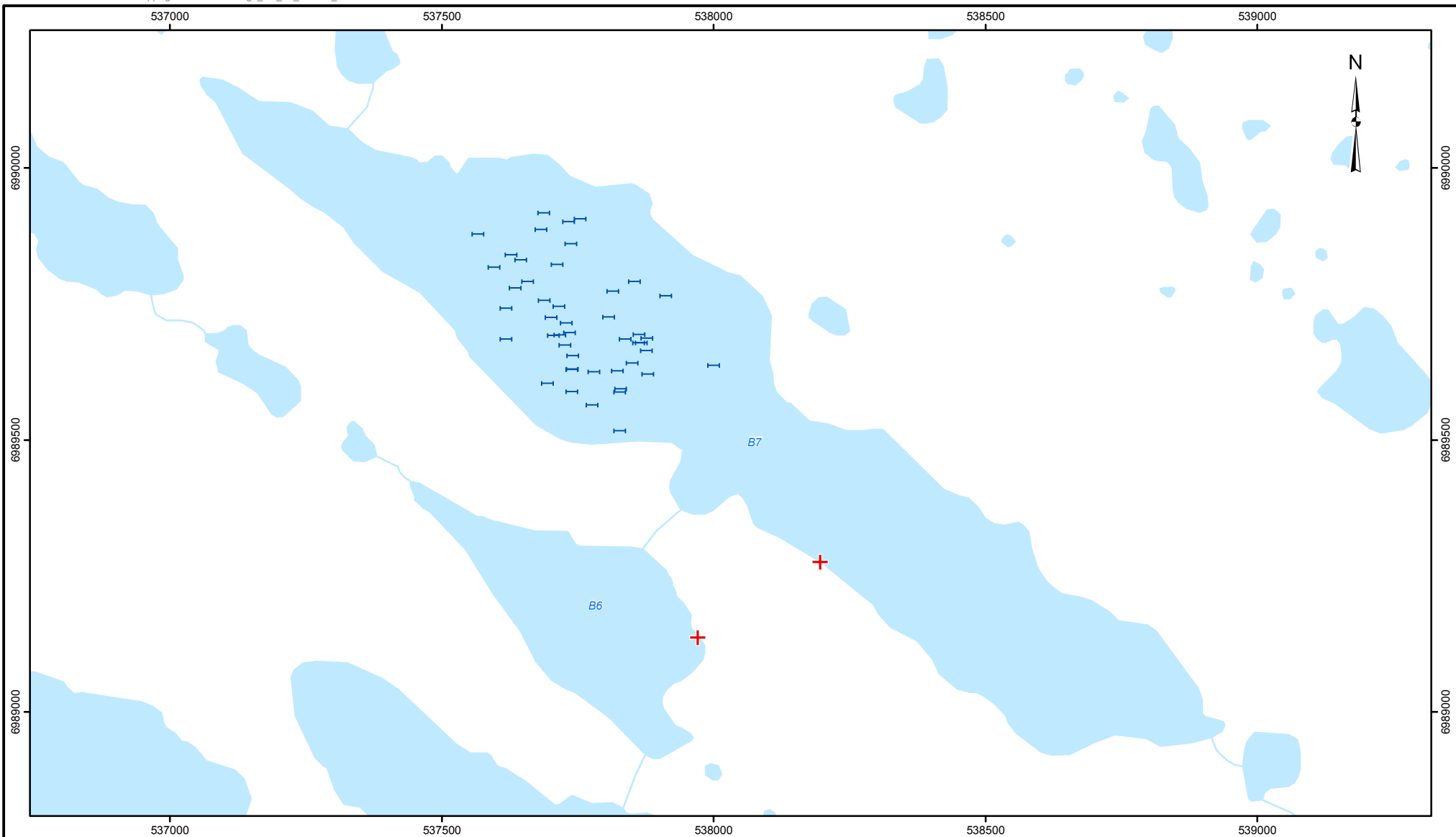
- + FYKE NET
- T GILL NET
- MINNOW TRAP
- WATERCOURSE
- WATERBODY

REFERENCE

Data obtained from Government of Canada, Natural Resources Canada, Centre for Topographic Information (1:50,000).
Projection: UTM Zone 15 Datum: NAD 83



| | | | | |
|---|--|---|----|----------------|
| PROJECT | | COMAPLEX MINERALS MELIADINE WEST | | |
| TITLE | | FISH SAMPLING LOCATIONS IN LAKE A52, AUGUST 2008 | | |
|  | | PROJECT NO. 07-1373-0055 | | SCALE AS SHOWN |
| | | DESIGN | RP | 29 Sep. 2008 |
| | | GIS | CP | 20 Nov. 2008 |
| | | CHECK | JP | 20 Nov. 2008 |
| | | REVIEW | LY | 20 Nov. 2008 |
| | | FIGURE: 5 | | |

**LEGEND**

-  FYKE NET
-  GILL NET
-  WATERCOURSE
-  WATERBODY

REFERENCE

Data obtained from Government of Canada, Natural Resources Canada, Centre for Topographic Information (1:50,000).
Projection: UTM Zone 15 Datum: NAD 83

250 0 250
SCALE 1:10,000 METRES

PROJECT

COMAPLEX MINERALS
MELIADINE WEST

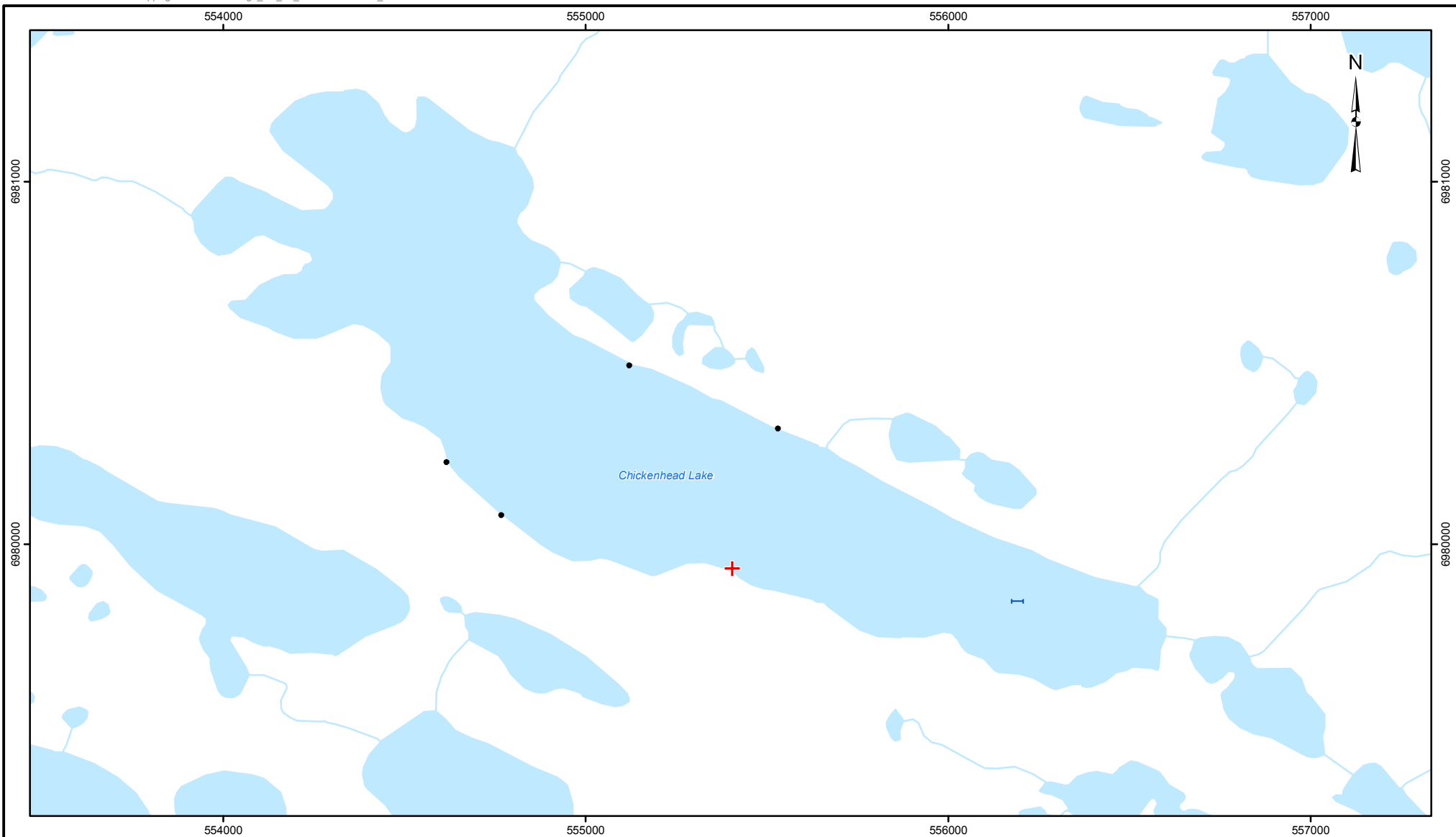
TITLE

**FISH SAMPLING LOCATIONS IN
LAKES B6 AND B7, JUL - AUG 2008**



| PROJECT NO. 07-1373-0055 | | | SCALE AS SHOWN | REV. 0 |
|--------------------------|----|--------------|----------------|--------|
| DESIGN | RP | 29 Sep. 2008 | | |
| GIS | CP | 20 Nov. 2008 | | |
| CHECK | JP | 20 Nov. 2008 | | |
| REVIEW | LY | 20 Nov. 2008 | | |

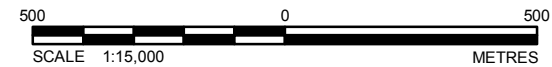
FIGURE: 6


**LEGEND**

- + FYKE NET
- GILL NET
- MINNOW TRAP
- WATERCOURSE
- WATERBODY

REFERENCE

Data obtained from Government of Canada, Natural Resources Canada, Centre for Topographic Information (1:50,000).
 Projection: UTM Zone 15 Datum: NAD 83



| | | | | | |
|---|--|---|----|----------------|------------------|
| PROJECT | | COMAPLEX MINERALS MELIADINE WEST | | | |
| TITLE | | FISH SAMPLING LOCATIONS IN CHICKENHEAD LAKE, AUGUST 2008 | | | |
|  | | PROJECT NO. 07-1373-0055 | | SCALE AS SHOWN | REV. 0 |
| | | DESIGN | RP | 29 Sep. 2008 | FIGURE: 7 |
| | | GIS | BR | 24 Oct. 2008 | |
| | | CHECK | RP | 20 Nov. 2008 | |
| | | REVIEW | LY | 20 Nov. 2008 | |

4.2.2.2 Gill Nets

Three gill nets (25 mm monofilament mesh), each 15.2 m long and 1.8 m wide, were used individually and/or linked together to sample fish in pelagic areas of Lake A52, Lake B7, and Chickenhead Lake. Set durations ranged from 0.5 to 20.5 h (overnight) and set depths ranged from 1 to 4 m. Net locations and depths were adjusted between sets to optimize capture success. Information collected included Universal Transverse Mercator (UTM) coordinates, set and lift times, and the number of fish captured.

4.2.2.3 Backpack Electrofishing

A backpack electrofisher (Smith Root POW Type 12B, settings: 200-500 V, 30-60 Hz, 4-6 ms) was used to sample fish inhabiting littoral areas in Lake A52 on August 4, 2008. Sampling effort, electrofisher settings, and the number of fish captured and observed were recorded.

4.2.2.4 Minnow Traps

Gee-type minnow traps baited with cheese were used to sample small-bodied fish inhabiting littoral areas during both day and night. Traps were distributed to sample areas not assessed effectively by electrofishing. Set durations ranged from 24 to 46 h. Data collected included UTM coordinates, set duration, and the number of fish captured.

4.2.2.5 Angling

Angling was used occasionally to sample deep-water habitats and to assess fish distribution to guide gill net placement.

4.2.3 Population Estimate

The following equation (Bailey 1952) was used to estimate the size of fish populations in Lake B7:

$$N = M(C+1)/(R+1),$$

where M = number of individuals marked in the first sample,

C = total number of individuals captured in the second sample, and

R = number of individuals in second sample that are marked.

The equation is based on the Peterson method, generally considered the simplest method of estimating population size. Binomial confidence intervals (95%) were calculated graphically (Krebs 1999).

Population estimates were generated only for Arctic grayling because the number of individuals of other species captured and recaptured was insufficient for the calculation.

4.3 RESULTS

4.3.1 Lake A52

Lake A52 drains into a stream that connects lakes A5 and A6; however, the outflow does not have a well-defined channel and is likely ephemeral during most of the summer season (it was not flowing on August 3 when the survey was conducted). The lake was shallow (maximum depth of about 2 m) and featured an abundance of macrophytes distributed throughout the entire basin. Substrates along the lake margin were composed of cobble, gravel, and fines. Deeper areas of the lake were dominated by fines. On August 3, the water temperature was warm (13.2°C), and pH (9.0) and conductivity (491 µS/cm) were the highest among all ponds and lakes sampled in 2008.

Lake A52 contained suitable habitat for forage species (e.g., ninespine stickleback), mainly because of abundant cover provided by aquatic vegetation. Poor connectivity to other waterbodies and shallow depth limit the lake's habitat potential for use by sportfish such as Arctic grayling. Overwintering may be possible for species tolerant of low dissolved oxygen levels; however, it is likely that the lake freezes to bottom in most areas during winter.

Fish sampling was conducted using a small fyke net, backpack electrofishing, gill net and minnow traps (Table 7). The only species captured or observed in Lake A52 was ninespine stickleback. The fyke net captured over 500 fish of which 20 were randomly selected and measured (Appendix D). In addition, more than 100 individuals were captured or observed during backpack electrofishing. In contrast, fish were not captured in the minnow traps, despite considerable effort exerted (144 trap-h). Similarly, fish were not captured in the gill net, likely because the mesh size (25 mm) was too large to capture small-bodied fish such as ninespine stickleback.

Table 7 Fish Capture Methods, Effort, and Catch for Lake A52, August 2008

| Method | Effort | Species | Number Captured | Size Range (mm) | CPUE |
|-------------------------|------------|---------|-----------------|-----------------|-----------------|
| Small fyke net | 46 trap-h | NNST | >500 | 55 to 82 | >11 fish/trap-h |
| Gill net | 48.5 net-h | - | | | 0 fish/net-h |
| Backpack electrofishing | 381 s | NNST | >100 | - | >26 fish/100s |
| Minnow traps | 144 trap-h | - | | | 0 fish/trap-h |

Note: h= hours; s=seconds; mm= millimetres; CPUE= catch per unit effort; > greater than

The absence of fish in the gill net catch suggested that Lake A52 did not provide suitable habitat for large-bodied fish such as Arctic grayling or cisco, even though these species have been previously documented in nearby Lake A6 (RL&L 1998, 1999).

4.3.2 Lake B6

Lake B6 is approximately 11.6 ha in area, has a maximum depth of 4.0 m, mean depth of 1.4 m, and contains approximately 166,100 cubic meters (m³) of water (RL&L 1999). It features well-defined stream connections to Lake B7 upstream and Lake B5 downstream. Substrates along the lake shore are composed of boulder, cobble, and gravel; deeper areas of the lake are dominated by fines.

Fish sampling in Lake B6 was conducted using a small fyke net set on the northeast shore of the lake for 43.5 h (Figure 6, Table 8). The total catch of ten fish included one juvenile Arctic grayling, three juvenile cisco, and six ninespine stickleback.

Table 8 Fish Capture Methods, Effort, and Catch for Lake B6, July 2008

| Method | Effort | Species | Number Captured | Size Range (mm) | CPUE |
|----------------|-------------|---------|-----------------|-----------------|-------------------------|
| Small fyke net | 43.5 trap-h | ARGR | 1 | 134 | 0.02 fish/trap-h |
| | | CISC | 3 | 172 to 178 | 0.07 fish/trap-h |
| | | NNST | 6 | 43 to 61 | 0.14 fish/trap-h |
| TOTAL | | | 10 | | 0.23 fish/trap-h |

Note: h= hours; mm= millimetres; CPUE= catch per unit effort

Lake B6 was sampled previously by angling in July 1997 when two Arctic grayling adults were captured (RL&L 1998). In addition, the inlet stream connecting Lake B7 to Lake B6 (Stream B6-7) was sampled by backpack electrofishing on seven occasions between June 1997 and August 1998 (RL&L 1998, 1999). The total catch of 98 fish included 54 Arctic grayling, 31 ninespine stickleback, 11 slimy sculpin, and two burbot. The presence of numerous ($n=33$) young-of-the-year Arctic grayling (between 20 and 31 mm FL) in mid-July of both 1997 and 1998 indicated that the stream was an important spawning area for this species.

The outlet of Lake B6 (Stream B5-6) was also sampled by backpack electrofishing six times between June 1997 and August 1998 (RL&L 1998, 1999), resulting in the total catch of 122 fish (33 Arctic grayling, 87 ninespine stickleback, and two slimy sculpin). Except for one Age-3 individual, all captured Arctic grayling were young-of-the-year fish.

Because of its adequate depth and well-defined gravel/cobble channels of both the inlet and outlet streams, Lake B6 can provide good quality spawning, rearing, and overwintering habitat to all fish species found in this system.

4.3.3 Lake B7

Lake B7 is approximately 57.8 ha in area, has a maximum depth of 5.1 m, mean depth of 1.5 m, and contains approximately 855,900 m³ of water (RL&L 1999). It features a well-defined stream connection to Lake B6 downstream; however, its two small inlets (in the east and west parts of the lake) have poorly defined channels as B7 is a “height of land” waterbody. Substrates in littoral areas were dominated by boulder and cobble, with small patches of gravel and sand present. Substrates in the deeper areas of the lake were dominated by fines and boulders.

Fish sampling in Lake B7 was conducted using an Arctic fyke net set on the southeast shore and numerous short-duration gill nets sets in the northwest part of the lake (Figure 6, Table 9). The total catch of 318 fish included 293 Arctic grayling, 19 cisco, four ninespine stickleback, and two burbot.

