# Ecometrix Environmental

### ANNUAL MONITORING OF COMPENSATION MEASURES 2021

YEAR 4 OF 5

**REPORT PREPARED FOR:** 

New Gold Inc. Rainy River Mine P.O. Box 5 Emo, Ontario POW 1E0

#### **REPORT PREPARED BY:**

Ecometrix Incorporated <u>www.ecometrix.ca</u> Mississauga, ON

Ref. 20-2713 31 December 2021

# Ecometrix Environmental

## ANNUAL MONITORING OF COMPENSATION MEASURES 2021

YEAR 4 OF 5

Caroline Farkas Technical Lead, Author

yoe tehenut

Joe Tetreault Project Manager and Contributing Author

J.P. Jietie/

Jason Dietrich **Project Principal and Reviewer** 

## **EXECUTIVE SUMMARY**

The Rainy River Mine (RRM) is owned by New Gold Inc. (New Gold). The mine is located approximately 65 km northwest of Fort Frances and 420 km northwest of Thunder Bay, Ontario. It is located off of Highway 600 within the Township of Chapple and the District of Rainy River. The RRM is located within the Pinewood River watershed which flows past the mine, eventually draining into the Rainy River approximately 40 km downstream. At present, operations at RRM are comprised of open pit and underground mining with ore processed at the Rainy River Mill, located on site.

Development of the mine required the deposit of mine waste (e.g., tailings or overburden) into waterbodies frequented by fish. Consequently, to move forward with these activities an amendment to Schedule 2 of the Metal and Diamond Mining Effluent Regulations (MDMER), formerly the Metal Mining Effluent Regulation (MMER), was required. For this amendment to be completed the RRM had to develop and submit an approved Fish Habitat Compensation Plan (FHCP) that outlined the offset plan to ensure no net loss of fish habitat in keeping with the Department of Fisheries and Oceans (DFO) policy. The original No Net Loss Plan (NNLP) that formed the basis of the agreement was prepared in 2014 as part of the Environmental Assessment. The FHCP that included an outline of the compensation as well as the monitoring was originally submitted in 2015 with an updated version, based on changes to the mine design, submitted in 2017. This FHCP then became the contractual commitment of RRM to construct and monitor the compensation features.

Ecometrix was retained by New Gold to conduct the 2021 FHCP outlined monitoring of the compensation works. The monitoring is comprised of fish community and fish habitat compensation monitoring as well as a yearly report to be provided to the DFO. The data provided herein represents the fourth year of the post-construction monitoring of compensation habitats consisting of three stream features (Stockpile Diversion channel, West Creek Diversion channel and Clark Creek Diversion channel) and three pond features (Stockpile Pond, West Creek Pond and Clark Creek Pond).

Fish species diversity ranged from five to eleven among the watercourses, with Stockpile and West Creek Ponds along with the West Creek diversion channel achieving the species diversity success criterion (i.e., species diversity of nine or more). Clark Creek Pond, Clark Creek diversion channel and the Stockpile Pond diversion channel did not achieve the target number of species. The presence of multiple age classes including young of the year (YOY) found within every watercourse, indicated adequate spawning and rearing habitat for the species present. Fish abundance was high in all watercourses. Of note, Stockpile Pond Diversion channel had low water levels during the summer fish survey and consequently Stockpile Pond was isolated from the rest of the downstream compensation features. The RRM site experienced low amounts of precipitation in May through July with levels being less than the 20-year climate norm. This resulted in extended sections of the West Creek Diversion being completely dry during the summer survey with no water present from the outlet of the West Creek Pond to the haul Road. However, catches in the section of water that remained indicated that the deeper sections were

adequate to provide refuge in low water conditions for an abundance of fish of a variety of species.

The 2021 RRM Compensation Annual Performance surveys conducted in May and July 2021 resulted in Stockpile Pond achieving success for all but one (minnow trap CPUE) prescribed abundance criteria with the other compensation features underperforming to varying degrees. The lack of design target flows in both the Stockpile and West Creek Diversions may be improved by implementing contingency measures at Stockpile Pond. The specifics of these contingencies are being assessed through correspondence with DFO with the intention for implementation in 2022. The objective of contingency measures is to establish a maintenance design water-level that will promote connectivity throughout the Stockpile/West Creek system.

Backpack electrofishing in stream features is an effective method to assess the fish community in this habitat type. Conversely, minnow trap efforts may not be the most appropriate method to monitor in these features due to habitat but also trap avoidance by the species present. Similar to all studies since 2018, the 2021 fish species diversity criterion was only achieved in the West Creek Diversion Channel and not the Stockpile Pond or Clark Creek Diversion Channels. The low diversity in Clark Creek Diversion is likely natural in that baseline data indicate that the original fish species assemblage in this area of the project site was very unevenly distributed with 80% of fish species captured comprised of only four species.

Overall, West Creek Pond and the diversion channel contain a large and diverse fish assemblage as does Stockpile Pond. Clark Creek Pond and diversion contain a less diverse assemblage but this may be more indicative of natural variability in community structures rather than a deficiency in available built-habitat and/or feature design failure. The 2022 monitoring will provide an additional year of data to help understand if the potential implications of low water levels on performance criteria.

The results of the first four years of the monitoring indicate that Stockpile Pond has met biological success criteria. However, the pond is not meeting the design criteria for wetted area. An investigation by BGC Engineering (BGC), who is the engineer of record for the Stockpile Pond dams, indicates that the decreasing water levels in the pond are the result of a slightly smaller watershed than originally assumed during design but more importantly that the water is infiltrating the bottom of the pond and seeping out through the Stockpile Pond dam and the outlet apron at Stockpile Pond diversion channel. At present there are ongoing design discussions between BGC, New Gold and DFO related to implementing a contingency design change to retain water in Stockpile Pond to the levels originally intended. If successful this should maintain the pond closer to design level but also improve connectivity (water levels and flows) in downstream features all the way to Loslo Creek.