Table 9 Fish Capture Methods, Effort, and Catch for Lake B7, Jul-Aug 2008.

| Method | Effort | Species | Number Captured | Size Range (mm) | CPUE |
|-----------------|--------------|---------|-----------------|-----------------|------------------|
| Arctic fyke net | 138.5 trap-h | ARGR | 283 | 87 to 352 | 2.0 fish/trap-h |
| | | BURB | 2 | 273 to 307 | 0.01 fish/trap-h |
| | | CISC | 6 | 270 to 302 | 0.04 fish/trap-h |
| | | NNST | 4 | 49 to 78 | 0.03 fish/trap-h |
| Gill net | 20.5 net-h | ARGR | 10 | 149 to 329 | 0.5 fish/net-h |
| | | CISC | 13 | 152 to 297 | 0.6 fish/net-h |
| TOTAL | | | 318 | | |

Note: h= hours, mm= millimetres; CPUE= catch per unit effort

Although CPUE was low, the fyke net was effective in capturing a wide-range of life-stages representing four species (Table 9), during both the mark and recapture phases of the assessment. Arctic grayling ($n=283$) was the most prominent species captured, comprising 96% of the catch from the fyke net. Burbot, cisco, and ninespine stickleback comprised the remainder of the catch. Gill nets were used to sample a large proportion of deep-water habitat at Lake B7; fewer fish were captured and CPUE was lower compared to the fyke net. Size ranges of fish captured using both techniques was comparable.

Based on the modified Peterson method, the size of the Arctic grayling population in Lake B7 was estimated at 1,345 fish, with 95% confidence intervals ranging from 836 to 2,507 ($M=188$, $C=92$, and $R=12$). This estimate

includes both juvenile and adult fish. The variability of the estimate can be attributed to the fact that only 12 marked individuals were recaptured. The small number of recaptures may be related to the fact that Arctic grayling likely used the entire lake as a home range, thereby reducing the probability of recapture from the same spot as the original capture. It is also possible that marked fish became trap-averse resulting from the capture and mark procedures. The most probable explanation is that Arctic grayling distribute themselves throughout the entire lake. Habitat quality in the lake was relatively homogenous; therefore, Arctic grayling were no more likely to frequent the areas near the fyke net than the other areas of the lake. Further supporting this idea is the fact that only small fish (<220 mm), which typically move less than large fish, were recaptured.

Overall, Arctic grayling ranged from 87 to 352 mm in fork length (Figure 8). Based on the age-length relationship reported by RL&L (1999), these fish likely ranged from one to nine years in age. Arctic grayling between 160 to 179 mm in fork length were the dominant size-class captured in Lake B7 and were likely comprised of age-two or age-three fish. Larger fish (200 to 352 mm in fork length) were captured infrequently. This size distribution is indicative of a population with strong recruitment.

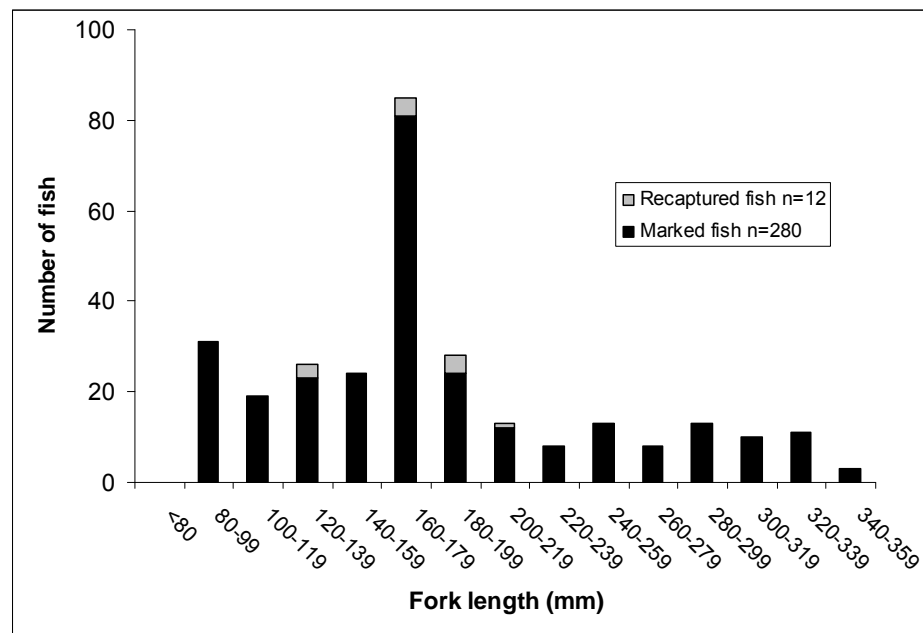


Figure 8 Length Frequency Distribution of Marked and Recaptured Arctic Grayling in Lake B7, Jul-Aug 2008

Lake B7 was previously sampled by angling and gill netting in 1997 and 1998 (RL&L 1998, 1999). The total catch of 29 fish included 14 Arctic grayling adults (275 to 410 mm in fork length, ages 7 to 10) and 15 cisco adults (274 to 367 mm, ages 5 to 10). In addition one adult burbot (600 mm, age 18) was found dead near the outlet in July 1998 (RL&L 1998).

4.3.4 Chickenhead Lake

Chickenhead Lake is located in the headwaters area of the Atulik River watershed, which flows into the Hudson Bay approximately 40 km east of the Meliadine River mouth. Chickenhead Lake is 135.5 ha in area, has a maximum surveyed depth of 8.9 m, a mean depth of 1.7 m, and contains approximately 2,340,820 m³ of water. The bathymetric map of Chickenhead Lake shows a wide variety of potential habitats for fish (Figure 9). Shallow areas (<1 m) are prevalent along the lake's periphery, especially in the western portion, and areas of moderate depth (1 to 4 m) are scattered throughout the lake. There is one area of substantial depth (>8 m) located in the north-central area of the lake.

The lake contained good quality habitat for both forage and sportfish species. Similar to Lake B7, substrates in littoral areas were dominated by boulder, cobble with small patches of gravel and sand also present. In deeper areas, the bottom was dominated by fines; however, boulder substrates were also recorded. Habitat potential for spawning, rearing, movement, and overwintering was rated high.

The bathymetric profiling and habitat assessments indicated that the diverse habitats present in the lake are capable of supporting multiple life-stages of species occupying the system. Littoral areas featured habitat that provided good spawning and rearing potential. Off-shore, depth and variable substrate provided suitable cover for large fish. Overwintering potential for all species was also high because of adequate depth. These assessments were reflected in the species and size of fish captured during the fisheries assessment.

Arctic grayling, burbot, and lake trout were captured in both fyke and gill nets. Although CPUE for the fyke net was moderate (0.35 fish/trap-h), this method was effective in capturing wide size-ranges of Arctic grayling and lake trout (Table 10). Lake trout ($n=17$) was the most prominent species captured, comprising 57% of the catch. Arctic grayling ($n=12$) comprised 40% of the catch. Only one burbot (335 mm in total length) was captured. Ninespine stickleback and cisco were not captured and no fish were captured in minnow traps or by angling.

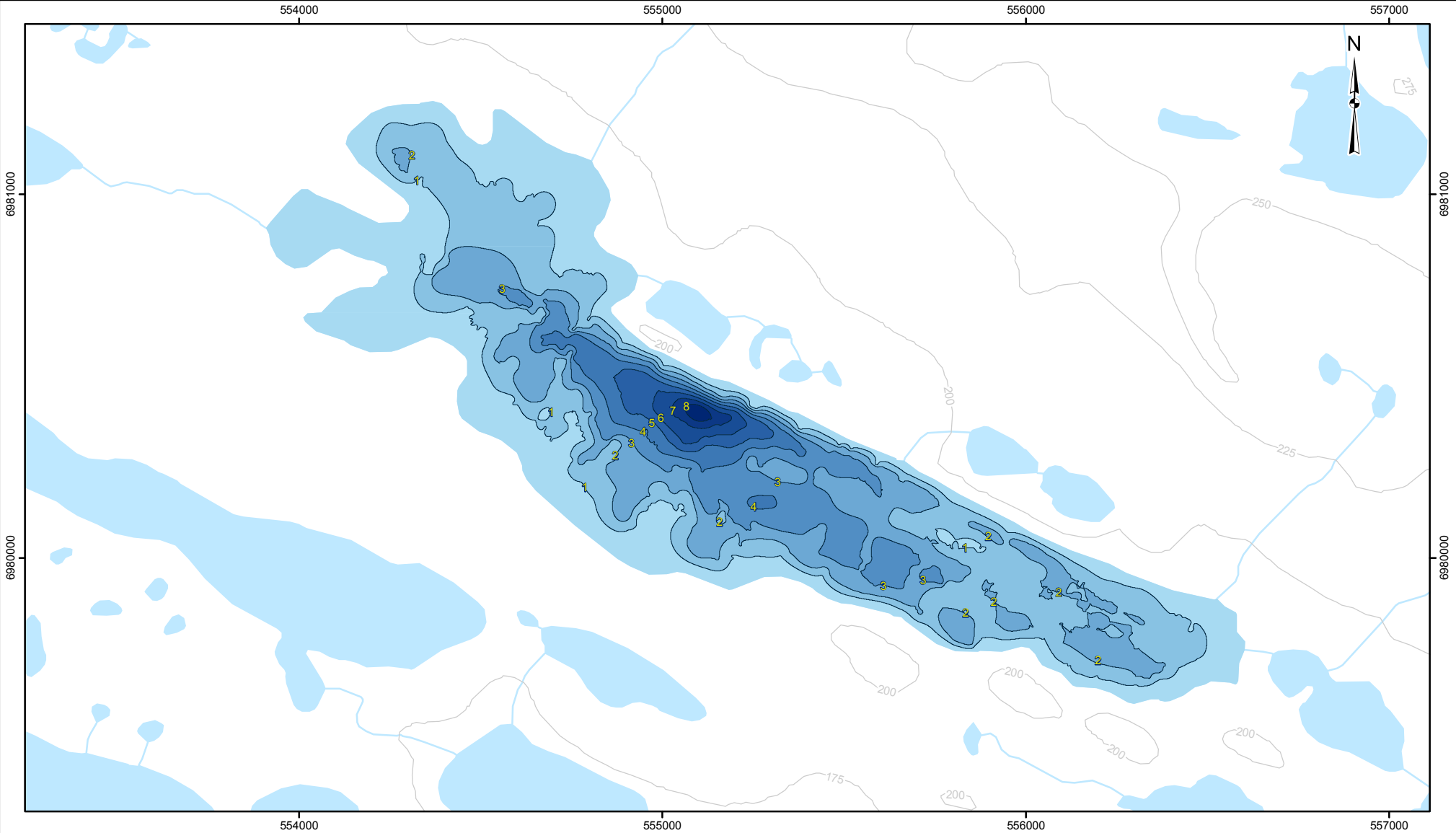
One notable specimen captured was a lake trout that was 942 mm in fork length. This fish was captured during a short (0.5 h) gill net set. The fish was too large

for the balance so its weight (9587 g) was estimated using a length-weight relationship developed for the Meliadine Lake area (RL&L 2001).

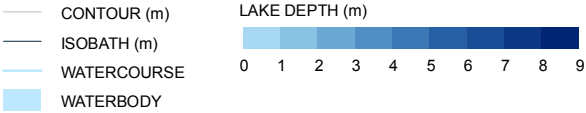
Table 10 Fish Capture Methods, Effort, and Catch for Chickenhead Lake, August 2008.

| Method | Effort | Species | Number Captured | Size Range (mm) | CPUE |
|-----------------|-------------|---------|-----------------|-----------------|------------------|
| Arctic fyke net | 42.3 trap-h | ARGR | 10 | 235 to 402 | 0.24 fish/trap-h |
| | | BURB | 1 | 335 | 0.02 fish/trap-h |
| | | LKTR | 4 | 245 to 457 | 0.09 fish/trap-h |
| Gill net | 54 net-h | ARGR | 2 | 168 to 379 | 0.04 fish/net-h |
| | | LKTR | 13 | 172 to 942 | 0.24 fish/net-h |

Note: h= hours; mm= millimetres; CPUE= catch per unit effort



LEGEND

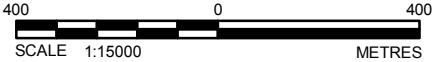



NOTE

Bathymetric point data collected by Golder Associates Ltd, August, 2008.
Maximum Recorded Depth: 8.9 m

REFERENCE

Data obtained from Government of Canada, Natural Resources Canada, Centre for Topographic Information (1:50,000).
Projection: UTM Zone 15 Datum: NAD 83



| | | | | | |
|--|--------------------------|-------------------------------------|--------------|----------------|------------------|
| PROJECT | | COMAPLEX MINERALS MELIADINE WEST | | | |
| TITLE | | CHICKENHEAD LAKE BATHYMETRY | | | |
|  Golder Associates Edmonton, Alberta | PROJECT NO. 07-1373-0055 | | | SCALE AS SHOWN | REV. 0 |
| | DESIGN | DC | 21 Aug. 2008 | | FIGURE: 9 |
| | GIS | CP | 22 Oct. 2008 | | |
| | CHECK | JP | 20 Nov. 2008 | | |
| | REVIEW | LY | 20 Nov. 2008 | | |

4.4 SUMMARY

Habitat quality within Lake B6, Lake B7, and Chickenhead Lake was favourable for supporting populations of sport and forage fish. Each of the lakes had sufficient size, depth, and cover to support all life-stages for the species known to inhabit the area. Therefore, habitat potential for movement, spawning, rearing, and overwintering was rated high for all three lakes. The habitat in Lake A52 was of lower quality. Although Lake A52 had the capacity to support populations of forage fish, it appeared unlikely that it could support sportfish species such as Arctic grayling.

Overall, ninespine stickleback was the most commonly captured species, followed by Arctic grayling, cisco, lake trout and burbot. Over 500 ninespine stickleback were captured in Lake A52, demonstrating its importance to forage fish in the area. Juvenile ninespine stickleback were observed, indicating that reproduction was occurring in the lake. The perimeter of the lake was investigated but no defined inflows or outflows were documented. Therefore, given the number and size range (juveniles observed) of fish captured and observed, it may be possible for Lake A52 to support ninespine stickleback through some years. Should the lake freeze to bottom, fish likely repopulate the lake during spring run-off when connectivity to nearby waterbodies is restored.

Lake B7 was inhabited by numerous Arctic grayling (population estimated at 1,345 fish) and may serve as an important source of dispersal for Arctic grayling in the surrounding area, depending on the water levels of connecting streams. A wide range of size-classes were captured, indicating good recruitment. In Lake B6 (downstream of Lake B7) only one Arctic grayling was captured, mainly due to lower sampling effort relative to Lake B7. Lake B6 is likely an important rearing area for Arctic grayling that were documented to spawn in the inflow and outflow streams (RL&L 1998, 1999).

Cisco were captured only in lakes B6 and B7. Lake B7 individuals ($n=19$) ranged from 152 to 302 mm in fork length, whereas B6 individuals ($n=3$) were 172 to 178 mm in length. The narrow size range recorded for cisco in Lake B6 is likely due to the schooling behavior of the juvenile fish of this species.

Lake trout were captured only in Chickenhead Lake. The wide size distribution (172 to 942 mm in fork length) was suggestive of a population ranging from juvenile to 30+ years in age. Because lake trout were not captured in any of the headwater lakes of Basins A and B in the Meliadine Lake watershed during the present or previous studies (RL&L 1998, 1999, 2000), the presence of this species in Chickenhead Lake was somewhat surprising and suggested that the upper Atulik River basin may have different characteristics than the upper Meliadine River drainage.

5 CONCLUSION

Aquatic investigations were carried out at 13 watercourses along the proposed road corridors, as well as in 37 ponds and four lakes located near the proposed mine areas. Three proposed road crossings and one lake were located within the Discovery area, whereas the remaining waterbodies fell within the Meliadine West area. Fish presence was confirmed (either by captures or observations) in all four lakes, 9 of the 13 streams, and 13 of the 37 ponds studied. Using a variety of methods, fish were captured in four lakes, six streams, and eight ponds. In total, 1060 fish were captured, of which 479 were measured (Table 11).

Table 11 Fish Captured at All Studied Sites within the Meliadine West Gold Project Area, Jun-Aug 2008

| Method | Species | Number Captured | Size Range (mm) |
|----------------|---------|------------------|-----------------|
| EF, MT, FN | NNST | 698 ^a | 28 to 82 |
| EF, MT, FN, GN | ARGR | 317 ^b | 48 to 402 |
| GN, FN | CISC | 22 | 152 to 302 |
| GN, FN | LKTR | 17 | 172 to 942 |
| FN | BURB | 3 | 273 to 335 |
| EF | SLSC | 3 | 69 to 94 |

a 118 NNST were measured.

b 316 ARGR were measured.

Note: EF= electrofishing; MT= minnow traps; FN= fyke net; GN= gill net; mm= millimetres

5.1 ROAD CROSSING ASSESSMENTS

The 13 watercourses investigated were somewhat diverse in depth, instream cover, habitat potential for fish, and fish presence. For example, flow and habitat quality ranged from non-existent (e.g., dry conditions at Site M6.7) to profuse, at sites such as M2.1 (Meliadine River). Fish populations were dominated by small-bodied individuals (ninespine stickleback, juvenile Arctic grayling, slimy sculpin), and habitat quality was poor to moderate at most sites. Moderate to high quality habitat was present at five locations (Sites M5.0, M2.1, D5.8, M23.7, and M11.5), which corresponded to the capture of forage fish and juvenile Arctic grayling. The Meliadine River (Site M2.1) had the greatest potential to support multiple life stages of fish of all sites investigated, but high flow conditions prevented the site from being sampled and investigated effectively.

5.2 POND ASSESSMENTS

The 37 studied ponds exhibited similar characteristics, including depth, temperature, substrate, and habitat potential for fish use. Ponds were

predominantly shallow, warm, had substrates dominated by fines, and contained poor to moderate fish habitat. Where fish were present, ninespine stickleback was the dominant species. Eleven of the ponds where fish were not found contained moderate to high habitat quality. In contrast, habitat quality was rated low to moderate in 13 of the 37 ponds where fish presence was confirmed. This discrepancy between fish presence and habitat quality can be resolved when connectivity and proximity to fish bearing waterbodies is taken into consideration. Ponds in close proximity to waterbodies known to be inhabited by fish (e.g., Meliadine Lake) have a higher probability of containing fish, regardless of habitat potential.