## TABLE OF CONTENTS

1.0	INTE	RODUCTION1.1
	1.1	Site Description
	1.2	Objectives
2.0	MET	HODS
	<b>2.1</b> 2.11	Compensation Plan Annual Monitoring Overview       2.1         Stream Flow Measurements       2.1
	2.1.2	Pond Depth Measurements
	2.1.4	Fish Community Assessment
	2.2	Data Analysis2.3
3.0	CON	IPENSATION PLAN ANNUAL MONITORING
	<b>3.1</b> 3.1.1 3.1.2	Physical Conditions and Vegetation       3.1         Diversion Channels       3.1         Ponds       3.2
	<b>3.2</b> 3.2.1 3.2.2	Fish Community3.6Diversion Channels3.6Ponds3.10
4.0	CON	CLUSIONS
5.0	CLO	SURE AND RECOMMENDATIONS5.1
6.0	REF	ERENCES
APP	ENDIX	A DETAILED SURVEY DATA A.1
APP	ENDIX	В.1

7

## LIST OF TABLES

Table 1-1: Compensation Plan Monitoring Requirements and Success Criteria	1.3
Table 3-1: Diversion Channel Depth and Flow Measurements, May 2021	3.3
Table 3-2: Species Presence during Compensation Plan Annual Monitoring, Rainy River Mine	
2021	3.8
Table 3-3: Fish Capture Summary during Compensation Annual Monitoring, Rainy River Mine	
2021	
Table 3-4: Compensation Annual Monitoring Results Compared to DFO Success Criteria3. Table A-1: Spring, High-Flow Transect Depth and Flow Velocity Data in the Stockpile Pond	
Diversion, May 2021	
Table A-2: Spring, High-Flow Transect Depth and Flow Velocity Data in the West Creek Diversion	
Upstream of the Haul Road, May 2021.	۹.2
Table A-3: Spring, High-Flow Transect Depth and Flow Velocity Data in the West Creek Diversion	วท
Downstream of the Haul Road, May 2021	٩.3
Table A-4: Spring, High-Flow Transect Depth and Flow Velocity Data in the Clark Creek Pond	
Diversion, May 2021	4.4
Table A-5: Detailed Electrofishing Results, RRM – July 2021	۹.5
Table A-6: Detailed Minnow Trap Data in Stream Features Results, RRM – July 2021	4.6
Table A-7: Detailed Minnow Trap Data in Pond Features Results, RRM – July 2021	۹.7
Table A-8: Detailed Seine Data in Pond Features Results, RRM – July 2021	۹.8
Table A-9: Detailed Fish Measurements for West Creek diversion channel, RRM – July 2021	
Table A-10: Detailed Fish Measurements for Clark Creek diversion channel, RRM – July 2021. A.	18
Table A-11: Detailed Fish Measurements for Stockpile Pond, RRM – July 2021A.	22
Table A-12: Detailed Fish Measurements for West Creek Pond, RRM – July 2021	36
Table A-13: Detailed Fish Measurements for Clark Creek Pond, RRM – July 2021A.	

## **LIST OF FIGURES**

Figure 1-1: Location and Layout, Rainy River Mine1.	2
Figure 2-1 : Compensation Monitoring Areas, Rainy River Mine 2.4	4
Figure 3-1: Stockpile Pond, West Creek Pond and Clark Creek Pond Depths (January 01 to	
November 22, 2021)	4
Figure 3-2: Stockpile, West and Clark Pond Depths – 2019 and 2020 (from Minnow 2020) 3.	5
Figure A-1: Precipitation Values Measured in the Vicinity of Rainy River Mine A.5	5
Figure A-2: Length-frequency Distributions for Fish Collected at West Creek Diversion Channel,	
Rainy River Mine 2021 A.5	6
Figure A-3: Length-frequency Distributions for Fish Collected at West Creek Diversion Channel,	
Rainy River Mine 2021 A.5	7
Figure A-4: Length-frequency Distributions for Fish Collected at West Creek Diversion Channel,	
Rainy River Mine 2021 A.5	8

Figure A-5: Length-frequency Distributions for Fish Collected at West Creek Diversion Channel,
Rainy River Mine 2021 A.59



## **1.0 Introduction**

#### 1.1 Site Description

The RRM is owned by New Gold. The mine is located approximately 65 km northwest of Fort Frances and 420 km northwest of Thunder Bay, Ontario (Figure 1-1). It is located off of Highway 600 within the Township of Chapple and the District of Rainy River. The RRM is located within the Pinewood River watershed which flows past the mine, eventually draining into the Rainy River approximately 40 km downstream.

Exploration of the RRM area began in 1967. Table 1-1 provides a history of site development. Commissioning occurred in 2017. Key mine-related infrastructure on the site includes an open pit, underground mine portal, waste rock stockpiles, rock crushing facilities, ore storage facilities, a processing plant, a Tailings Management Area (TMA), watercourse diversions, site drainage works, a fuel tank farm, explosives manufacturing facilities and explosives storage facilities (Figure 1-1).

Year	Activity
1967	First record of exploration
2005	Property purchased by Rainy River Resources Ltd.
2008	Rainy River Resources Ltd. commences baseline data collection
2013	New Gold Inc. purchases RRM
2014	Environmental Assessment submitted (AMEC 2014)
2015	Site construction begins
2017	Mine commissioned September 2017

## Table 1-1: Summary of Exploration, development and ownership changes for the RainyRiver Mine

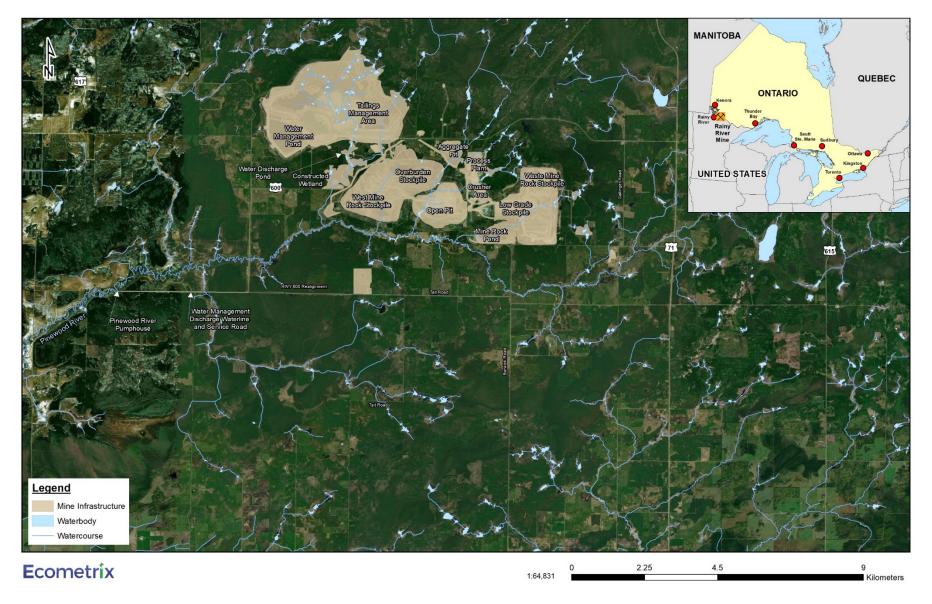
### 1.2 Objectives

The two main objectives of the compensation program are:

- Monitor the compensation features with respect to fish community and fish habitat; and,
- Report on the monitoring as it relates to the success criteria outlined in the FHCP.

The scope of the monitoring for both the form and function of the habitat and the fish community endpoints were outlined in the revised FHCP (AMEC 2017). Accordingly, this report summarizes the results of the 2021 RRM Compensation Measures Monitoring Program surveys conducted in May (high-flow) and July (low-flow) at Stockpile Pond and Stockpile Diversion, West Creek Pond and West Creek Diversion and Clark Creek Pond and Clark Creek Diversion and determines if DFO success criteria were achieved (Table 1-1).

#### ANNUAL MONITORING OF COMPENSATION MEASURES 2021 Introduction





Attribute	Monitoring Requirement	Success Criteria	Report Schedule		
	Water level gauges with an automated water level logger will be used to monitor water levels in the constructed ponds for 5 years following construction.				
	Water depth measurements of the pond area will be conducted once per year during the				
	monitoring period (5 years) to confirm refuge areas are maintained <sup>a</sup> .				
Physical Function of compensation Measures	Water level data from ponds will be used to evaluate frequency and duration of flows in the discharge channel. Water depth and velocity measurements in the discharge channel will be taken	Water levels are consistent with those specified in the design and the diversion channels and ponds allow for passage of fish.			
	in pools, flats, and riffles during at least one low flow period and high flow period each year (for 5 years). This data will be used to assess the channel conditions for fish passage (spring freshet recommended for high flow measurement).				
	Fish presence within the diversion channels will be monitored once per summer during the monitoring period (5 years) to assess fish access to the diversion channels.				
	Observations will be made once per year during the monitoring period, during low flow for best visibility to confirm that constructed features are in place and functional.	Constructed habitat features remain in place, shorelines and graded	_		
Stability of Habitat Structures	Stability of the features and general condition will be assessed by mapping and photo documenting the perimeter of the ponds and the diversion channels once per year. Consistent vantage points will be used to provide between year comparisons.	features are stable and not eroding (greater than 80% of features are considered stable).	Annual Monitoring Reports due to DFO on or before December 31 (2018, 2019, 2020, 2021 and 2022).		
	Riparian vegetation cover and planting success will be monitored annually by estimating the	Riparian vegetation cover and plantings achieve 80% coverage of area,			
	percent cover of herbaceous ground cover and the percent survival of planted stock (shrubs).	and or survival of planted stock.			
	Fish sampling will be conducted annually during the summer for 5 years.	Minimum of 9 species of fish present in each of the 2 Diversion areas (Clark Creek Diversion and West Creek Diversion).			
	Minimum fishing effort per pond: minnow traps (1,500 trap hours), seine nets (10 individual [15 m]	Multiple year classes including young of the year fish are present in each o	F		
	net hauls), and electrofishing (10,000 seconds). Additional effort and methods may be used to	the compensation features (Clark Creek Diversion and West Creek			
Fish Species Presence, Life		Diversion).	_		
Cycle Usage, and Abundance	Minimum fishing effort per diversion channel: minnow traps (250 trap hours), electrofishing (1,000	Overall Catch-per-Unit-Effort (CPUE) for all species combined, for at least two of the following capture methods (electrofishing, minnow traps, and seine nets);			
	seconds). Additional effort and methods may be used to confirm larger bodied species, species	Minnow Trap CPUE $\geq$ 2 fish per trap hour;			
		Seine Net CPUE $\geq$ 16 fish per 15 m net pull;			
		Electrofishing CPUE $\geq$ 44 fish per 1,000 seconds			

Table 1-1: Compensation Plan Monitoring Requirements and Success Criteria

<sup>a</sup> Data collected by RRM and provided to Ecometrix for annual reports.

## 2.0 Methods

#### 2.1 Compensation Plan Annual Monitoring Overview

The RRM Compensation Measures Monitoring Program was completed over two surveys conducted from May 24<sup>th</sup> to 28<sup>th</sup> and July 19<sup>th</sup> to 28<sup>th</sup>, 2021. These surveys focused on fish habitat (May and July) and fish community (July) assessments, at all compensation features (Figure 2-1). These constructed features were created as a result of the necessity to deposit mine waste (i.e., tailings or mine rock) into water frequented by fish as part of the mine development and operation. The spring survey focused on habitat and flow connectivity within stream features while the mid-summer survey focused on habitat and fish communities in both stream and pond compensation features.

The Compensation measures include two different watercourses:

- 1) West Creek Diversion (Stockpile Pond, Stockpile Pond diversion channel, West Creek Pond, and West Creek diversion channel); and,
- 2) Clark Creek Diversion (Clark Creek Pond and Clark Creek diversion channel.