5.3 LAKE ASSESSMENTS

All four lakes investigated supported fish populations and three lakes (B6, B7, and Chickenhead) were rated as excellent with regards to fish habitat potential. In contrast, Lake A52 had lower quality habitat and was inhabited by ninespine stickleback only. Lake B7 contained a large number of Arctic grayling (estimated at 1,345 fish) and much smaller numbers of cisco, burbot and ninespine stickleback. Lake B6 also contained Arctic grayling, cisco, and ninespine stickleback. The presence of previously documented Arctic grayling spawning areas in the stream connecting lakes B6 and B7 suggested that both lakes are used for juvenile rearing and adult holding/feeding of this species. Chickenhead Lake supported sportfish species including Arctic grayling, lake trout and burbot; ninespine stickleback were not encountered.

6 CLOSURE

We trust the above meets your present requirements. If you have any questions or require additional details, please contact the undersigned.

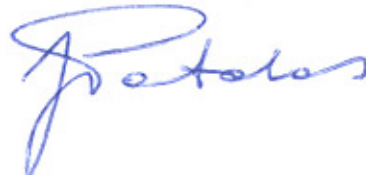
GOLDER ASSOCIATES LTD.

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Report reviewed by:



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Associate, Senior Fisheries Biologist

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APPENDIX A

HABITAT DATA FROM STREAM CROSSINGS IN THE MELIADINE WEST ROAD CORRIDOR

Appendix A. Habitat Data from Stream Crossing Investigations in the Meliadine West Road Corridor, June 2008.

| Parameter | Site M2.1 | | | | Site M3.0 | | | | | | Site M3.9 | | | | | | Site M5.0 | | Site M6.7 | | |
|--------------------------------|-----------|-----|-----|------|-----------|------|------|------|------|------|-----------|------|------|------|------|------|-----------|------|-----------|----|----|
| | R1 | R2 | R3 | R4 | Out | R1 | R2 | R3 | R4 | In | Out | R1 | R2 | R3 | R4 | In | Out | In | R1 | R2 | R3 |
| Stream Size (m) | | | | | | | | | | | | | | | | | | | | | |
| Length Surveyed | 200 | 200 | 200 | 90 | | 50 | 50 | 50 | 50 | | | 50 | 50 | 50 | 50 | 170 | | | 50 | 50 | 50 |
| Mean Channel Width | | | | | 0.8 | 0.2 | 1.5 | 1.9 | 5.0 | 11.2 | | | | 2.5 | 4.1 | 1.2 | | | | | |
| Min Channel Width | | | | | 0.2 | 0.2 | 0.5 | 0.1 | 0.2 | 0.3 | 0.2 | | | 0.8 | 1.9 | 1.0 | 13.9 | | | | |
| Max Channel Width | 122 | 34 | 48 | 134 | 1.4 | 0.9 | 2.5 | 3.6 | 10.0 | 22.0 | 0.8 | | | 4.2 | 6.4 | 3.3 | 55.0 | 28.0 | 11.9 | | |
| Flooded Width | >200 | 58 | 102 | 148 | 22 | 38 | 18 | 16 | 10 | 46 | 12 | 50 | 27 | 66 | 34 | 55 | | | 36 | 26 | 54 |
| Mean Depth | 0.5 | 1.0 | 1.0 | 0.75 | 0.15 | 0.08 | 0.08 | 0.04 | 0.08 | 0.15 | 0.12 | 0.1 | 0.07 | 0.04 | 0.08 | 0.12 | 0.15 | 0.35 | | | |
| Maximum Depth | >1 | >1 | >1 | >1 | 0.18 | 0.19 | 0.12 | 0.16 | 0.15 | 0.22 | 0.42 | 0.12 | 0.1 | 0.11 | 0.15 | 0.17 | 0.26 | 0.58 | | | |
| Channel Type (% Length) | | | | | | | | | | | | | | | | | | | | | |
| Single | 100 | 100 | 100 | 100 | 30 | 30 | 30 | 10 | | | | | 95 | 80 | | | | 100 | | | |
| Double | | | | | | | | | | | | | 5 | | | | | | | | |
| Multiple Braids | | | | | 70 | 40 | 40 | 30 | 15 | | | | | 20 | 50 | | 100 | | 100 | 70 | |
| Dispersed | | | | | | | 30 | | | | 100 | | | | 50 | | | | 100 | | 30 |
| Flooded Banks | | | | | 30 | | | 60 | 85 | | | | | | | | | | | | |
| Habitat Type (% Length) | | | | | | | | | | | | | | | | | | | | | |
| Riffles | 30 | 20 | 10 | 20 | | | 10 | | | | | | | | | | 5 | | | | |
| Runs | 70 | 70 | 70 | 80 | 70 | 45 | 60 | 10 | 15 | | | | 100 | 100 | 40 | | 75 | 100 | | | |
| Pools | | 10 | 20 | | 30 | 55 | 30 | 90 | 85 | | 100 | | | | 60 | | 20 | | | | |
| Substrate (% Area) | | | | | | | | | | | | | | | | | | | | | |
| Detritus | | | | | | 80 | 60 | 90 | 70 | 35 | 90 | 50 | 10 | 5 | 90 | 100 | | 5 | 85 | | |
| Fines (<2 mm) | 10 | 5 | 10 | 5 | | | 30 | 10 | 15 | 10 | | 50 | 90 | 50 | 10 | | 10 | 5 | | 90 | 95 |
| Gravel (2-64 mm) | 20 | 5 | 20 | 5 | 10 | | 10 | | 5 | 5 | | | | 20 | | | 20 | 10 | | 10 | 5 |
| Cobble (65-256 mm) | 30 | 20 | 20 | 20 | 70 | 15 | | | 5 | 25 | | | | 20 | | | 60 | 40 | 5 | | |
| Boulder (>256 mm) | 40 | 70 | 50 | 70 | 20 | 5 | | | 5 | 25 | 10 | | | 5 | | | 10 | 40 | 10 | | |
| Instream Cover (%) | | | | | | | | | | | | | | | | | | | | | |
| Undercut Bank | | | | 10 | | | | | | 70 | 50 | | | | | | | | | | |
| Boulder Gardens | 95 | 100 | 100 | 90 | 90 | 50 | 10 | | | 20 | 20 | | | | | | 80 | 95 | | | |
| Vegetation | 5 | | | | 10 | 50 | 90 | 100 | 100 | 10 | 30 | 100 | | | 100 | 100 | 20 | 5 | | | |

Notes: R1, R2, etc = individual stream sections; Out = outlet from lake/pond; In = inlet to lake/pond

Appendix A. Habitat Data from Stream Crossing Investigations in the Meliadine West Road Corridor, June 2008.

| Parameter | Site M8.6 | | | | | | Site M11.5 | | | | | Site M13.3 | | | | | Site M22.6 | | | | | Site M23.7 | | | |
|--------------------------------|-----------|-----|------|------|------|------|------------|------|------|------|------|------------|------|------|------|------|------------|------|------|------|------|------------|------|------|-----|
| | Out | R1 | R2 | R3 | R4 | In | Out | R1 | R2 | R3 | In | Out | R1 | R2 | R3 | In | Out | R1 | R2 | R3 | In | Out | R1 | R2 | In |
| Stream Size (m) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Length Surveyed | | 30 | 30 | 30 | 30 | 170 | | 100 | 100 | 100 | 80 | | 100 | 100 | 100 | 40 | | 50 | 50 | 50 | 50 | | 50 | 50 | 40 |
| Mean Channel Width | 1.4 | 0.8 | 3.9 | 4.7 | 1.6 | 0.9 | 5.5 | 8.4 | 2.8 | 3.0 | 4.4 | 0.7 | 8.2 | 3.8 | 2.4 | 7.8 | 1.1 | 14.0 | 0.9 | 12.0 | 2.4 | 13.0 | 1.2 | 3.2 | 3.1 |
| Min Channel Width | 0.9 | 0.6 | 0.3 | 0.3 | 0.4 | 0.4 | 0.7 | 0.6 | 0.4 | 0.7 | 0.8 | 0.3 | 0.5 | 0.5 | 1.1 | 1.5 | 0.8 | 0.1 | 0.4 | 10.0 | 1.3 | 10.0 | 1.3 | 1.2 | 0.7 |
| Max Channel Width | 1.8 | 0.9 | 7.5 | 9.0 | 2.8 | 1.3 | 10.2 | 16.0 | 5.2 | 5.3 | 7.9 | 0.8 | 16.0 | 7.0 | 3.7 | 14.0 | 1.4 | 1.1 | 3.2 | 15.0 | 3.5 | 16.0 | 2.2 | 5.2 | 5.4 |
| Flooded Width | 20 | 9 | 12 | 12 | 22 | 16 | 46 | 16 | 16 | 48 | 28 | 0.82 | 3 | 9.5 | 18 | 44 | 12 | 60 | 15 | 25 | 5 | 42 | 42 | 44 | 48 |
| Mean Depth | 0.12 | 0.1 | 0.08 | 0.07 | 0.08 | 0.08 | 0.07 | 0.08 | 0.1 | 0.25 | 0.11 | 0.04 | 0.08 | 0.1 | 0.12 | 0.08 | 0.09 | 0.12 | 0.08 | 0.17 | 0.13 | 0.25 | 0.25 | 0.15 | 0.1 |
| Maximum Depth | 0.21 | 0.2 | 0.16 | 0.19 | 0.2 | 0.22 | 0.25 | 0.18 | 0.26 | 0.42 | 0.29 | 0.13 | 0.15 | 0.59 | 0.21 | 0.21 | 0.18 | 0.21 | 0.13 | 0.41 | 0.22 | 0.49 | 0.43 | 0.25 | 0.3 |
| Channel Type (% Length) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Single | | | | 50 | | | | | 20 | 40 | | | 10 | 80 | 10 | | | 60 | | | | | | | |
| Double | | | | | | | | | 20 | | | | | | | | | | | | | | | | |
| Multiple Braids | | | | | | | 80 | 90 | 40 | 30 | 80 | | 45 | 20 | 30 | | | 70 | | 50 | | 100 | 100 | 100 | |
| Dispersed | | 100 | 100 | 50 | 100 | | 20 | 10 | 20 | 30 | 20 | | 45 | | 60 | | | 20 | 40 | 50 | | | | | |
| Flooded Banks | | | | | | | | | | | | | | | | | | 10 | | | | | | | |
| Habitat Type (% Length) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Riffles | | | | | | | | | 40 | 70 | 20 | | | | | | | | | | | | | | |
| Runs | | | | 5 | 5 | | 80 | 95 | 55 | 20 | 50 | | | 75 | 20 | | | 20 | 60 | 10 | | 100 | 80 | 90 | |
| Pools | | 100 | 100 | 95 | 95 | | 20 | 5 | 5 | 10 | 30 | | 100 | 25 | 80 | | | 80 | 40 | 90 | | | 20 | 10 | |
| Substrate (% Area) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Detritus | 95 | 95 | 95 | 95 | 90 | 80 | 80 | 70 | 85 | 5 | 20 | 80 | 70 | 80 | 70 | 70 | 20 | 60 | 10 | 45 | 10 | | | 10 | 5 |
| Fines (<2 mm) | | | | | | 5 | 20 | 20 | 10 | 5 | 10 | | 30 | 20 | 5 | 10 | | 30 | 10 | 40 | 10 | 5 | 10 | 10 | 5 |
| Gravel (2-64 mm) | | | | | | 5 | | | | 30 | 20 | | | | 5 | | 10 | | 20 | | 10 | 5 | 10 | 10 | 10 |
| Cobble (65-256 mm) | | | | | | | | 5 | | 30 | 20 | | | | 10 | 10 | 10 | 5 | 40 | 5 | 10 | 30 | 40 | 10 | 50 |
| Boulder (>256 mm) | 5 | 5 | 5 | 5 | 10 | 10 | | 5 | 5 | 30 | 30 | 20 | | | 10 | 10 | 60 | 5 | 20 | 10 | 60 | 60 | 40 | 60 | 30 |
| Instream Cover (%) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Undercut Bank | | | | | | | | | | 70 | 40 | 30 | | 70 | | 10 | 10 | 25 | 10 | 5 | 10 | 10 | 10 | 20 | |
| Boulder Gardens | 5 | 5 | | 5 | 15 | 10 | | | 5 | 20 | 40 | 30 | | | 30 | 10 | 70 | 5 | 40 | 5 | 80 | 90 | 70 | 40 | 80 |
| Vegetation | 95 | 95 | 100 | 95 | 85 | 90 | | 100 | 95 | 10 | 20 | 40 | 100 | 30 | 70 | 80 | 20 | 70 | 50 | 90 | 10 | | 20 | 40 | 20 |

Notes: R1, R2, etc = individual stream sections; Out = outlet from lake/pond; In = inlet to lake/pond

APPENDIX B

HABITAT DATA FROM STREAM CROSSINGS IN THE DISCOVERY ROAD CORRIDOR

Appendix B. Habitat Data from Stream Crossing Investigations in the Discovery Road Corridor, June 2008.

| Parameter | Site D1.2 | | | | | | Site D5.8 | | | | Site D6.7 | | | |
|--------------------------------|-----------|------|------|------|------|------|-----------|------|------|------|-----------|------|------|----|
| | Out | R1 | R2 | R3 | R4 | In | Out | R1 | R2 | In | Out | R1 | R2 | R3 |
| Stream Size (m) | | | | | | | | | | | | | | |
| Length Surveyed | 100 | 100 | 100 | 100 | 100 | 100 | 50 | 50 | 50 | 60 | | 30 | 30 | 30 |
| Mean Channel Width | 1.2 | 3.0 | 0.5 | 4.0 | 2.0 | 0.9 | 10.5 | 2.6 | 1.9 | 5.4 | 1.9 | 2.4 | 7.5 | |
| Min Channel Width | 0.6 | 0.9 | 0.4 | 0.7 | 0.5 | 1.8 | 1.4 | 1.4 | 1.2 | 1.5 | 1.1 | 0.9 | 1.2 | |
| Max Channel Width | 1.8 | 40 | 28 | 38 | 25 | 2.5 | 7.9 | 4.2 | 2.7 | 9.3 | 2.6 | 3.9 | 13.7 | |
| Flooded Width | 66 | 60 | 70 | 90 | 32 | 24 | 10.5 | 17.7 | 25.3 | 15.7 | 34 | 21 | 25 | 19 |
| Mean Depth | 0.10 | 0.15 | 0.20 | 0.20 | 0.15 | 0.10 | 0.15 | 0.10 | 0.10 | 0.10 | 0.15 | 0.05 | 0.01 | |
| Maximim Depth | 0.20 | 0.38 | 0.28 | 0.25 | 0.42 | 0.12 | 0.21 | 0.23 | 0.18 | 0.15 | 0.52 | 0.10 | 0.01 | |
| Channel Type (% Length) | | | | | | | | | | | | | | |
| Single | 40 | 40 | 90 | 50 | 90 | | | 10 | 80 | 20 | | | | |
| Double | 10 | | | 30 | | | | | | 10 | | | | |
| Multiple Braids | 40 | 30 | | 5 | | | 95 | 80 | 10 | 50 | | 100 | 100 | |
| Dispersed | 10 | 10 | 5 | 10 | 5 | | 5 | 10 | 10 | 20 | | | | |
| Flooded Banks | | 20 | 5 | 5 | 5 | | | | | | | | | |
| Habitat Type (% Length) | | | | | | | | | | | | | | |
| Riffles | | | | | | | | 10 | 10 | 60 | | | | |
| Runs | 80 | 20 | 70 | 10 | 90 | | 90 | 70 | 80 | | | | | |
| Pools | 20 | 80 | 30 | 90 | 10 | | 10 | 20 | 10 | 40 | | 100 | 100 | |
| Substrate (% Area) | | | | | | | | | | | | | | |
| Detritus | 60 | 70 | 90 | 90 | 95 | 90 | | 5 | 5 | 50 | 10 | 90 | 10 | |
| Fines (<2 mm) | 10 | 20 | 5 | 10 | 5 | 10 | 10 | 10 | 5 | 10 | 10 | | | |
| Gravel (2-64 mm) | 5 | 5 | | | | | 20 | 20 | 10 | 20 | | | 10 | |
| Cobble (65-256 mm) | 15 | 5 | | | | | 30 | 60 | 80 | 10 | | | 20 | |
| Boulder (>256 mm) | 10 | | 5 | | | | 40 | 5 | | 10 | 80 | 10 | 60 | |
| Instream Cover (%) | | | | | | | | | | | | | | |
| Undercut Bank | | | | | | | | 40 | 40 | | | | | |
| Boulder Gardens | 5 | | | | 5 | | 90 | 40 | 40 | 30 | 60 | | 90 | |
| Vegetation | 95 | 100 | 100 | 100 | 95 | 100 | 10 | 20 | 20 | 70 | 40 | 100 | 10 | |

Notes: R1, R2, etc = individual stream sections; Out = outlet from lake/pond; In = inlet to lake/pond

APPENDIX C

HABITAT SUMMARIES AND PHOTOS OF STREAM CROSSING SITES



Photo 459 - Juvenile Arctic grayling (FL: 48 mm).