The locations of all features and the stream sampling stations are provided in Figure 2-1. Construction of the compensation measures were completed in 2016 and 2017. Construction of the Clark Creek Pond was completed in early 2016 and construction of the Clark Creek diversion channel was completed by late 2016. The Stockpile Pond and diversion channel were constructed by early 2016, whereas the West Creek Pond and diversion channel construction was completed by late 2017. Annual monitoring for Compensation features is to be completed annually until 2022 (AMEC 2017).

Within each of the watercourses, the fish habitat and fish communities were assessed utilizing methods outlined in the FHCP and provided in the following sections (AMEC 2017).

#### 2.1.1 Stream Flow Measurements

Water velocity and depth were measured along a wetted channel cross-sectional width at each of the pre-established locations. At each point along transects both water depth and water velocity were measured. Depth was measured to the nearest centimetre using a graduated wading rod attached to the flow meter and velocity was measured with a SonTek FlowTracker2 Acoustic Doppler Velocimeter (ADV®) portable velocity meter (SonTek a XyLem Brand, San Diego, CA). Flow measurements targeted a variety of habitats including pool, riffle, and run/flat areas of the outlet channel. Flow measurements are to be taken during both a high-flow period (spring freshet) and a low-flow period (mid-summer). An extreme low water year substantially reduced the number of stations measured during the summer period (See **Section 3.0** Results).

#### 2.1.2 Pond Depth Measurements

Wood (formerly AMEC Foster Wheeler) installed Solinst 3001 LT Levelogger Edge, M10 water level loggers at each pond. These loggers measured depth and temperature data in 15-minute intervals. Depth compensation corrections were calculated using the measurements from a Solinst 3001 Barologger Edge. RRM environmental department staff download logger data quarterly; the latest download was collected November 21<sup>st</sup> or November 22<sup>nd</sup>, 2021.

#### 2.1.3 Fish Habitat Assessment

Surveys of constructed features such as boulders and woody debris piles were conducted in the summer season facilitated by the low water conditions. These fish habitat surveys were completed in both stream and pond habitats. The assessment of the riparian vegetation was also conducted in the summer season through photo-documentation and subsequent estimation of vegetative ground cover that surrounds both the diversion and pond features.

#### 2.1.4 Fish Community Assessment

The fish community within the diversion channels (Stockpile Pond diversion channel, West Creek diversion cannel and Clark Creek Pond diversion channel) was assessed using a backpack electrofisher and overnight minnow trapping effort. The backpack electrofishing unit was adjusted to appropriate voltage, frequency, and duty cycle settings based on target fish size, water conductivity, and temperature to minimize the risk of harm to fish. Minnow traps were baited with dry cat food prior to deployment. As a result of the low water levels encountered at Stockpile Pond diversion channel during the survey, minnow traps were not utilized.

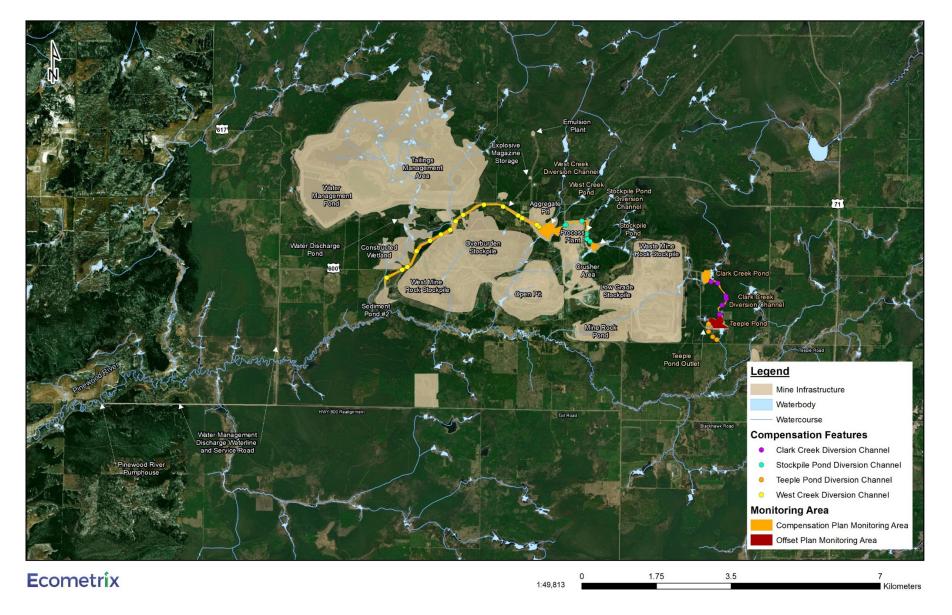
In pond features (Stockpile Pond, West Creek Pond and Clark Creek Pond) the fish community was assessed using beach seines, backpack electrofisher and minnow traps with the amount of effort prescribed in Table 1-2. A variety of habitats within the pond were targeted according to species preference (Scott and Crossman 1998). All captured fish were handled carefully, identified to species, and enumerated based on effort type. A subset of fish of a variety of sizes for each species were measured for fork and total length using an appropriately sized measuring board, and for round body weight using an Ohaus ® Scout ® Pro analytical balance (Model SP601). An external examination was conducted on all fish retained for measurements. Detailed observations were made on any features of the fish which did not appear normal (i.e., wounds, tumors, parasites, fin fraying, gill parasites, or lesions). All captured fish were released near the location of capture, with fish measurements recorded on waterproof field data collection sheets.

It should be noted that electrofishing is the most quantitative method for determining fish species diversity followed by seines and minnow traps. Electrofishing and seining are active methods whereas minnow traps are passive and some species are not prone to effective capture based on their habitat usage and behaviour (Jackson and Harvey 1997). Consequently, when discussing catches results are presented from most to least quantitative.

### 2.2 Data Analysis

Habitat data including stream flow, pond level vegetative community and total vegetative cover were compared to DFO success criteria (Table1-2). The number of fish captured were used to calculated Catch-Per-Unit-Effort (CPUE; by gear type). Measurement data from a subset of individuals from each captured species from each compensation feature was used to create length histograms to infer age distribution. CPUE, age distributions and the number of species were compared to DFO success criteria (Table 1-2).

#### ANNUAL MONITORING OF COMPENSATION MEASURES 2021 Methods





## 3.0 Compensation Plan Annual Monitoring

### 3.1 Physical Conditions and Vegetation

#### 3.1.1 Diversion Channels

During the spring survey the Stockpile Pond diversion channel only contained flowing water for approximately half of its overall length with the two established transect locations closest to Stockpile Pond being completely dry. The average depth and velocity of the Stockpile Pond diversion based on the four stations with flowing water in the spring was 8.3 cm and 0.011 m/s, respectively (Table 3-1, Appendix Table A-1, Photo B-1). During the summer survey all of the established stations on the Stockpile Pond diversion channel were dry and consequently no flow wetted width or depth measurements were taken (Appendix Photo B-2). The reduced flow in the diversion is the result of the reduced water retention in Stockpile Pond, an issue that is currently being investigated for appropriate contingency measures. A contributing factor may also be that the amount of precipitation at the RRM was below the 20-year climate norm in six of the first seven months of 2021. Despite the general lack of flowing water at the established transects, fish were captured in the diversion in isolated refuge pools fed by a groundwater seep approximately 450 m upstream of the site access road (Appendix Photo B-3).

The West Creek diversion channel flows from the outlet of West Creek Pond at the upstream end to Loslo Creek at the downstream end. The diversion is divided into upper and lower portions by the Haul Road (Figure 2-1). In May the average depth and velocity in the upper and lower portions of the West Creek diversion channel were 16.4 cm and 0.04 m/s, and 16.4 cm and 0.01 m/s, respectively (Table 3-1, Appendix Table A-2 and A-3, Photo B-4 and B-5). In the summer, owing to extremely dry conditions (Appendix Figure A.1) no stations in the upper West Creek diversion channel and only one station in the lower West Creek diversion channel had flowing water that was measurable (Appendix Photo B-6 and B-7). Although most established stations were dry there were some occurrences of isolated pools in both the upper and lower reaches during the summer survey (Appendix B-8).

In the spring, the Clark Creek diversion channel had an average depth of 18.5 cm and an average flow velocity of 0.009 m/s (Table A-4, Appendix Photo B-9). In the summer survey there was a similar story to the other two diversions with only one of six established transect stations having measurable flowing water at the time of the survey (Appendix Photo B-10).

Similar to previous years the Stockpile Pond diversion channel never contained sufficient water to allow fish passage between the upstream Stockpile Pond and the downstream West Creek Pond. This issue has led to the initiation of contingency measures associated with Stockpile Pond. In the spring the West Creek diversion channel and the Clark Creek diversion channel both provided connectivity between West Creek Pond and Loslo Creek for the former and Clark Creek Pond and Teeple Pond for the latter. However, in the summer both the West Creek and Clark Creek diversion channels contained insufficient water to allow for fish passage with large stretches of both diversions being dry. Despite low water levels in some stretches both the Clark Creek and West Creek diversions contained fish refugia in the form of remaining pools.

Ecometrix Environmental

The riparian vegetation along the Stockpile Pond diversion channel was extensive. The upstream portion of the diversion may require some additional plantings following the contingency measures on the pond as the banks and stream bed were extremely dry and have been in that condition for the last number of years. This vegetation community included sedges (Carex sp.) grasses and cattails (Typha sp.) (Appendix Photo B-1 and B-2). Similar species were noted in the West Creek diversion channel both upstream and downstream of the haul road with riparian vegetation being close to complete (>95%), (Appendix Photo B-4 to B-8). During the spring survey when water levels were higher submergent macrophytes such as arrowhead (Sagittaria sp.), pondweed (Potamogeton sp.), burreed (Sparganium sp.), duckweed (Leemnoideae) and coontail (Ceratophyllum sp.) were particularly prevalent in the pools downstream of Haul Road. (Appendix Photo B.4 and B.7). Clark Creek diversion channel had riparian vegetation cover greater than 90% with similar species to the other diversions but also with large patches of raspberries (Rubes occidentalis), and signs of early successional trees such as speckled alder (Alnus incana). Throughout the Clark Creek diversion there were thick beds of cattail with other macrophytes such as burred and coontail observed in the pool habitat. (Appendix Photo B-9 and B-10).

The banks and riparian zones of all the diversion channels exceeded the success criteria of 80% cover. All constructed cover habitat in the form of woody debris, boulder clusters and pools appeared to be stable with no signs of movement or erosion since the 2020 survey.

#### 3.1.2 Ponds

Generally, Stockpile Pond depths ranged from 0.2 to around 1.2 m during the April to December period (Figure 3-1). These depths represent a reduction compared to that in the design and contingency measures to maintain the pond depth at levels closer to those intended are currently being discussed with DFO. Photographic evidence of the reduced water level is provided in Appendix B (Photo B-11). In 2021, from January through to November West Creek Pond water depths ranged from 0.75 m to 1.25 m whereas the level in Clark Creek Pond ranged from around 1.25 m to 1.85 m over the same time period (Figure 3-1).

Both the Clark Creek Pond and West Creek Pond have had similarly stable levels over the 2019 to 2021 period with both appearing to be able to withstand periods of low precipitation like those experiences in the spring and summer of 2021 (Figure A-1). Even with record low rainfall the depths in these two ponds did not drop below 0.75 m and remained deep enough to provide refuge to fish during these low water periods. Stockpile Pond levels reported from the logger in the January to April period were highly variable an unreliable with some levels representing values that were not possible. It has been determined that the Stockpile Pond is losing water through subsurface flows to the groundwater. The "bad" readings were likely the result of thick ice or the probe freezing rather than water depth. If contingency measures move forward at this pond the logger will need to be removed and then reinstalled. Despite the lower than designed water levels the fish community survey indicated Stockpile Pond continued to provide overwintering refuge habitat (See **Section 3.2**).