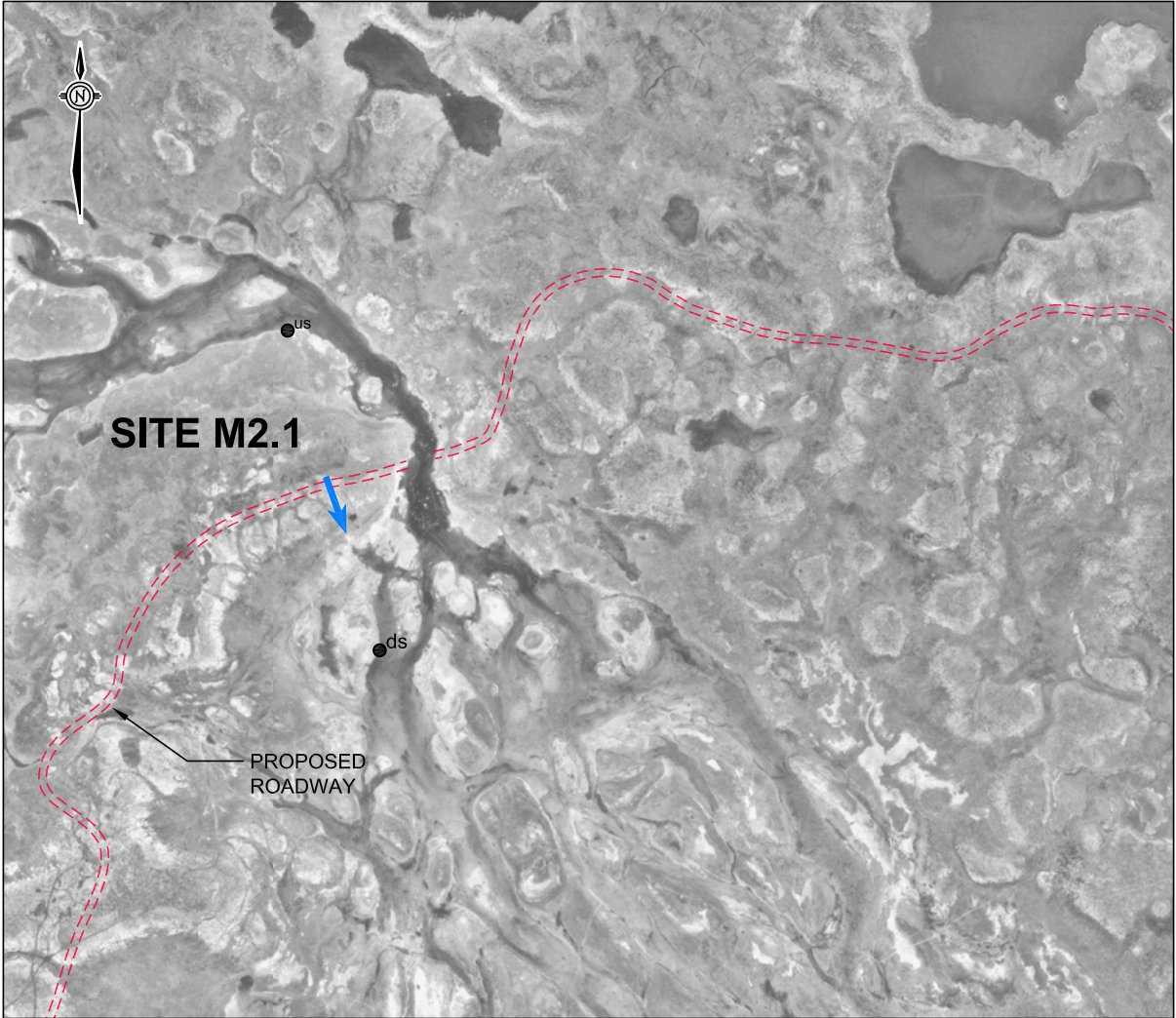
Photo 462 - Upstream view 200 m upstream from proposed crossing location.



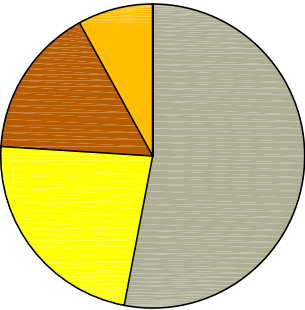
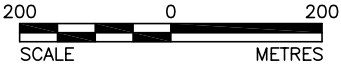
Photo 467 - Upstream view from 400 m upstream from proposed crossing location.



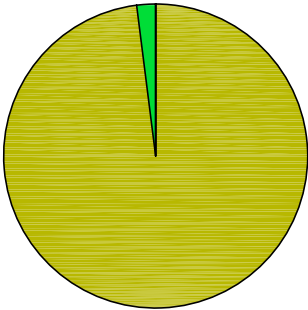
Photo 474 - Downstream view from 690 m upstream from proposed crossing location.



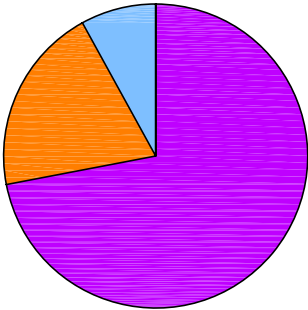
REFERENCE
IMAGE OBTAINED FROM COMAPLEX MINERALS CORPORATION. PROJECTION:
TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15



SUBSTRATE
DETritus
FINES
GRAVEL
COBBLE
BOULDER



INSTREAM COVER
VEGETATION
BOULDER GARDENS
UNDERCUT BANKS



HABITAT TYPE
RIFFLES
RUNS
POOLS

Site M2.1
Date of Survey: June 20, 2008


Upstream UTM: 544595 E, 6971835 N
Downstream UTM: 544731, E 6971455 N

| Water Quality: | |
|----------------|---------------|
| Time | 08:30 |
| Temperature | 3.0 °C |
| Conductivity | N/A |
| pH | N/A |
| DO | 10 to 12 mg/L |

| Channel: | |
|------------------------|---------|
| Stream length surveyed | 690.0 m |
| Mean channel width | N/A |
| Mean flooded width | 120.0 m |
| Discharge | N/A |

| Fish Captured / Observed: | | | |
|---------------------------|-------------|-----------------|---------|
| Method | Capture (n) | Size range (mm) | Effort |
| E-fishing | ARGR (1) | 48 | 557 s |
| Observations | NNST (2) | <100 | — |
| Egg sampling | — | — | 4 kicks |

* N/A = Not Assessed

| | | | | | |
|---|---------------------------|--|----------|------------------|----------|
| PROJECT | | COMAPLEX MELIADINE WEST GOLD PROJECT | | | |
| TITLE | | AQUATIC HABITAT SUMMARY FOR SITE M2.1 | | | |
|  | PROJECT 07.1373.0055.4000 | | | FILE No. 1732934 | |
| | DESIGN | RP | 30/09/08 | SCALE | AS SHOWN |
| | CADD | FN | 21/10/08 | REV. | 0 |
| | CHECK | RP | 20/11/08 | FIGURE: C1 | |
| | REVIEW | JP | 20/11/08 | | |

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Photo 497 - Downstream view from lake outlet.



Photo 485 - Downstream view from downstream end of study section.



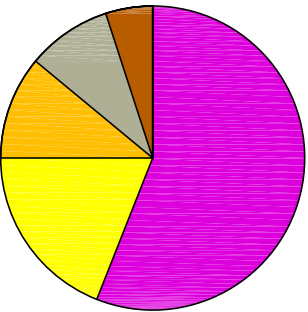
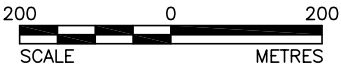
Photo 489 - Downstream view from 100 m upstream from proposed crossing location.



Photo 494 - Upstream view from proposed crossing location.

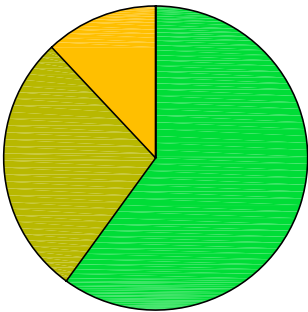


REFERENCE
IMAGE OBTAINED FROM COMPLEX MINERALS CORPORATION. PROJECTION:
TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15



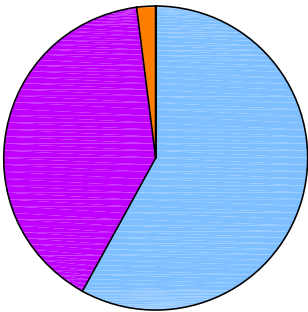
SUBSTRATE

DETRITUS
FINES
GRAVEL
COBBLE
BOULDER



INSTREAM COVER

VEGETATION
BOULDER GARDENS
UNDERCUT BANKS



HABITAT TYPE

RIFFLES
RUNS
POOLS

Site M3.0
Date of Survey: June 20, 2008

Upstream UTM: 545477 E, 6971897 N
Downstream UTM: 545319 E, 6971656 N

Water Quality:

| | |
|--------------|--------------|
| Time | 12:15 |
| Temperature | 11.5°C |
| Conductivity | N/A |
| pH | N/A |
| DO | 8 to 10 mg/L |


Channel:

| | |
|------------------------|---------|
| Stream length surveyed | 400.0 m |
| Mean channel width | 3.4 m |
| Mean flooded width | 7.7 m |
| Discharge | N/A |

Fish Captured / Observed:

| Method | Capture (n) | Size range (mm) | Effort |
|--------------|-------------|-----------------|--------|
| E-fishing | — | — | 211 s |
| Observations | NNST (2) | 60 | — |
| Egg sampling | — | — | — |

* N/A = Not Assessed

| | | | | |
|---|---------------------------|----|----------|------------------|
| PROJECT | | | | |
| COMAPLEX MELIADINE WEST GOLD PROJECT | | | | |
| TITLE | | | | |
| AQUATIC HABITAT SUMMARY FOR SITE M3.0 | | | | |
|  | PROJECT 07.1373.0055.4000 | | | FILE No. 1732935 |
| | DESIGN | RP | 30/09/08 | SCALE AS SHOWN |
| | CADD | FN | 21/10/08 | REV. 0 |
| | CHECK | RP | 20/11/08 | FIGURE: C2 |
| | REVIEW | JP | 20/11/08 | |

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Photo 148 - Upstream view from lake inlet.



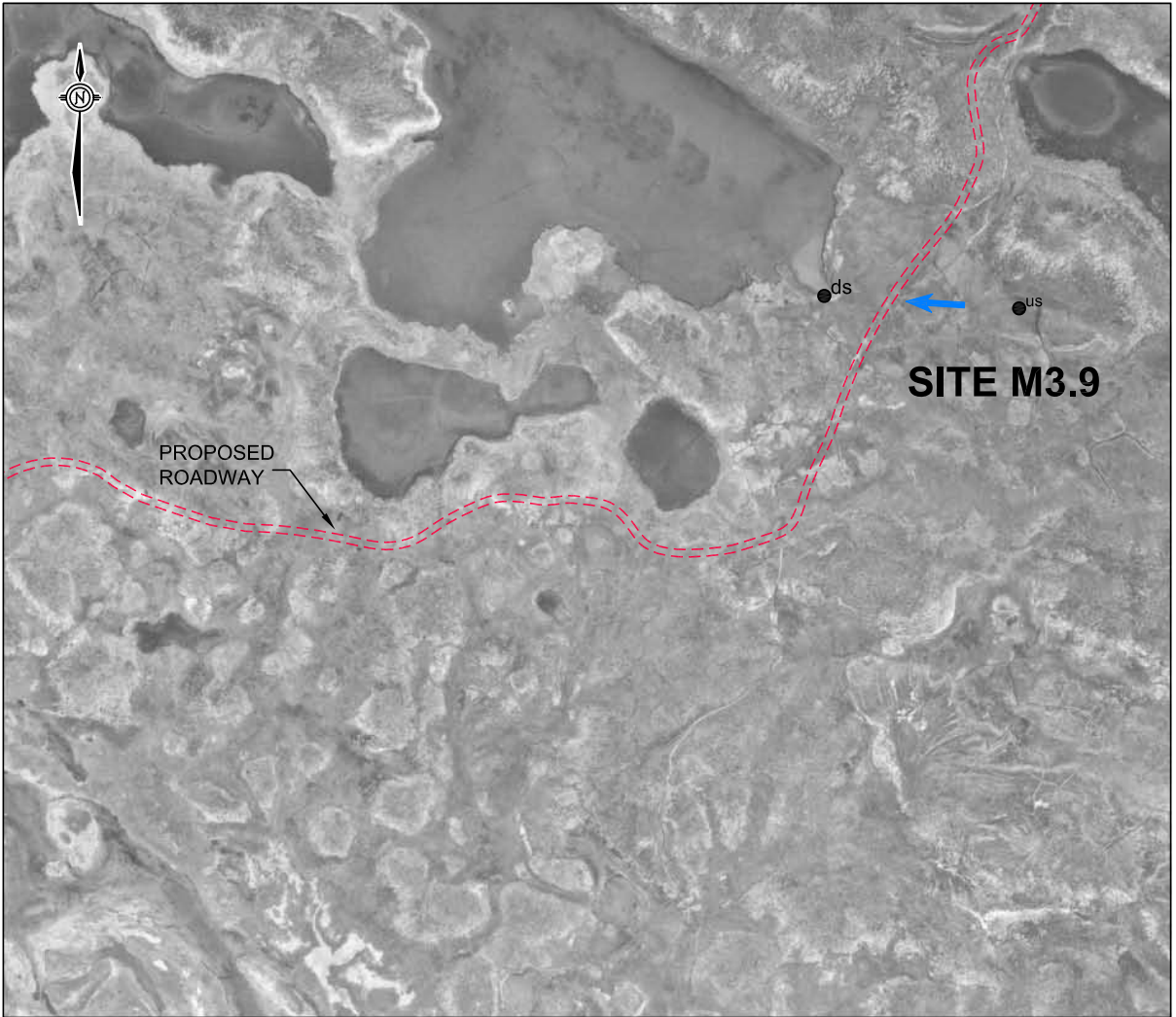
Photo 151 - Upstream view from 100 m upstream from the proposed crossing location.



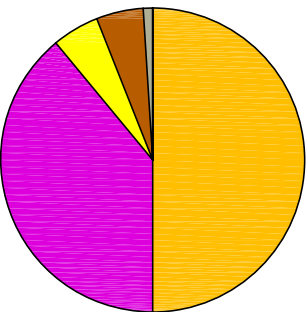
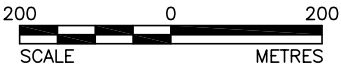
Photo 154 - Downstream view of watercourse and ATV damage 150 m upstream from the proposed crossing location.



Photo 156 - Downstream view from 200 m upstream from proposed crossing location.

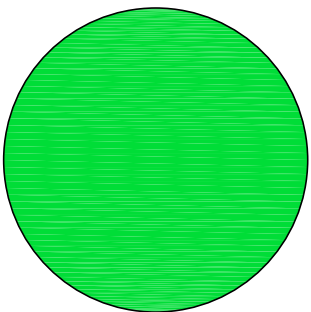


REFERENCE
IMAGE OBTAINED FROM COMAPLEX MINERALS CORPORATION. PROJECTION:
TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15



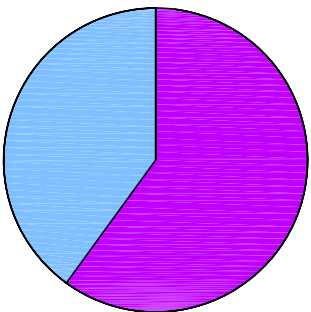
SUBSTRATE

- DETRITUS
- FINES
- GRAVEL
- COBBLE
- BOULDER



INSTREAM COVER

- VEGETATION
- BOULDER GARDENS
- UNDERCUT BANKS



HABITAT TYPE

- RIFFLES
- RUNS
- POOLS

Site M3.9
Date of Survey: June 18, 2008

Upstream UTM: 546349 E, 6972176 N
Downstream UTM: 546084 E, 6972193 N

Water Quality:

| | |
|--------------|-----------|
| Time | 15:45 |
| Temperature | 9.0 °C |
| Conductivity | N/A |
| pH | N/A |
| DO | 8-10 mg/L |

Channel:

| | |
|------------------------|---------|
| Stream length surveyed | 370.0 m |
| Mean channel width | 1.8 m |
| Mean flooded width | 44.3 m |
| Discharge | N/A |

Fish Captured / Observed:

| Method | Capture (n) | Size range (mm) | Effort |
|--------------|-------------|-----------------|--------|
| E-fishing | — | — | 185 s |
| Observations | — | — | — |
| Egg sampling | — | — | — |

* N/A = Not Assessed

PROJECT
COMAPLEX
MELIADINE WEST GOLD PROJECT

TITLE
AQUATIC HABITAT SUMMARY FOR
SITE M3.9



| | | | |
|---------|-------------------|----------|-----------------------|
| PROJECT | 07.1373.0055.4000 | FILE No. | 1732936 |
| DESIGN | RP | 30/09/08 | SCALE AS SHOWN REV. 0 |
| CADD | FN | 21/10/08 | |
| CHECK | RP | 20/11/08 | |
| REVIEW | JP | 20/11/08 | |

FIGURE: C3

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Photo 135 - Ninespine stickleback - note the variation in colouration.



Photo 138 - View of lake outlet and left bank approach.



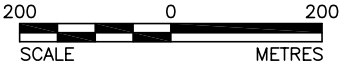
Photo 140 - View of lake inlet.



Photo 141 - View of proposed crossing location.



REFERENCE
IMAGE OBTAINED FROM COMAPLEX MINERALS CORPORATION. PROJECTION:
TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15



Site M5.0
Date of Survey: June 18, 2008

Upstream UTM: 546623 E, 6973136 N
Downstream UTM: 546644 E, 6973126 N

| Water Quality: | |
|----------------|--------------|
| Time | 12:30 |
| Temperature | 11.0°C |
| Conductivity | N/A |
| pH | N/A |
| DO | 8 to 10 mg/L |

| Channel: | |
|------------------------|------------|
| Stream length surveyed | 29.0 m |
| Mean channel width | N/A |
| Mean flooded width | N/A |
| Discharge | 0.034 m³/s |

| Fish Captured / Observed: | | | |
|---------------------------|-------------|-----------------|----------|
| Method | Capture (n) | Size range (mm) | Effort |
| E-fishing | NNST (20) | 34-74 | 293 s |
| Observations | NNST (>200) | 30-40 | — |
| Egg sampling | — | — | 10 kicks |


* N/A = Not Assessed

PROJECT

COMAPLEX
MELIADINE WEST GOLD PROJECT

TITLE

AQUATIC HABITAT SUMMARY FOR
SITE M5.0

**Golder
Associates**
Edmonton, Alberta

| | | | | |
|---------------------------|----|----------|-------------------|--------|
| PROJECT 07.1373.0055.4000 | | | FILE No. 1732937 | |
| DESIGN | RP | 30/09/08 | SCALE AS SHOWN | REV. 0 |
| CADD | FN | 21/10/08 | FIGURE: C4 | |
| CHECK | RP | 20/11/08 | | |
| REVIEW | JP | 20/11/08 | | |

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Photo 118 - Downstream view from 50 m downstream from proposed crossing location.



Photo 121 - Downstream view from left channel from 50 m downstream from proposed crossing location.



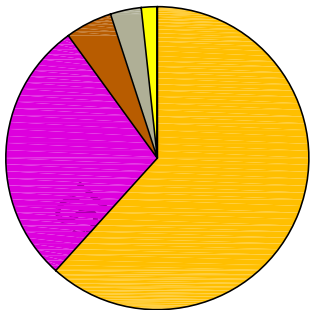
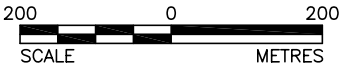
Photo 122 - Upstream view from 150 m downstream from proposed crossing location.