	Maritania Ctation	Station I	Depth (cm)	Area Depth (cm)		Station Flow (m/s)		Area Flow (m/s)	
Waterbody	Monitoring Station	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	SPDC-Culvert	4.2	3.37			0.015	0.0232		
	SPDC-01	17.7	8.86			0.001	0.0015		
Stockpile Pond	SPDC-02	3.5	1.29	8.3	8.55	0.027	0.0311	0.012	0.0214
<b>Diversion Channel</b>	SPDC-03	3.0	0.82	0.5	0.55	-	-	0.012	0.0214
	SPDC-04	-	-			-	-		
	SPDC-05	-	-			-	-		
	WCDC-A1	3.3	3.39			0.0003	0.000648		
West Creek	WCDC-A2	19	14.85		20.87	0.002	0.0025		
Diversion Channel	WCDC-A3	3.7	2.88			0.065	0.0608	0.012	0.0305
	WCDC-A4	48.5	28.42	16.4		0.000	0.0018		
(downstream of	WCDC-A5	6.5	1.73			0.007	0.0063		
haul road)	WCDC-A6	7.2	2.05			0.024	0.0256		
	WCDC-A7	29	21.29			0.002	0.0025		
	WCDC-01	9.3	7.11		13.28	0.008	0.0167	0.042	
	WCDC-02	4	0.63			0.271	0.2628		
West Creek	WCDC-03	25.2	6.55			0.025	0.0396		
Diversion Channel	WCDC-04	5.4	1.52			0.063	0.0700		
	WCDC-05	24.9	2.34	16.4		0.000	0.0023		0.0017
(Upstream of haul road)	WCDC-06	25.3	12.63			0.001	0.0026		
1040)	WCDC-07	3.5	2.74			0.064	0.1058		
	WCDC-08	31.6	18.25			0.001	0.0012		
	WCDC-09	13.6	9.82			0.000	0.0008		
	CCDC-01	42.2	29.22			0.003	0.0035	0.009	
	CCDC-02	10.7	7.25			0.006	0.0143		
Clark Creek	CCDC-03	2.75	3.22	10.5	18.83	0.010	0.0341		0.0275
Diversion Channel	CCDC-04	10.4	8.91	18.5	10.05	0.023	0.0474		
	CCDC-05	20.2	12.11			0.013	0.0396		
	CCDC-06	21.9	9.34			0.006	0.0194		

#### Table 3-1: Diversion Channel Depth and Flow Measurements, May 2021

Note: Station on Stockpile, Clark Creek and West Creek Diversion downstream of the Haul Road are labelled from downstream to upstream. West Creek Diversion stations are labelled from West Creek Pond to the Haul Road.

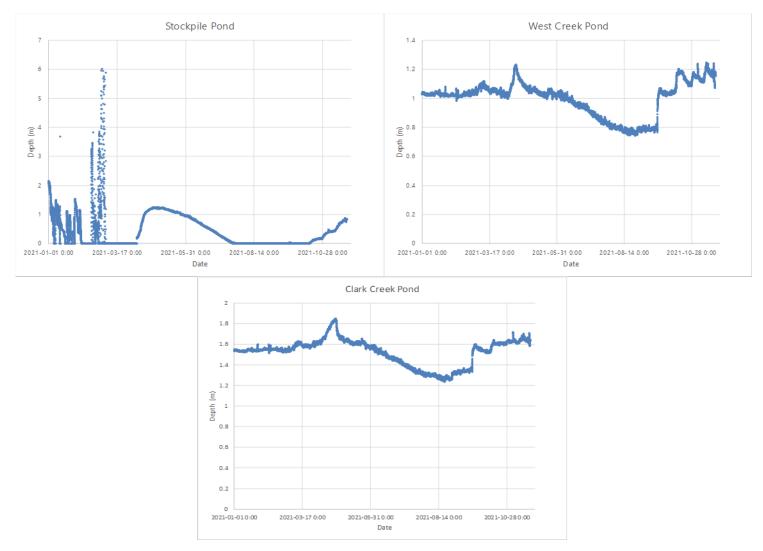


Figure 3-1: Stockpile Pond, West Creek Pond and Clark Creek Pond Depths (January 01 to November 22, 2021)

Ecometrix Environmental

#### ANNUAL MONITORING OF COMPENSATION MEASURES 2021 Compensation Plan Annual Monitoring

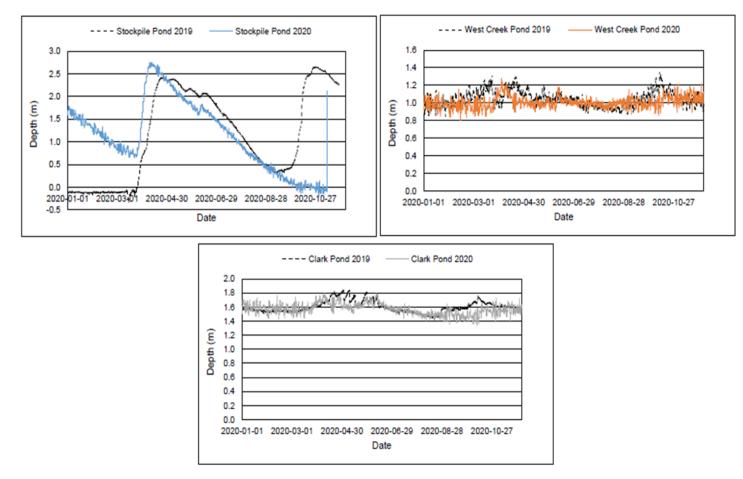


Figure 3-2: Stockpile, West and Clark Pond Depths – 2019 and 2020 (from Minnow 2020)

Around the constructed perimeter of Stockpile Pond extensive vegetation cover (>90%) exists. Tree species observed in the forested portion of the perimeter included aspen, black spruce (*Picea mariana*), willow (Salix sp.). Along the high-water line grasses, sedges, Golden Rod (*Solidago* sp.), clover (*Trifolium* spp.) and Bird-foot Trefoil (*Lotus corniculatus*) and other forbs such as Golden (Appendix Photo B-11). Emergent macrophytes were limited to the shallower northeastern portion of the pond. Similarly, submergent macrophytes were generally absent from the main basin of Stockpile Pond near the dam, likely owing to the rock bottom. In the softer soils submergent macrophytes included pondweed and burred with some arrowhead. As noted Stockpile Pond levels have decreased yearly since construction and in July 2021 large expanses of the pond bottom were exposed (Appendix Photo B-11). Following contingency measures additional plantings will be required in the area of mechanical disturbance surround the pond. Future monitoring of Stockpile Pond following the contingency implementation should include continued vegetation survey to report on these measures.

The perimeter of West Creek Pond has an extensive vegetation community with large stands of cattails as well as some arrowhead, sedges and grasses (Appendix Photo B-12). Vegetation cover was great than 90% surrounding the West Creek Pond. Moving away from the shoreline the forest that borders the pond generally consists of black spruce and trembling aspen (*Populus tremuloides*). Submergent vegetation is prevalent throughout the pond with the community primarily comprised of burred and pondweed with some small areas of pond lily.

The edge of Clark Pond has large expanses of flooded timber as well willow and leatherleaf shrubs. There are also large expanses of aquatic species such as cattail, bulrush, sedges and grasses (Appendix Photo B-12). The perimeter is well vegetated with greater than 90 % cover. Within the pond there the submergent vegetation community was similar to the other ponds with burreed, coontail and pond lily the primary species observed.

All three ponds had a diverse vegetation community with over 90% cover. Forested habitat was generally comprised of black spruce and trembling aspen whereas emergent vegetation was primarily cattails, grasses and sedges. Submergent vegetation was predominantly coontail, burred and pondweed and to a lesser extend pond lily. Constructed fish cover in the form of boulder piles and woody debris appeared stable and in place in all ponds.

### 3.2 Fish Community

All compensation features have success criteria for the establishment of a healthy resident fish community. These success criteria must be met by both the stream (i.e. diversion) and pond features and include species diversity, fish abundance (CPUE) and an indication of sustainability through the presence of multiple year classes (Table 1-2).

#### 3.2.1 Diversion Channels

In the Stockpile Pond diversion channel, limited effort due to low water levels resulted in the capture of 60 fish. The fish community included (listed in order of abundance) Brook Stickleback (*Culaea inconstans*), Central Mudminnow (*Umbra limi*), Finescale Dace (*Chrosomus neogaeus*),

Creek Chub (*Semotilus atromaculatus*) and White Sucker (*Catostomus commersonii*) (Tables 3-2 and 3-3). Fish capture results equated to a prorated CPUE of 215 fish captured per 1,000 seconds of electrofishing effort (Table 3-4; Appendix Tables A-5). Minnow traps were not utilized due to low water levels within the Stockpile Pond diversion channel. Additionally, fish were not measured due to limited catch. However, multiple age classes were observed for four of the five species captured

Stockpile Pond diversion channel obtained success criteria for electrofishing CPUE and multiple age classes but not species diversity or minnow trap CPUE. It should be noted that the amount of effort expended in the Stockpile Pond diversion channel was reduced to the available habitat (Table 3-3; Appendix Tables A-5 and A-6). That is, minnow traps were not utilized in 2021 due to low water levels and the amount of electrofishing effort was reduced based on available habitat.

In West Creek diversion channel the fish community included, (listed in order of abundance) Northern Redbelly Dace (*Chrosomus eos*), Brook Stickleback, Central Mudminnow, Creek Chub, Pearl Dace (*Margariscus margarita*), Brassy Minnow (*Hybognathus hankinsoni*), Common Shiner (*Luxilus cornutus*), White Sucker, Fathead Minnow (*Pimephales promelas*), Finescale Dace and Johnny Darter (*Etheostoma nigrum*) (Table 3-2). There was an abundant fish community with 571 fish captured from 11 different species. This resulted in CPUEs of 206 fish captured per 1,000 seconds of electrofishing effort and 0.88 fish captured per minnow trap hour (Table 3-3 and 3-4; Appendix Tables A-5 and A-6). Length frequency histograms indicate that multiple age classes of a variety of species were captured (Table 3-2; Figure A-2). It should be noted that some minnow trap catches resulted in high mortality rates due to low overnight oxygen levels.

West Creek Diversion Channel obtained the success criteria for species diversity, electrofishing CPUE and multiple age classes present while the criterion for minnow trap CPUE was not obtained (Table 3-4, Appendix Figure A-2, Appendix Tables A-5 and A-6).

In Clark Creek diversion channel, a total of 130 fish were captured. The fish community included, (listed in order of abundance) Central Mudminnow, Brook Stickleback, Finescale Dace, Northern Redbelly Dace and Brassy Minnow (Table 3-2). Fish capture results included CPUEs of 56 fish captured per 1,000 seconds of electrofishing effort and 0.23 fish captured per minnow trap hour (Table 3-4; Appendix Tables A-5 and A-6). Length frequency histograms indicate that multiple age classes of a variety of species were captured (Table 3-3; Appendix Figure A-3). Similar to the West Creek diversion channel some minnow trap catches in Clark Creek also resulted in high mortality rates due to low overnight oxygen levels.

Clark Creek Diversion Channel obtained the success criteria for electrofishing CPUE and multiple age classes present while criteria for species diversity and minnow trap CPUE were not met (Table 3-4, Appendix Figure A-1, Appendix Tables A-5 and A-6).

The current survey represents the fourth annual monitoring (2018-2021) of the stream compensation features at RRM. Throughout the years the survey results have generally been comparable with the West Creek diversion channel consistently meeting success criteria for species diversity and electrofishing. Stockpile Pond diversion channel obtained the diversity

target once, in 2018 and the electrofishing target once in 2021 but otherwise low water levels have limited the success of this feature. The Clark Creek Pond diversion channel met the success criterion for electrofishing in 2019 and 2021 while it did not meet the diversity success criterion in any year. As noted in previous reports the success criterion for minnow trap CPUE may be unrealistic as the stream features have never approached the success criteria in any of the five years of monitoring (Table 2-3). This is likely more related to electrofishing being a more effective method of sampling in small flowing systems such as they diversion and are not necessarily reflective of the fish community. With respect to species diversity in the Clark Creek diversion, it may also be unrealistic for nine species to inhabit the diversion at the time of sampling given the fact that the baseline date indicated that 80% of the community in that area was comprised of four species (AMEC 2013).