Photo 124 - Upstream view from inlet (200 m downstream from proposed crossing location).



REFERENCE
IMAGE OBTAINED FROM COMAPLEX MINERALS CORPORATION. PROJECTION:
TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15



SUBSTRATE
DETritus
Fines
Gravel
COBBLE
BOULDER

Site M6.7
Date of Survey: June 20, 2008

Upstream UTM: 547336 E, 6974560 N
Downstream UTM: 547457 E, 6974507 N

Water Quality:

| | |
|--------------|-------|
| Time | 10:45 |
| Temperature | DRY |
| Conductivity | DRY |
| pH | DRY |
| DO | DRY |

Channel:

| | |
|------------------------|---------|
| Stream length surveyed | 150.0 m |
| Mean channel width | DRY |
| Mean flooded width | 38.7 m |
| Discharge | DRY |

Fish Captured / Observed:

| Method | Capture (n) | Size range (mm) | Effort |
|--------------|-------------|-----------------|--------|
| E-fishing | — | — | — |
| Observations | — | — | — |
| Egg sampling | — | — | — |

* N/A = Not Assessed

PROJECT
COMAPLEX
MELIADINE WEST GOLD PROJECT

TITLE
**AQUATIC HABITAT SUMMARY FOR
SITE M6.7**



| | | | |
|---------|-------------------|----------|----------------|
| PROJECT | 07.1373.0055.4000 | FILE No. | 1732938 |
| DESIGN | RP | 30/09/08 | SCALE AS SHOWN |
| CADD | FN | 21/10/08 | REV. 0 |
| CHECK | RP | 20/11/08 | |
| REVIEW | JP | 20/11/08 | |

FIGURE: C5



Photo 095 - Upstream view 30 m upstream from outlet.



Photo 100 - Downstream view 90 m upstream from outlet.



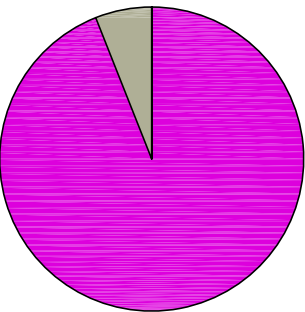
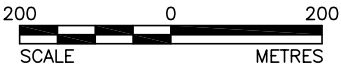
Photo 102 - Downstream view 120 m upstream from outlet.



Photo 109 - Upstream view of watercourse inlet/lake outlet (secondary channel).

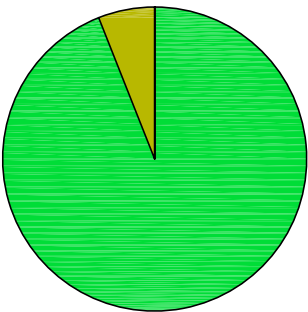


REFERENCE
IMAGE OBTAINED FROM COMAPLEX MINERALS CORPORATION. PROJECTION:
TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15



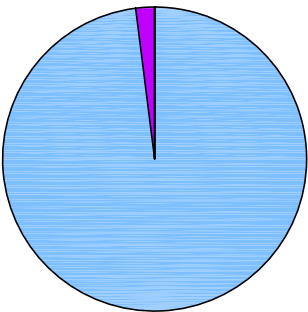
SUBSTRATE

- DETRITUS
- FINES
- GRAVEL
- COBBLE
- BOULDER



INSTREAM COVER

- VEGETATION
- BOULDER GARDENS
- UNDERCUT BANKS



HABITAT TYPE

- RIFFLES
- RUNS
- POOLS

Site M8.6
Date of Survey: June 18, 2008

Upstream UTM: 547855 E, 6975854 N
Downstream UTM: 547990 E, 6975857 N

Water Quality:

| | |
|--------------|---------------|
| Time | 07.30 |
| Temperature | 10.0°C |
| Conductivity | 66.9 µS/cm |
| pH | 7.8 |
| DO | 10 to 12 mg/L |

Channel:

| | |
|------------------------|---------|
| Stream length surveyed | 310.0 m |
| Mean channel width | 2.7 m |
| Mean flooded width | 13.8 m |
| Discharge | N/A |

Fish Captured / Observed:

| Method | Capture (n) | Size range (mm) | Effort |
|--------------|-------------|-----------------|--------|
| E-fishing | — | — | 262 s |
| Observations | — | — | — |
| Egg sampling | — | — | 1 kick |

* N/A = Not Assessed

PROJECT
COMAPLEX
MELIADINE WEST GOLD PROJECT

TITLE
**AQUATIC HABITAT SUMMARY FOR
SITE M8.6**



| | | | |
|---------|-------------------|----------|----------------|
| PROJECT | 07.1373.0055.4000 | FILE No. | 1732939 |
| DESIGN | RP | 30/09/08 | SCALE AS SHOWN |
| CADD | FN | 21/10/08 | REV. 0 |
| CHECK | RP | 20/11/08 | |
| REVIEW | JP | 20/11/08 | |

FIGURE: C6

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Photo 221 - Juvenile Arctic grayling (FL: 89 mm).



Photo 230 - Upslope view from proposed crossing location.



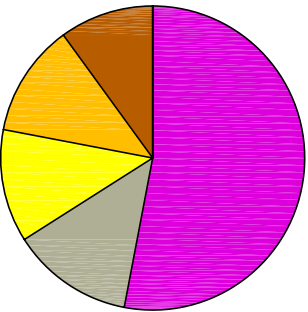
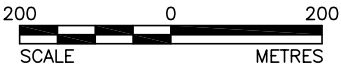
Photo 233 - View of dispersed flow 100 m upstream from the proposed crossing location.



Photo 237 - Downstream view from 300 m upstream from the proposed crossing location.

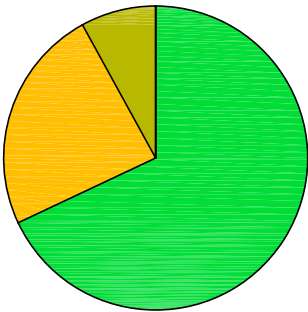


REFERENCE
IMAGE OBTAINED FROM COMAPLEX MINERALS CORPORATION. PROJECTION:
TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15



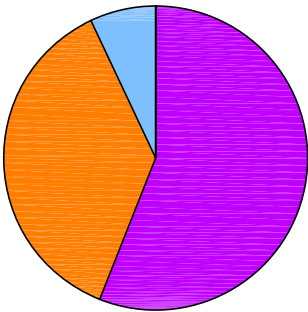
SUBSTRATE

- DETRITUS
- FINES
- GRAVEL
- COBBLE
- BOULDER



INSTREAM COVER

- VEGETATION
- BOULDER GARDENS
- UNDERCUT BANKS



HABITAT TYPE

- RIFFLES
- RUNS
- POOLS

Site M11.5
Date of Survey: June 19, 2008

Upstream UTM: 547466 E, 6978319 N
Downstream UTM: 547377 E, 6978002 N

Water Quality:

| | |
|--------------|--------------|
| Time | 16:15 |
| Temperature | 15.0°C |
| Conductivity | N/A |
| pH | N/A |
| DO | 8 to 10 mg/L |

Channel:

| | |
|------------------------|-----------|
| Stream length surveyed | 380.0 m |
| Mean channel width | 4.7 m |
| Mean flooded width | 26.7 m |
| Discharge | 2.56 m³/s |

Fish Captured / Observed:

| Method | Capture (n) | Size range (mm) | Effort |
|--------------|-----------------------|-----------------|---------|
| E-fishing | NNST (18) ARGR (1) | 32-67 89 | 520 s |
| Observations | NNST (20) ARGR (5) | <200 10-60 | — |
| Egg sampling | — | — | 6 kicks |

* N/A = Not Assessed

PROJECT
COMAPLEX
MELIADINE WEST GOLD PROJECT

TITLE
AQUATIC HABITAT SUMMARY FOR
SITE M11.5



| | | | |
|---------|-------------------|----------|-----------------------|
| PROJECT | 07.1373.0055.4000 | FILE No. | 1732940 |
| DESIGN | RP | 30/09/08 | SCALE AS SHOWN REV. 0 |
| CADD | FN | 21/10/08 | |
| CHECK | RP | 20/11/08 | |
| REVIEW | JP | 20/11/08 | |

FIGURE: C7



Photo 201 - Downstream view from 100 m upstream from proposed crossing (ATV damage in foreground).



Photo 207 - Upstream view from 200 m upstream from proposed crossing location.



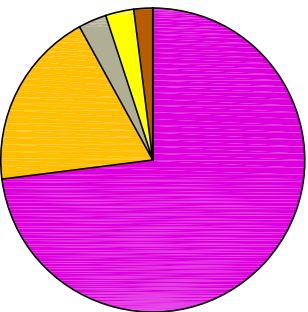
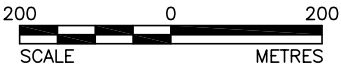
Photo 208 - Downstream view from 200 m downstream from proposed crossing location.



Photo 210 - Downstream view from 300 m upstream from proposed crossing location.

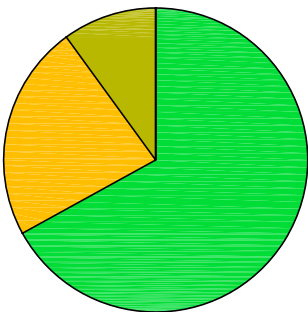


REFERENCE
IMAGE OBTAINED FROM COMAPLEX MINERALS CORPORATION. PROJECTION:
TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15



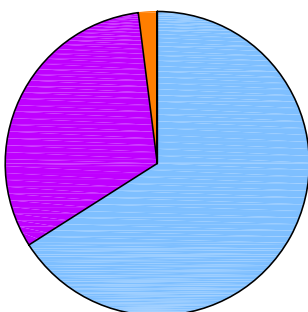
SUBSTRATE

- DETRITUS
- FINES
- GRAVEL
- COBBLE
- BOULDER



INSTREAM COVER

- VEGETATION
- BOULDER GARDENS
- UNDERCUT BANKS



HABITAT TYPE

- DEEPER THAN 5 m
- RUNS
- POOLS

Site M13.3
Date of Survey: June 19, 2008

Upstream UTM: 546338 E, 6979514 N
Downstream UTM: 546073 E, 6979553 N

Water Quality:

| | |
|--------------|--------------|
| Time | 13:30 |
| Temperature | 15.0°C |
| Conductivity | N/A |
| pH | N/A |
| DO | 8 to 10 mg/L |

Channel:

| | |
|------------------------|---------|
| Stream length surveyed | 340.0 m |
| Mean channel width | 4.8 m |
| Mean flooded width | 10.2 m |
| Discharge | N/A |

Fish Captured / Observed:

| Method | Capture (n) | Size range | Effort |
|--------------|-------------|------------|--------|
| E-fishing | — | — | 222 s |
| Observations | NNST (10) | <100 mm | — |
| Egg sampling | — | — | — |

* N/A = Not Assessed

| | | | | |
|--|---------------------------|----|------------------|----------------|
| PROJECT COMAPLEX MELIADINE WEST GOLD PROJECT | | | | |
| TITLE AQUATIC HABITAT SUMMARY FOR SITE M13.3 | | | | |
| | PROJECT 07.1373.0055.4000 | | FILE No. 1732941 | |
| | DESIGN | RP | 30/09/08 | SCALE AS SHOWN |
| | CADD | FN | 21/10/08 | REV. 0 |
| | CHECK | RP | 20/11/08 | FIGURE: C8 |
| | REVIEW | JP | 20/11/08 | |



Photo 060 - Downstream view from 50 m upstream from watercourse outlet.



Photo 061 - Upstream view from 50 m upstream from watercourse outlet.



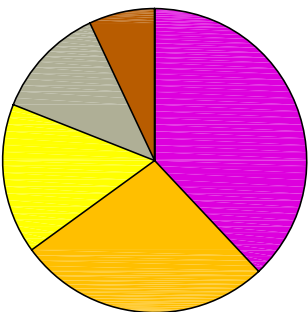
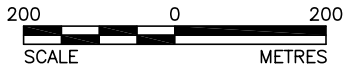
Photo 063 - Downstream view from 100 m upstream from watercourse outlet.



Photo 067 - View of ponded water and proposed left bank approach.

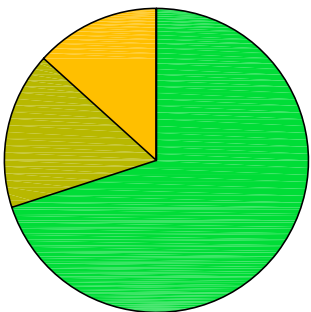


REFERENCE
IMAGE OBTAINED FROM COMAPLEX MINERALS CORPORATION. PROJECTION:
TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15



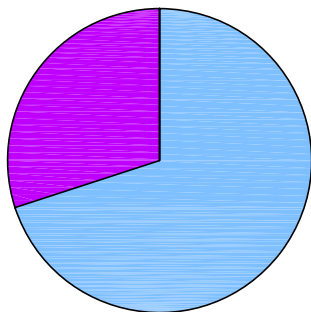
SUBSTRATE

- DETRITUS
- FINES
- GRAVEL
- COBBLE
- BOULDER



INSTREAM COVER

- VEGETATION
- BOULDER GARDENS
- UNDERCUT BANKS



HABITAT TYPE

- RIFFLES
- RUNS
- POOLS

Site M22.6
Date of Survey: June 17, 2008

Upstream UTM: 541223 E, 6985481 N
Downstream UTM: 541281, E 6985602 N

Water Quality:

| | |
|--------------|------------|
| Time | 09:30 |
| Temperature | 9.6°C |
| Conductivity | 63.6 µS/cm |
| pH | 7.5 |
| DO | 9-10 mg/L |

Channel:

| | |
|------------------------|---------|
| Stream length surveyed | 180.0 m |
| Mean channel width | 9.0 m |
| Mean flooded width | 33.3 m |
| Discharge | N/A |

Fish Captured / Observed:

| Method | Capture (n) | Size range (mm) | Effort |
|--------------|-------------|-----------------|--------|
| E-fishing | NNST (2) | 28-68 | 398 s |
| Observations | NNST (25) | <100 | — |
| Egg sampling | — | — | — |

* N/A = Not Assessed

PROJECT
COMAPLEX
MELIADINE WEST GOLD PROJECT

TITLE
**AQUATIC HABITAT SUMMARY FOR
SITE M22.6**



| | | | |
|---------|-------------------|----------|-----------------------|
| PROJECT | 07.1373.0055.4000 | FILE No. | 1732942 |
| DESIGN | RP | 30/09/08 | SCALE AS SHOWN REV. 0 |
| CADD | FN | 21/10/08 | |
| CHECK | RP | 20/11/08 | |
| REVIEW | JP | 20/11/08 | |

FIGURE: C9



Photo 034 - Slimy sculpin.



Photo 045 - Upstream view of single channel from 50 m upstream from proposed crossing.



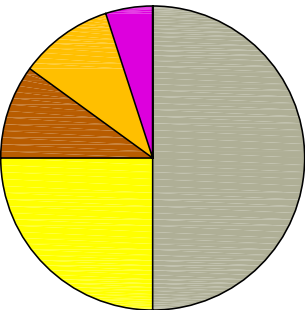
Photo 047 - Upstream view from 100 m upstream from proposed crossing location.



Photo 048 - Downstream view from 100 m upstream from proposed crossing location.

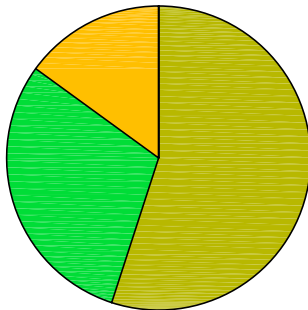


REFERENCE
IMAGE OBTAINED FROM COMAPLEX MINERALS CORPORATION. PROJECTION:
TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15



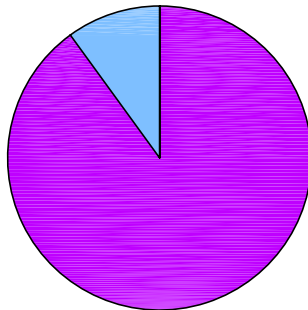
SUBSTRATE

- DETRITUS
- FINES
- GRAVEL
- COBBLE
- BOULDER



INSTREAM COVER

- VEGETATION
- BOULDER GARDENS
- UNDERCUT BANKS



HABITAT TYPE

- RIFFLES
- RUNS
- POOLS

Site M23.7
Date of Survey: June 17, 2008

Upstream UTM: 541133 E, 6986401 N
Downstream UTM: 541192 E, 6986312 N

Water Quality:

| | |
|--------------|--------------|
| Time | 12:30 |
| Temperature | 12.4°C |
| Conductivity | 119.9 µS/cm |
| pH | 7.7 |
| DO | 10 - 12 mg/L |

Channel:

| | |
|------------------------|---------|
| Stream length surveyed | 140.0 m |
| Mean channel width | 2.2 m |
| Mean flooded width | 43.0 m |
| Discharge | N/A |

Fish Captured / Observed:

| Method | Capture (n) | Size range (mm) | Effort |
|--------------|----------------------|-----------------|--------|
| E-fishing | NNST (18) SLSC(3) | 38-67 69-94 | 409 s |
| Observations | ARGR (1) | 250 | — |
| Egg sampling | — | — | — |

* N/A = Not Assessed

PROJECT
COMAPLEX
MELIADINE WEST GOLD PROJECT

TITLE
**AQUATIC HABITAT SUMMARY FOR
SITE M23.7**



| | | | |
|---------|-------------------|----------|----------------|
| PROJECT | 07.1373.0055.4000 | FILE No. | 1732943 |
| DESIGN | RP | 30/09/08 | SCALE AS SHOWN |
| CADD | FN | 21/10/08 | REV. 0 |
| CHECK | RP | 20/11/08 | |
| REVIEW | JP | 20/11/08 | |

FIGURE: C10



Photo 513 - Downstream view from 100 m upstream from proposed crossing location.



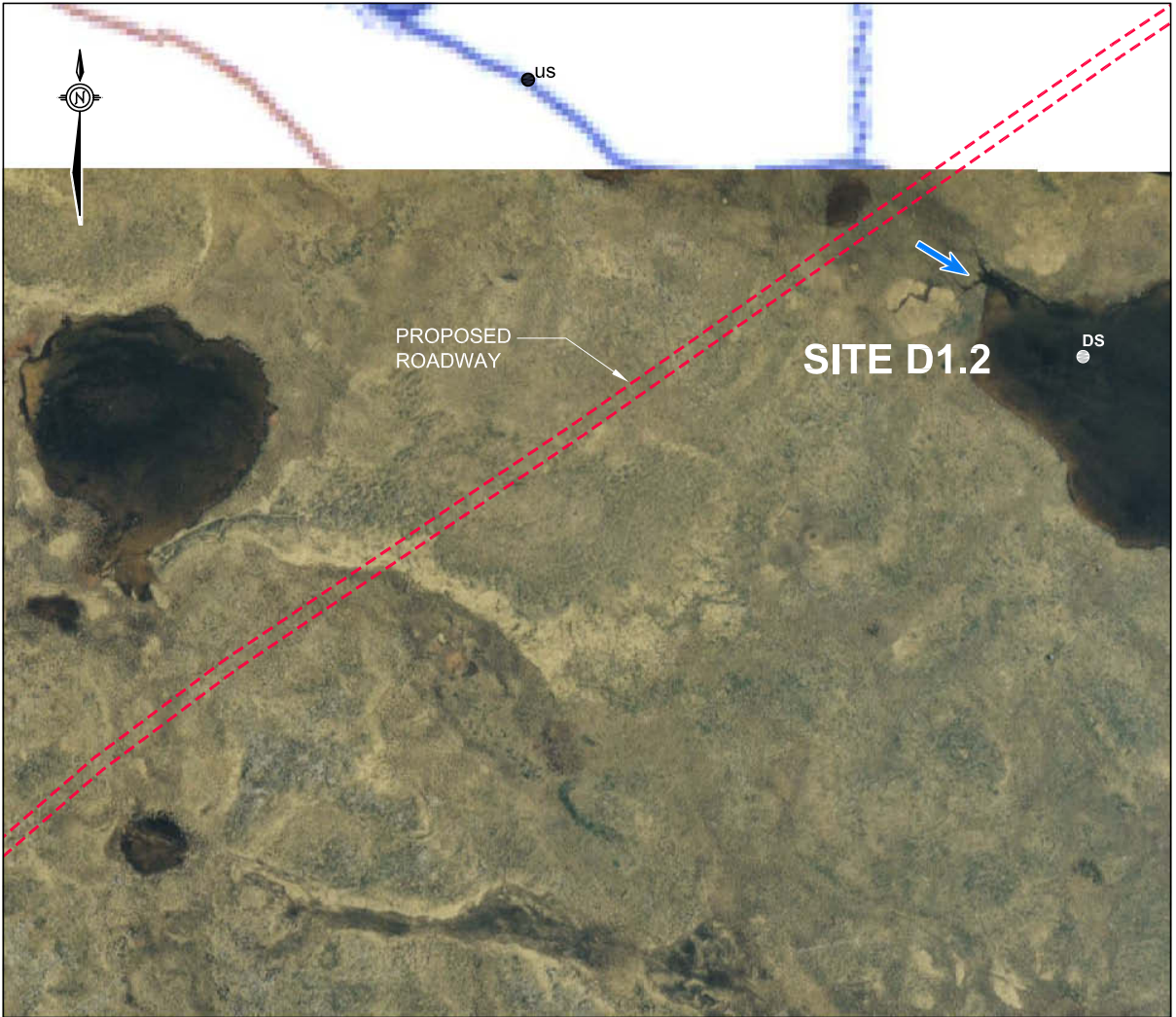
Photo 514 - Upstream view from 200 m upstream from proposed crossing location.



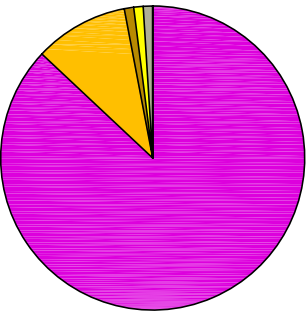
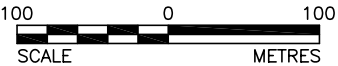
Photo 515 - Downstream view from 200 m upstream from proposed crossing location.



Photo 516 - Upstream view of ponded water 300 m upstream from proposed crossing location.

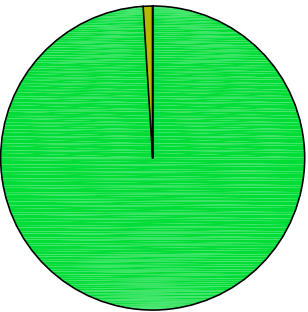


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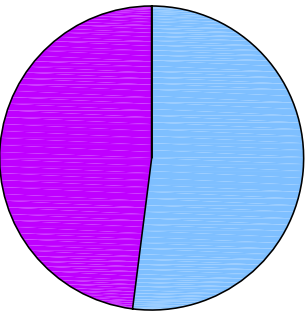
SUBSTRATE

- DETRITUS
- FINES
- GRAVEL
- COBBLE
- BOULDER



INSTREAM COVER

- VEGETATION
- BOULDER GARDENS
- UNDERCUT BANKS



HABITAT TYPE

- RIFFLES
- RUNS
- POOLS

Site D1.2
Date of Survey: June 20, 2008

Upstream UTM: 546835 E, 6981369 N
Downstream UTM: 547190, E 6981152 N

Water Quality:

| | |
|--------------|-------------|
| Time | 14:45 |
| Temperature | 20°C |
| Conductivity | N/A |
| pH | N/A |
| DO | 6 to 8 mg/L |

Channel:

| | |
|------------------------|---------|
| Stream length surveyed | 530.0 m |
| Mean channel width | 2.4 m |
| Mean flooded width | 63.0 m |
| Discharge | N/A |

Fish Captured / Observed:

| Method | Capture (n) | Size range (mm) | Effort |
|--------------|-------------|-----------------|--------|
| E-fishing | — | — | 211 s |
| Observations | NNST (2) | 60-80 | — |
| Egg sampling | — | — | — |

* N/A = Not Assessed

PROJECT
COMAPLEX
MELIADINE WEST GOLD PROJECT

TITLE
AQUATIC HABITAT SUMMARY FOR
SITE D1.2



| | | | |
|---------|-------------------|----------|-----------------------|
| PROJECT | 07.1373.0055.4000 | FILE No. | 1732944 |
| DESIGN | RP | 30/09/08 | SCALE AS SHOWN REV. 0 |
| CADD | FN | 21/10/08 | |
| CHECK | RP | 20/11/08 | |
| REVIEW | JP | 20/11/08 | |

FIGURE: C11



Photo 839 - Juvenile Arctic grayling (FL: 127 mm).



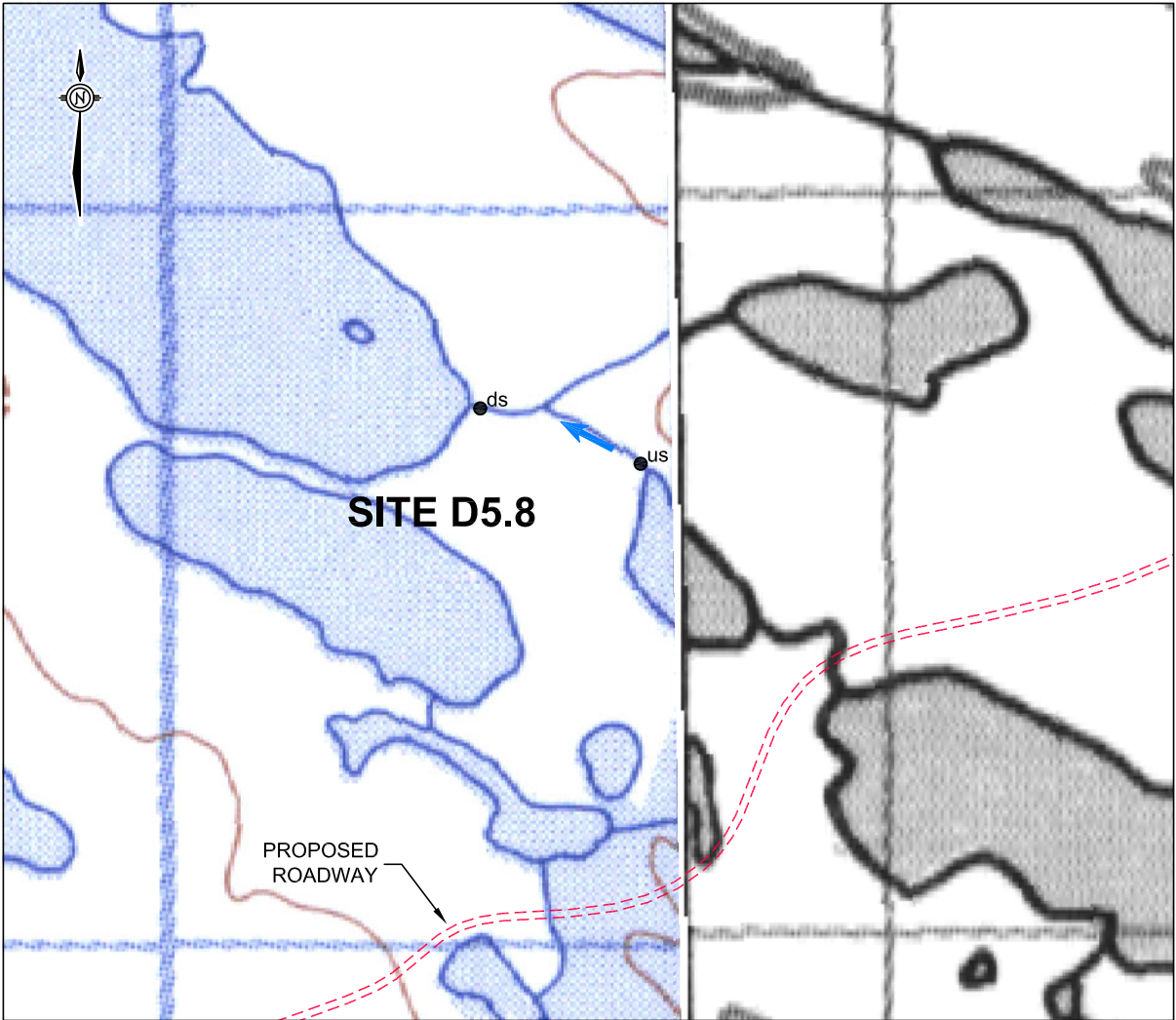
Photo 843 - Upstream view from 50 m downstream from pond outlet..



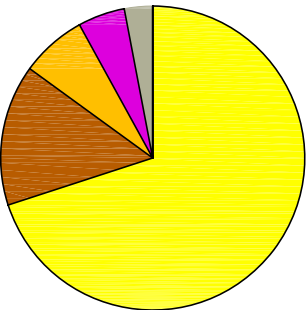
Photo 848 - Downstream view from 150 m downstream from outlet.



Photo 853 - Arctic grayling egg.

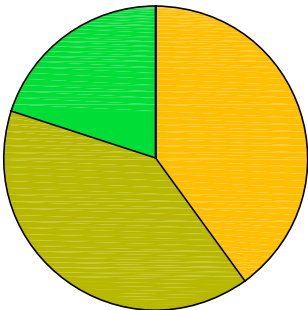


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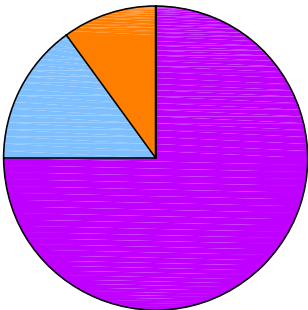
SUBSTRATE

- DETRITUS
- FINES
- GRAVEL
- COBBLE
- BOULDER



INSTREAM COVER

- VEGETATION
- BOULDER GARDENS
- UNDERCUT BANKS



HABITAT TYPE

- RIFFLES
- RUNS
- POOLS

Site D5.8
Date of Survey: June 21, 2008

Upstream UTM: 550681 E, 6981814 N
Downstream UTM: 550519 E, 6981899 N


| Water Quality: | |
|----------------|--------------|
| Time | 08:00 |
| Temperature | 16.0°C |
| Conductivity | N/A |
| pH | N/A |
| DO | 8 to 10 mg/L |

| Channel: | |
|------------------------|---------|
| Stream length surveyed | 270.0 m |
| Mean channel width | 2.3 m |
| Mean flooded width | 21.5 m |
| Discharge | N/A |

| Fish Captured / Observed: | | | |
|---------------------------|-----------------------|-----------------|---------|
| Method | Capture (n) | Size range (mm) | Effort |
| E-fishing | NNST (12) ARGR (7) | 36-71 67-127 | 322 s |
| Observations | NNST (20) ARGR (4) | 50-70 100 | — 10 |
| Egg sampling | ARGR (9) | — | kicks |

* N/A = Not Assessed

NOTE
ROAD ALIGNMENT HAS CHANGED SINCE THE INVESTIGATION.

| | | | | | |
|---|---------------------------|--|----------|------------------|----------|
| PROJECT | | COMAPLEX MELIADINE WEST GOLD PROJECT | | | |
| TITLE | | AQUATIC HABITAT SUMMARY FOR SITE D5.8 | | | |
|  | PROJECT 07.1373.0055.4000 | | | FILE No. 1732945 | |
| | DESIGN | RP | 30/09/08 | SCALE | AS SHOWN |
| | CADD | FN | 21/10/08 | REV. | 0 |
| | CHECK | RP | 20/11/08 | FIGURE: C12 | |
| | REVIEW | JP | 20/11/08 | | |

N:\CAD\2007\1373\0055 Meliande West Gold Project\4000\c13 - 1732946 sited6.7.dwg Nov 21, 2008 - 9:11am



Photo 024 - Downstream view from 30 m upstream from proposed crossing location.



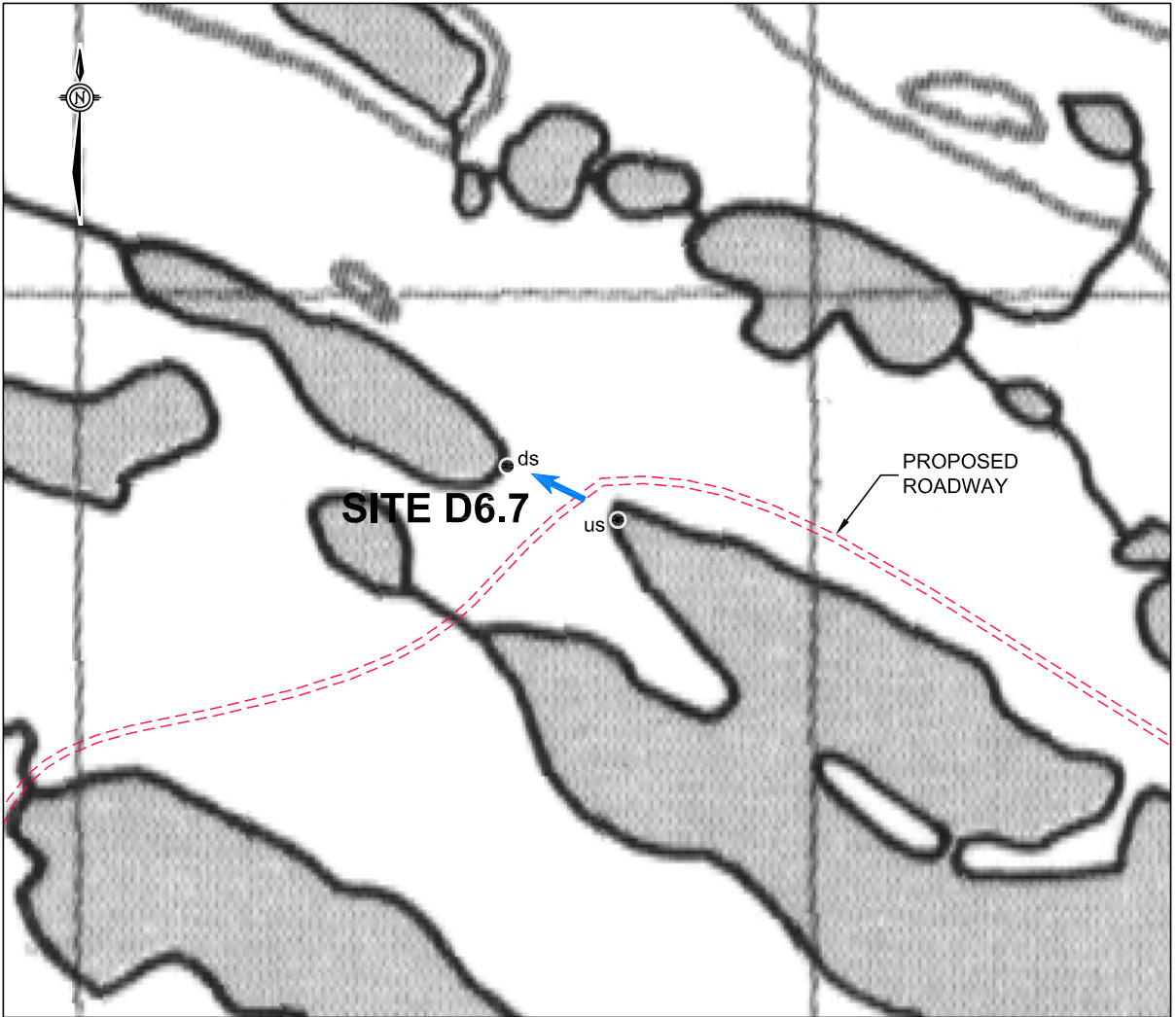
Photo 025 - Upstream view of dispersed water from 30 m upstream from proposed crossing location.



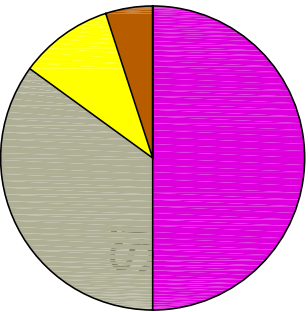
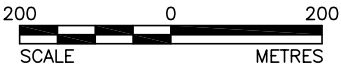
Photo 026 - Upstream view from 60 m upstream from proposed crossing, near end of wetted section.



Photo 027 - Downstream view from 60 m upstream from proposed crossing, near end of wetted section.

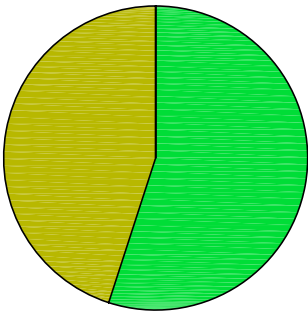


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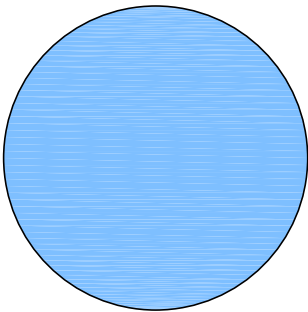
SUBSTRATE

- DETritus
- FINES
- GRAVEL
- COBBLE
- BOULDER



INSTREAM COVER

- VEGETATION
- BOULDER GARDENS
- UNDERCUT BANKS



HABITAT TYPE

- RIFFLES
- RUNS
- POOLS

Site D6.7
Date of Survey: June 17, 2008

Upstream UTM: 551736 E, 6981927 N
Downstream UTM: 551586 E, 6982000 N

Water Quality:

| | |
|--------------|---------------|
| Time | 17:00 |
| Temperature | 16.2°C |
| Conductivity | 66.8 µS/cm |
| pH | 7.5 |
| DO | 10 to 12 mg/L |


Channel:

| | |
|------------------------|---------|
| Stream length surveyed | 140.0 m |
| Mean channel width | 4.9 m |
| Mean flooded width | 21.7 m |
| Discharge | N/A |

Fish Captured / Observed:

| Method | Capture (n) | Size range (mm) | Effort |
|--------------|-------------|-----------------|--------|
| E-fishing | — | — | 138 s |
| Observations | — | — | — |
| Egg sampling | — | — | — |

* N/A = Not Assessed

| | | | | | |
|---|--|----|------------------|-------------|----------|
| PROJECT | COMAPLEX MELIADINE WEST GOLD PROJECT | | | | |
| TITLE | AQUATIC HABITAT SUMMARY FOR SITE D6.7 | | | | |
|  | PROJECT 07.1373.0055.4000 | | FILE No. 1732946 | | |
| | DESIGN | RP | 30/09/08 | SCALE | AS SHOWN |
| | CADD | FN | 21/10/08 | REV. | 0 |
| | CHECK | RP | 20/11/08 | FIGURE: C13 | |
| | REVIEW | JP | 20/11/08 | | |

APPENDIX D

RAW DATA FROM INDIVIDUAL FISH CAPTURED IN THE PROJECT AREA

Appendix D. Raw Data for Individual Fish Captured in the Project Area, June-August 2008.

| Waterbody Type | Site | Date | Capture Method | Species | Fork Length (mm) | Weight (g) | Condition Factor | Sex | Floy Tag Number | Fin Clip | Comment |
|----------------|-------|-----------|----------------|---------|------------------|------------|------------------|-----|-----------------|----------|---------|
| Stream | M2.1 | 20-Jun-08 | EF | ARGR | 48 | 0.8 | 0.72 | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 74 | | | F | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 61 | | | F | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 71 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 71 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 69 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 41 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 41 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 37 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 43 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 40 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 36 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 40 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 45 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 41 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 37 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 46 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 53 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 49 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 36 | | | | | | |
| Stream | M5.0 | 18-Jun-08 | EF | NNST | 34 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | ARGR | 89 | 5.0 | 0.71 | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 46 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 44 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 61 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 67 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 57 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 67 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 61 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 32 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 38 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 47 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 41 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 44 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 47 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 57 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 57 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 36 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 36 | | | | | | |
| Stream | M11.5 | 19-Jun-08 | EF | NNST | 46 | | | | | | |
| Stream | M22.6 | 17-Jun-08 | EF | NNST | 68 | | | F | | | |
| Stream | M22.6 | 17-Jun-08 | EF | NNST | 58 | | | F | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 54 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 42 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 67 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 63 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 42 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 47 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 65 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 57 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 62 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 64 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 57 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 46 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 47 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 49 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 38 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 54 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 57 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | NNST | 51 | | | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | SLSC | 94 | 9.0 | 1.08 | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | SLSC | 69 | 2.0 | 0.61 | | | | |
| Stream | M23.7 | 17-Jun-08 | EF | SLSC | 91 | 6.0 | 0.80 | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | ARGR | 67 | 2.0 | 0.66 | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | ARGR | 94 | 5.9 | 0.71 | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | ARGR | 76 | 3.0 | 0.68 | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | ARGR | 73 | 3.5 | 0.90 | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | ARGR | 81 | 4.5 | 0.85 | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | ARGR | 69 | 2.9 | 0.88 | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | ARGR | 127 | 16 | 0.80 | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 71 | | | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 51 | | | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 41 | | | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 36 | | | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 49 | | | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 46 | | | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 36 | | | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 42 | | | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 39 | | | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 36 | | | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 43 | | | | | | |
| Stream | D5.8 | 21-Jun-08 | EF | NNST | 38 | | | | | | |
| Pond | A12 | 13-Jul-08 | MT | NNST | 55 | | | | | | |

Appendix D. Raw Data for Individual Fish Captured in the Project Area, June-August 2008.

| Waterbody Type | Site | Date | Capture Method | Species | Fork Length (mm) | Weight (g) | Condition Factor | Sex | Floy Tag Number | Fin Clip | Comment |
|----------------|------|-----------|----------------|---------|------------------|------------|------------------|-----|-----------------|----------|-----------|
| Pond | A12 | 13-Jul-08 | MT | NNST | 60 | | | | | | |
| Pond | A12 | 13-Jul-08 | MT | NNST | 68 | | | | | | |
| Pond | A12 | 13-Jul-08 | MT | NNST | 64 | | | | | | |
| Pond | A12 | 13-Jul-08 | MT | NNST | 53 | | | | | | |
| Pond | A13 | 13-Jul-08 | MT | NNST | 54 | | | | | | |
| Pond | A40 | 13-Jul-08 | MT | NNST | 59 | | | | | | |
| Pond | A40 | 13-Jul-08 | MT | NNST | 56 | | | | | | |
| Pond | A40 | 13-Jul-08 | MT | NNST | 55 | | | | | | |
| Pond | A40 | 13-Jul-08 | MT | NNST | 57 | | | | | | |
| Pond | B8 | 14-Jul-08 | MT | NNST | 48 | | | | | | |
| Pond | B30 | 12-Jul-08 | MT | NNST | 60 | | | | | | |
| Pond | B30 | 12-Jul-08 | MT | NNST | 51 | | | | | | |
| Pond | B30 | 12-Jul-08 | MT | NNST | 53 | | | | | | |
| Pond | B30 | 12-Jul-08 | MT | NNST | 72 | | | | | | |
| Pond | B31 | 12-Jul-08 | MT | NNST | 52 | | | | | | |
| Pond | B31 | 12-Jul-08 | MT | NNST | 59 | | | | | | |
| Pond | B32 | 12-Jul-08 | MT | NNST | 53 | | | | | | |
| Pond | H02 | 02-Aug-08 | EF | ARGR | 49 | 1.1 | 0.93 | | | | |
| Pond | H02 | 02-Aug-08 | MT | ARGR | 52 | 1.0 | 0.71 | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 55 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 56 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 59 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 61 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 62 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 65 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 66 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 66 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 66 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 67 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 67 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 67 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 68 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 71 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 72 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 72 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 76 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 76 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 80 | | | | | | |
| Lake | A52 | 04-Aug-08 | FN | NNST | 82 | | | | | | |
| Lake | B6 | 14-Jul-08 | FN | ARGR | 134 | 26 | 1.08 | | | | |
| Lake | B6 | 14-Jul-08 | FN | CISC | 172 | 59 | 1.16 | | | | |
| Lake | B6 | 14-Jul-08 | FN | CISC | 177 | 56 | 1.01 | | | | |
| Lake | B6 | 14-Jul-08 | FN | CISC | 178 | 55 | 0.98 | | | | |
| Lake | B6 | 14-Jul-08 | FN | NNST | 60 | | | | | | |
| Lake | B6 | 14-Jul-08 | FN | NNST | 43 | | | | | | |
| Lake | B6 | 14-Jul-08 | FN | NNST | 56 | | | | | | |
| Lake | B6 | 14-Jul-08 | FN | NNST | 61 | | | | | | |
| Lake | B6 | 14-Jul-08 | FN | NNST | 47 | | | | | | |
| Lake | B6 | 14-Jul-08 | FN | NNST | 51 | | | | | | |
| Lake | B7 | 10-Jul-08 | GN | ARGR | 187 | | | | | AD | |
| Lake | B7 | 10-Jul-08 | GN | ARGR | 248 | | | M | | | Mortality |
| Lake | B7 | 10-Jul-08 | GN | ARGR | 295 | | | | | | Mortality |
| Lake | B7 | 10-Jul-08 | GN | ARGR | 305 | | | | | AD | |
| Lake | B7 | 10-Jul-08 | GN | ARGR | 329 | | | | 1602 | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 101 | 10 | 0.97 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 107 | 11 | 0.90 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 110 | 16 | 1.20 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 112 | 13 | 0.93 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 112 | 14 | 1.00 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 116 | 18 | 1.15 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 117 | 11 | 0.69 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 118 | 18 | 1.10 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 118 | 15 | 0.91 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 119 | 18 | 1.07 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 120 | 18 | 1.04 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 120 | 18 | 1.04 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 124 | 18 | 0.94 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 128 | 23 | 1.10 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 129 | 20 | 0.93 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 138 | 25 | 0.95 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 155 | 35 | 0.94 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 157 | 45 | 1.16 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 158 | 44 | 1.12 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 159 | 41 | 1.02 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 161 | 41 | 0.98 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 162 | 43 | 1.01 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 163 | 41 | 0.95 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 164 | 45 | 1.02 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 164 | 47 | 1.07 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 165 | 42 | 0.93 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 165 | 51 | 1.14 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 167 | 46 | 0.99 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 168 | 46 | 0.97 | | | AD | |

Appendix D. Raw Data for Individual Fish Captured in the Project Area, June-August 2008.

| Waterbody Type | Site | Date | Capture Method | Species | Fork Length (mm) | Weight (g) | Condition Factor | Sex | Floy Tag Number | Fin Clip | Comment |
|----------------|------|-----------|----------------|---------|------------------|------------|------------------|-----|-----------------|----------|---------|
| Lake | B7 | 12-Jul-08 | FN | ARGR | 169 | 48 | 0.99 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 169 | 46 | 0.95 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 169 | 48 | 0.99 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 169 | 51 | 1.06 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 170 | 50 | 1.02 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 170 | 48 | 0.98 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 171 | 53 | 1.06 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 172 | 51 | 1.00 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 173 | 57 | 1.10 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 173 | 49 | 0.95 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 173 | 56 | 1.08 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 175 | 61 | 1.14 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 175 | 55 | 1.03 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 178 | 53 | 0.94 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 179 | 58 | 1.01 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 179 | 57 | 0.99 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 181 | 53 | 0.89 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 181 | 65 | 1.10 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 187 | 64 | 0.98 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 189 | 80 | 1.18 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 190 | 64 | 0.93 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 204 | 82 | 0.97 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 205 | 102 | 1.18 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 208 | 99 | 1.10 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 208 | 88 | 0.98 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 215 | 101 | 1.02 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 251 | 169 | 1.07 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 311 | 299 | 0.99 | | 1605 | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 327 | 364 | 1.04 | | 1604 | AD | |
| Lake | B7 | 12-Jul-08 | FN | ARGR | 349 | 409 | 0.96 | | 1603 | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 101 | 7.0 | 0.68 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 106 | 12 | 1.01 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 111 | 10 | 0.73 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 112 | 12 | 0.85 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 112 | 11 | 0.78 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 112 | 16 | 1.14 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 113 | 13 | 0.90 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 114 | 16 | 1.08 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 114 | 14 | 0.94 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 115 | 12 | 0.79 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 116 | 20 | 1.28 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 117 | 17 | 1.06 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 119 | 16 | 0.95 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 119 | 16 | 0.95 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 120 | 21 | 1.22 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 121 | 18 | 1.02 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 122 | 14 | 0.77 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 123 | 17 | 0.91 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 124 | 17 | 0.89 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 125 | 16 | 0.82 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 127 | 25 | 1.22 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 127 | 19 | 0.93 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 135 | 25 | 1.02 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 142 | 32 | 1.12 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 152 | 38 | 1.08 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 153 | 35 | 0.98 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 153 | 39 | 1.09 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 154 | 41 | 1.12 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 156 | 39 | 1.03 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 157 | 40 | 1.03 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 158 | 45 | 1.14 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 159 | 34 | 0.85 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 159 | 44 | 1.09 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 160 | 45 | 1.10 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 161 | 39 | 0.93 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 161 | 37 | 0.89 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 161 | 39 | 0.93 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 162 | 44 | 1.03 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 162 | 43 | 1.01 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 162 | 49 | 1.15 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 163 | 51 | 1.18 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 164 | 43 | 0.97 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 166 | 46 | 1.01 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 166 | 47 | 1.03 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 167 | 47 | 1.01 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 167 | 52 | 1.12 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 169 | 50 | 1.04 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 169 | 44 | 0.91 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 171 | 51 | 1.02 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 171 | 53 | 1.06 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 171 | 47 | 0.94 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 171 | | | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 172 | 55 | 1.08 | | | AD | |

Appendix D. Raw Data for Individual Fish Captured in the Project Area, June-August 2008.

| Waterbody Type | Site | Date | Capture Method | Species | Fork Length (mm) | Weight (g) | Condition Factor | Sex | Floy Tag Number | Fin Clip | Comment |
|----------------|------|-----------|----------------|---------|------------------|------------|------------------|-----|-----------------|----------|-------------------------|
| Lake | B7 | 13-Jul-08 | FN | ARGR | 173 | 51 | 0.98 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 174 | 55 | 1.04 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 175 | 57 | 1.06 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 175 | 50 | 0.93 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 177 | 52 | 0.94 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 179 | 59 | 1.03 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 181 | 50 | 0.84 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 183 | 62 | 1.01 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 187 | 69 | 1.06 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 192 | 76 | 1.07 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 194 | 64 | 0.88 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 205 | 86 | 1.00 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 205 | 85 | 0.99 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 207 | 83 | 0.94 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 207 | 90 | 1.01 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 207 | 96 | 1.08 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 215 | 109 | 1.10 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 234 | 148 | 1.16 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 235 | 160 | 1.23 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 235 | 155 | 1.19 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 237 | 156 | 1.17 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 238 | 153 | 1.13 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 242 | 154 | 1.09 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 243 | 155 | 1.08 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 245 | 162 | 1.10 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 252 | 183 | 1.14 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 262 | 201 | 1.12 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 278 | 223 | 1.04 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 285 | 240 | 1.04 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 291 | 258 | 1.05 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 292 | 275 | 1.10 | | | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 305 | 274 | 0.97 | | 1612 | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 315 | 327 | 1.05 | | 1606 | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 321 | 360 | 1.09 | | 1611 | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 325 | 339 | 0.99 | | 1610 | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 338 | 408 | 1.06 | | 1609 | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 339 | 422 | 1.08 | | 1608 | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 347 | 460 | 1.10 | | 1607 | AD | |
| Lake | B7 | 13-Jul-08 | FN | ARGR | 352 | 452 | 1.04 | | 1613 | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 111 | 9.0 | 0.66 | | | | Mortality |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 112 | 19 | 1.35 | | | | Mortality |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 115 | 16 | 1.05 | | | | Mortality |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 116 | 13 | 0.83 | | | | Mortality |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 120 | 18 | 1.04 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 120 | 14 | 0.81 | | | | Mortality |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 123 | 23 | 1.24 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 124 | 16 | 0.84 | | | | Mortality |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 147 | 33 | 1.04 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 152 | 36 | 1.03 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 159 | 39 | 0.97 | | | R | Recap during mark phase |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 162 | 39 | 0.92 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 165 | 52 | 1.16 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 166 | 52 | 1.14 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 172 | 51 | 1.00 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 179 | 56 | 0.98 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 182 | 60 | 1.00 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 185 | 75 | 1.18 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 221 | 124 | 1.15 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 237 | 132 | 0.99 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 249 | 162 | 1.05 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 250 | 168 | 1.08 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 250 | 171 | 1.09 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 251 | 168 | 1.06 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 252 | 174 | 1.09 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 262 | 175 | 0.97 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 265 | 201 | 1.08 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 274 | 233 | 1.13 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 277 | 219 | 1.03 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 281 | 237 | 1.07 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 282 | 225 | 1.00 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 286 | 271 | 1.16 | | | R | Recap during mark phase |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 287 | 249 | 1.05 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 293 | 269 | 1.07 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 294 | 286 | 1.13 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 306 | 306 | 1.07 | | 1616 | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 310 | 313 | 1.05 | | 1615 | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 311 | 329 | 1.09 | | 1614 | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 311 | 307 | 1.02 | | 1619 | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 330 | 370 | 1.03 | | 1617 | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 336 | 397 | 1.05 | | 1620 | AD | |
| Lake | B7 | 14-Jul-08 | FN | ARGR | 339 | 379 | 0.97 | | 1618 | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 87 | 7.0 | 1.06 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 89 | 5.0 | 0.71 | | | AD | |

Appendix D. Raw Data for Individual Fish Captured in the Project Area, June-August 2008.

| Waterbody Type | Site | Date | Capture Method | Species | Fork Length (mm) | Weight (g) | Condition Factor | Sex | Floy Tag Number | Fin Clip | Comment |
|----------------|------|-----------|----------------|---------|------------------|------------|------------------|-----|-----------------|----------|-----------------|
| Lake | B7 | 31-Jul-08 | FN | ARGR | 126 | 25 | 1.25 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 128 | 18 | 0.86 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 128 | 20 | 0.95 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 131 | 23 | 1.02 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 131 | 23 | 1.02 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 135 | 21 | 0.85 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 135 | 25 | 1.02 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 139 | 23 | 0.86 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 140 | 31 | 1.13 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 148 | 23 | 0.71 | | | AD | |
| Lake | B7 | 31-Jul-08 | GN | ARGR | 149 | | | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 163 | 44 | 1.02 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 168 | 54 | 1.14 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 169 | 51 | 1.06 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 178 | 53 | 0.94 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 181 | 63 | 1.06 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 181 | 58 | 0.98 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 190 | 70 | 1.02 | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 198 | 71 | 0.91 | | | AD | |
| Lake | B7 | 31-Jul-08 | GN | ARGR | 220 | | | M | | | Mortality |
| Lake | B7 | 31-Jul-08 | GN | ARGR | 280 | | | | | AD | |
| Lake | B7 | 31-Jul-08 | GN | ARGR | 325 | | | | | | Mortality |
| Lake | B7 | 31-Jul-08 | GN | ARGR | 196 | | | | | AD | |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 122 | 17 | 0.94 | | | AD | Recaptured fish |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 178 | 60 | 1.06 | | | AD | Recaptured fish |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 161 | 38 | 0.91 | | | AD | Recaptured fish |
| Lake | B7 | 31-Jul-08 | FN | ARGR | 187 | 59 | 0.90 | | | AD | Recaptured fish |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 95 | 11 | 1.28 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 122 | 22 | 1.21 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 125 | 16 | 0.82 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 125 | 16 | 0.82 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 126 | 13 | 0.65 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 126 | 21 | 1.05 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 131 | 22 | 0.98 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 133 | 17 | 0.72 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 135 | 24 | 0.98 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 136 | 24 | 0.95 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 138 | 24 | 0.91 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 140 | 22 | 0.80 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 164 | 47 | 1.07 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 165 | 46 | 1.02 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 166 | 46 | 1.01 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 166 | 51 | 1.11 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 167 | 48 | 1.03 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 167 | 43 | 0.92 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 168 | 49 | 1.03 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 169 | 45 | 0.93 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 171 | 49 | 0.98 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 171 | 44 | 0.88 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 171 | 45 | 0.90 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 173 | 56 | 1.08 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 174 | 55 | 1.04 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 175 | 54 | 1.01 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 176 | 59 | 1.08 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 178 | 58 | 1.03 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 180 | 61 | 1.05 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 183 | 60 | 0.98 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 185 | 61 | 0.96 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 187 | 72 | 1.10 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 195 | 80 | 1.08 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 198 | 78 | 1.00 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 203 | 83 | 0.99 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 261 | 203 | 1.14 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 270 | 222 | 1.13 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 284 | 172 | 0.75 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | ARGR | 293 | 275 | 1.09 | | | AD | |
| Lake | B7 | 1-Aug-08 | FN | ARGR | 130 | 17 | 0.77 | | | AD | Recaptured fish |
| Lake | B7 | 1-Aug-08 | FN | ARGR | 187 | 73 | 1.12 | | | AD | Recaptured fish |
| Lake | B7 | 1-Aug-08 | FN | ARGR | 129 | 25 | 1.16 | | | AD | Recaptured fish |
| Lake | B7 | 1-Aug-08 | FN | ARGR | 213 | 107 | 1.11 | | | AD | Recaptured fish |
| Lake | B7 | 1-Aug-08 | FN | ARGR | 192 | 70 | 0.99 | | | AD | Recaptured fish |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 122 | 19 | 1.05 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 126 | 13 | 0.65 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 128 | 22 | 1.05 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 129 | 24 | 1.12 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 131 | 23 | 1.02 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 136 | 24 | 0.95 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 138 | 24 | 0.91 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 145 | 32 | 1.05 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 145 | 28 | 0.92 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 146 | 30 | 0.96 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 160 | 43 | 1.05 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 166 | 49 | 1.07 | | | AD | |

Appendix D. Raw Data for Individual Fish Captured in the Project Area, June-August 2008.

| Waterbody Type | Site | Date | Capture Method | Species | Fork Length (mm) | Weight (g) | Condition Factor | Sex | Floy Tag Number | Fin Clip | Comment |
|----------------|-------------|-----------|----------------|---------|------------------|------------|------------------|-----|-----------------|----------|-----------------|
| Lake | B7 | 02-Aug-08 | FN | ARGR | 168 | 49 | 1.03 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 169 | 49 | 1.02 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 169 | 49 | 1.02 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 175 | 55 | 1.03 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 184 | 60 | 0.96 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 184 | 64 | 1.03 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 185 | 65 | 1.03 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 198 | 84 | 1.08 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 214 | 104 | 1.06 | | | AD | |
| Lake | B7 | 14-Jul-08 | FN | BURB | 273 | 115 | 0.57 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | BURB | 307 | 125 | 0.43 | | | AD | |
| Lake | B7 | 10-Jul-08 | GN | CISC | 282 | | | M | | AD | |
| Lake | B7 | 10-Jul-08 | GN | CISC | 282 | | | | | AD | |
| Lake | B7 | 10-Jul-08 | GN | CISC | 152 | | | | | AD | |
| Lake | B7 | 10-Jul-08 | GN | CISC | 292 | | | | | AD | |
| Lake | B7 | 10-Jul-08 | GN | CISC | 297 | | | | | AD | |
| Lake | B7 | 10-Jul-08 | GN | CISC | 288 | | | M | | AD | |
| Lake | B7 | 10-Jul-08 | GN | CISC | 290 | | | F | | AD | |
| Lake | B7 | 10-Jul-08 | GN | CISC | 288 | | | | | AD | |
| Lake | B7 | 10-Jul-08 | GN | CISC | 283 | | | | | AD | |
| Lake | B7 | 10-Jul-08 | GN | CISC | 293 | | | | | AD | |
| Lake | B7 | 10-Jul-08 | GN | CISC | 279 | | | | | AD | |
| Lake | B7 | 31-Jul-08 | GN | CISC | 280 | | | | | AD | |
| Lake | B7 | 31-Jul-08 | GN | CISC | 286 | | | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | CISC | 302 | 272 | 0.99 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | CISC | 281 | 258 | 1.16 | | | AD | |
| Lake | B7 | 01-Aug-08 | FN | CISC | 284 | 266 | 1.16 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | CISC | 270 | 220 | 1.12 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | CISC | 284 | 230 | 1.00 | | | AD | |
| Lake | B7 | 03-Aug-08 | FN | CISC | 291 | 240 | 0.97 | | | AD | |
| Lake | B7 | 12-Jul-08 | FN | NNST | 78 | | | | | | |
| Lake | B7 | 12-Jul-08 | FN | NNST | 77 | | | | | | |
| Lake | B7 | 12-Jul-08 | FN | NNST | 49 | | | | | | |
| Lake | B7 | 12-Jul-08 | FN | NNST | 62 | | | | | | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 249 | 161 | 1.04 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 251 | 170 | 1.08 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 319 | 352 | 1.08 | | | AD | |
| Lake | B7 | 02-Aug-08 | FN | ARGR | 334 | 389 | 1.04 | | | AD | |
| Lake | B7 | 2-Aug-08 | FN | ARGR | 172 | 51 | 1.00 | | | AD | Recaptured fish |
| Lake | B7 | 2-Aug-08 | FN | ARGR | 184 | 63 | 1.01 | | | AD | Recaptured fish |
| Lake | B7 | 2-Aug-08 | FN | ARGR | 167 | 44 | 0.94 | | | AD | Recaptured fish |
| Lake | B7 | 03-Aug-08 | FN | ARGR | 135 | 25 | 1.02 | | | AD | |
| Lake | B7 | 03-Aug-08 | FN | ARGR | 160 | 39 | 0.95 | | | AD | |
| Lake | B7 | 03-Aug-08 | FN | ARGR | 176 | 56 | 1.03 | | | AD | |
| Lake | B7 | 03-Aug-08 | FN | ARGR | 179 | 55 | 0.96 | | | AD | |
| Lake | B7 | 03-Aug-08 | FN | ARGR | 318 | 335 | 1.04 | | | AD | |
| Lake | Chickenhead | 04-Aug-08 | GN | ARGR | 168 | 48 | 1.01 | M | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | ARGR | 235 | 148 | 1.14 | | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | ARGR | 271 | 228 | 1.15 | | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | ARGR | 286 | 246 | 1.05 | | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | ARGR | 307 | 330 | 1.14 | | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | ARGR | 315 | 350 | 1.12 | | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | ARGR | 319 | 361 | 1.11 | | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | ARGR | 348 | 436 | 1.03 | | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | ARGR | 379 | 608 | 1.12 | F | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | ARGR | 402 | 686 | 1.06 | | | | |
| Lake | Chickenhead | 05-Aug-08 | FN | ARGR | 368 | 556 | 1.12 | | | | |
| Lake | Chickenhead | 05-Aug-08 | FN | ARGR | 383 | 665 | 1.18 | | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | BURB | 335 | 234 | 0.62 | | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 172 | 52 | 1.02 | | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 177 | 59 | 1.06 | | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 177 | 58 | 1.05 | M | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 196 | 88 | 1.17 | | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 196 | 74 | 0.98 | | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 212 | 103 | 1.08 | M | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 214 | 103 | 1.05 | M | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 232 | 128 | 1.03 | M | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | LKTR | 245 | 164 | 1.12 | | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 257 | 159 | 0.94 | M | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 265 | 177 | 0.95 | M | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | LKTR | 283 | 231 | 1.02 | | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 373 | 536 | 1.03 | M | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 397 | 669 | 1.07 | M | | | |
| Lake | Chickenhead | 04-Aug-08 | FN | LKTR | 457 | 1184 | 1.24 | | | | |
| Lake | Chickenhead | 04-Aug-08 | GN | LKTR | 942 | | | | | | |
| Lake | Chickenhead | 05-Aug-08 | FN | LKTR | 434 | 942 | 1.15 | | | | |

Sampling Methods

EF Backpack electrofishing
 FN Fyke net
 GN Gill net
 MT Minnow trap
 SLSC Slimy sculpin

Species

ARGR Arctic grayling
 BURB Burbot
 CISC Cisco
 LKTR Lake trout
 NNST Ninespine stickleback

Condition Factor (CF)

CF = Weight [in g] x 10⁵ / (FL [in mm])³

Sex

F Female
 M Male

Fin Clip

AD Adipose fin
 R Recaptured during marking phase

APPENDIX E

HABITAT AND FISH CAPTURE DATA FOR PONDS IN THE PROJECT AREA

Appendix E. Habitat and Fish Capture Data for Sampled Ponds in the Project Area, July-August 2008.

| Site | Date Sampled | Pond Area (m ²) | Pond Perimeter | Max. Depth (m) | Water Temperature (°C) | pH | Conductivity (µS/cm) | Fish Capture Method | Capture Effort | Species | Number Caught | Number Observed | Length (mm) | CPUE |
|------|--------------|-----------------------------|----------------|----------------|------------------------|------|----------------------|---------------------|-----------------|--------------|---------------|-----------------|-------------|------------------------------------|
| A9 | Jul 13-14 | 19114 | 570 | 0.47 | 18.0 | n.d. | n.d. | EF | 162 s | - | - | - | - | - |
| A10 | Jul 13-14 | 2664 | 205 | 0.67 | 17.0 | n.d. | n.d. | EF | 119 s | NNST | - | 1 | - | - |
| A12 | Jul 12-13 | 3024 | 220 | 0.87 | 18.0 | n.d. | n.d. | MT EF | 42.0 h 185 s | NNST - | 5 - | - - | 53-68 - | 0.12 fish/trap-h - |
| A13 | Jul 12-13 | 3598 | 230 | 0.31 | 19.0 | n.d. | n.d. | MT EF | 42.0 h 166 s | NNST - | 1 - | - - | 54 - | 0.02 fish/trap-h - |
| A35 | Jul 13-14 | 6604 | 322 | 0.43 | 18.0 | n.d. | n.d. | EF | 127 s | - | - | - | - | - |
| A37 | Jul 13-14 | 9940 | 437 | 0.64 | 17.0 | n.d. | n.d. | EF | 126 s | NNST | - | 1 | - | - |
| A38 | Jul 13-14 | 5197 | 282 | 0.54 | 17.0 | n.d. | n.d. | EF | 107 s | - | - | - | - | - |
| A39 | Jul 13-14 | 2019 | 172 | 0.29 | 20.0 | n.d. | n.d. | EF | 144 s | - | - | - | - | - |
| A40 | Jul 12-13 | 7502 | 351 | 0.82 | 17.0 | n.d. | n.d. | MT EF | 42.3 h 212 s | NNST - | 4 - | - - | 55-59 - | 0.09 fish/trap-h - |
| A54 | Jul 13-14 | 58993 | 1127 | 0.92 | | n.d. | n.d. | EF | 411 s | NNST | - | 1 | - | - |
| B8 | Jul 12-13 | 10724 | 401 | 0.61 | 17.0 | n.d. | n.d. | MT EF | 43.5 h 279 s | NNST - | 1 - | - - | 48 - | 0.02 fish/trap-h - |
| B9 | Jul 12-13 | 6644 | 337 | 0.74 | 17.0 | n.d. | n.d. | MT EF | 42.5 h 230 s | - - | - - | - - | - - | - - |
| B10 | Jul 12-13 | 2392 | 218 | n.d. | 16.0 | n.d. | n.d. | MT EF | 42.5 h 223 s | - - | - - | - - | - - | - - |
| B30 | Jul 11-12 | 767 | 103 | n.d. | 20.0 | n.d. | n.d. | MT EF | 44.2 h 156 s | NNST NNST | 4 - | - 10 | 51-72 - | 0.09 fish/trap-h - |
| B31 | Jul 11-12 | 577 | 90 | n.d. | 19.0 | n.d. | n.d. | MT EF | 44.2 h 125 s | NNST NNST | 2 - | - 25 | 52-59 - | 0.05 fish/trap-h - |
| B32 | Jul 11-12 | 5406 | 279 | n.d. | 18.0 | n.d. | n.d. | MT EF | 43.5 h 294 s | NNST - | 1 - | - - | 53 - | 0.02 fish/trap-h - |
| B33 | Jul 11-12 | 3262 | 209 | 0.85 | 19.0 | n.d. | n.d. | MT EF | 43.5 h 285 s | - - | - - | - - | - - | - - |
| H01 | Aug 2-3 | 9183 | 376 | 1.31 | 15.6 | 8.16 | 126 | MT EF | 42.0 h 396 s | - - | - - | - - | - - | - - |
| H02 | Aug 2-3 | 615 | 97 | 0.25 | 15.9 | 8.08 | 169 | MT EF | 21.5 h 120 s | ARGR ARGR | 1 1 | - - | 52 49 | 0.05 fish/trap-h 0.83 fish/100s |
| H03 | Aug 2-3 | 1099 | 128 | 0.36 | 15.2 | 8.26 | 154 | MT EF | 18.3 h 169 s | - - | - - | - - | - - | - - |
| H04 | Aug 2-3 | 409 | 76 | 0.55 | 15.0 | 8.09 | 115 | MT EF | 18.3 h 130 s | - NNST | - - | - 3 | - - | - - |

Appendix E. Habitat and Fish Capture Data for Sampled Ponds in the Project Area, July-August 2008.

| Site | Date Sampled | Pond Area (m ²) | Pond Perimeter | Max. Depth (m) | Water Temperature (°C) | pH | Conductivity (µS/cm) | Fish Capture Method | Capture Effort | Species | Number Caught | Number Observed | Length (mm) | CPUE |
|------|--------------|-----------------------------|----------------|----------------|------------------------|------|----------------------|---------------------|---------------------------|-------------|---------------|-----------------|-------------|-------------|
| H05 | Aug 2-3 | 2040 | 174 | 0.60 | 15.2 | 8.37 | 123 | MT EF | 17.3 h 142 s | - NNST | - - | - 5 | - - | - - |
| H06 | Aug 2-3 | 6725 | 353 | 0.46 | 18.9 | 8.55 | 182 | MT EF | 17.3 h 226 s | - - | - - | - - | - - | - - |
| H07 | Aug 1-2 | 392 | 73 | 0.67 | 20.9 | 8.58 | 97 | MT EF | 18.0 h 117 s | - - | - - | - - | - - | - - |
| H08 | Aug 1-2 | 2852 | 231 | 0.38 | 18.5 | 8.58 | 111 | MT EF | 18.3 h 149 s | - - | - - | - - | - - | - - |
| H09 | Aug 1-2 | 3305 | 219 | 0.42 | 18.7 | 8.27 | 173 | MT EF | 18.3 h 212 s | - - | - - | - - | - - | - - |
| H10 | Aug 1-2 | 375 | 77 | 0.11 | 22.1 | 8.50 | 193 | EF | 100 s | - | - | - | - | - |
| H11 | Aug 1-2 | 1839 | 160 | 0.27 | 20.2 | 8.29 | 140 | MT EF | 19.8 h 147 s | - - | - - | - - | - - | - - |
| H12 | Aug 1-2 | 8861 | 376 | 0.54 | 18.9 | 8.42 | 120 | MT EF | 20.0 h 164 s | - - | - - | - - | - - | - - |
| H13 | Aug 1-2 | 32038 | 809 | 1.04 | 16.5 | 8.33 | 191 | MT EF | 20.8 h 221 s | - - | - - | - - | - - | - - |
| H14 | Aug 1-2 | 2263 | 185 | 0.61 | 17.1 | | 236 | MT EF | 21.3 h 101 s | - - | - - | - - | - - | - - |
| H15 | Aug 1-2 | 11115 | 508 | 0.70 | 15.1 | 8.99 | 159 | MT EF | 22.0 h 287 s | - - | - - | - - | - - | - - |
| H16 | Aug 2-3 | 1171 | 125 | 0.36 | 16.1 | 7.91 | 48 | MT EF | 20.0 h 120 s | - - | - - | - - | - - | - - |
| H17 | Aug 1-2 | 158000 | 1968 | 1.40 | 18.4 | 8.28 | 89 | MT EF GN | 17.0 h 444 s 16.8 h | - - - | - - - | - - - | - - - | - - - |
| H18 | Aug 1-2 | 7215 | 320 | 0.60 | 17.9 | 8.62 | 113 | MT EF | 19.0 h 221 s | - - | - - | - - | - - | - - |
| H19 | Aug 2-5 | 27946 | 677 | 1.40 | 15.6 | 8.06 | 177 | MT EF GN | 255 h 266 s 24.0 h | - - - | - - - | - - - | - - - | - - - |
| H20 | Aug 2-5 | 94656 | 1421 | 1.60 | 15.1 | 8.10 | 158 | MT EF GN | 255 h 398 s 20.0 h | - - - | - - - | - - - | - - - | - - - |

Notes: n.d. = not determined; EF = backpack electrofishing; MT = minnow traps; GN = gill net; CPUE = catch-per-unit-effort (excludes observed fish)