	S	Stream Habita	nt	Pond Habitat				
Species	West Creek Diversion Channel	Clark Creek Diversion Channel	Stockpile Pond Diversion Channel	Stockpile Pond	West Creek Pond	Clark Creek Pond		
Brown Bullhead	-	-	-	$\checkmark$	$\checkmark$	-		
Brassy Minnow	$\checkmark$	$\checkmark$	-	$\checkmark$	$\checkmark$	$\checkmark$		
Brook Stickleback	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		
Creek Chub	$\checkmark$	-	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		
Central Mudminnow	~	$\checkmark$	$\checkmark$	~	$\checkmark$	$\checkmark$		
Common Shiner	$\checkmark$	-	-	$\checkmark$	-	-		
Fathead Minnow	$\checkmark$	-	-	$\checkmark$	$\checkmark$	$\checkmark$		
Finescale Dace	$\checkmark$	$\checkmark$	$\checkmark$	-	$\checkmark$	$\checkmark$		
Johnny Darter	$\checkmark$	-	-	-	$\checkmark$	-		
Northern Redbelly Dace	$\checkmark$	$\checkmark$	-	~	$\checkmark$	$\checkmark$		
Pearl Dace	$\checkmark$	-	-	$\checkmark$	$\checkmark$	-		
White Sucker	$\checkmark$	-	$\checkmark$	$\checkmark$	-	-		
YOY Cyprinid	-	-	-	-	-	$\checkmark$		
Total Species Present <sup>a</sup>	11	5	5	10	10	7		

## Table 3-2: Species Presence during Compensation Plan Annual Monitoring, Rainy RiverMine 2021

Denotes waterbody achieved diversity success criterion of  $\geq$  9 species.

Notes:  $\checkmark$  indicates species is present. "-" indicates species is not present.

<sup>a</sup> Does not include YOY Cyprinid.

## Table 3-3: Fish Capture Summary during Compensation Annual Monitoring, Rainy RiverMine 2021

a) Stream Featur								
Motorbook .		Electrofishing		Minnow Trap				
Waterbody	Total Effort <sup>a</sup>	Total Catch	Total CPUE <sup>b</sup>	Total Effort <sup>a</sup>	Total Catch	Total CPUE <sup>b</sup>		
Stockpile Pond Diversion	279	60	0.22	-	-	-		
West Creek Diversion Channel	1,068	220	0.21	399	351	0.88		
Clark Creek Diversion Channel	1,062	59°	0.06 <sup>c</sup>	314	71	0.23		

a) Stream Features

#### b) Pond Features

	Electrofishing			N	/linnow Tra	р	Seine Net			
Waterbody	Total Effortª	Total Catch	Total CPUE <sup>b</sup>	Total Effortª	Total Catch	Total CPUE <sup>b</sup>	Total Effortª	Total Catch	Total CPUE <sup>b</sup>	
Stockpile Pond	10,019	442	0.04	1,671	2.241	1.34	1,125	3,622	3.22	
West Creek Pond	10,024	274	0.03	1,764	1,896	1.07	1,240	6,876	5.55	
Clark Creek Pond	10,001	760	0.08	1,763	848	0.48	753	5,304	7.04	

<sup>a</sup> Effort defined as minnow trap = total trap hours, electrofishing = total seconds, and seine net = total m<sup>2</sup> seined.

<sup>b</sup> CPUE defined as minnow trap = number of fish per trap hour, electrofishing = number of fish per second, and seine net = number of fish per  $m^2$ .

Year / Waterbody			Stockpile Pond Diversion Channel	West Creek Diversion Channel	Clark Creek Diversion Channel	Stockpile Pond	West Creek Pond	Clark Creek Pond				
		2018 <sup>b</sup>	12	12	7	12	12	7				
		2019 <sup>c</sup>	-	14	4	11	14	6				
	Diversity <sup>a</sup>	2020 <sup>c</sup>	-	13	5	10	11	6				
		2021	5	11	5	10	10	7				
		Target	≥ 9 fish species									
	Electrofishing	2018 <sup>b</sup>	31	86	16	5	2	4				
		2019 <sup>c</sup>	-	183	69	96	38	109				
		2020 <sup>c</sup>	-	151	28	39	11	52				
DFO		2021	215	206	56	44	27	76				
DFO Success		Target	≥ 44 fish per 1,000 seconds									
Criteria		2018 <sup>b</sup>	0.42	0.35	0.06	1.01	1.73	1.02				
Criteria		2019 <sup>c</sup>	-	1.19	0.31	0.18	1.22	0.39				
	Minnow Trap	2020 <sup>c</sup>	-	0.89	0.23	0.58	0.49	0.29				
		2021	-	0.88	0.23	0.96	1.07	0.48				
		Target	≥ 2 fish per trap hour									
		2018 <sup>b</sup>	-	-	-	538	255	172				
		2019 <sup>c</sup>	-	-	-	739	451	1,365				
	Seine Net	2020 <sup>c</sup>	-	-	-	314	294	461				
		2021	-	-	-	362	688	530				
		Target		N/A		≥ 16 fish	per 15 m ti	rap haul				

#### Table 3-4: Compensation Annual Monitoring Results Compared to DFO Success Criteria

Denotes value achieved success criterion.

Notes: "-" denotes no data available (e.g., no water in Stockpile Pond diversion channel). N/A denotes a component not required as part of the monitoring program,

<sup>a</sup> Total species count does not include young-of-year cyprinids.

<sup>b</sup> Previous studies conducted by Wood (Wood 2018 a, b).

<sup>c</sup> Previous studies conducted by Minnow (Minnow 2019, 2020).

#### 3.2.2 Ponds

In Stockpile Pond, the fish community included (listed in order of abundance) Common Shiner, Brown Bullhead (*Ameiurus nebulosus*), Creek Chub, Northern Redbelly Dace, Fathead Minnow, Central Mudminnow, White Sucker, Brassy Minnow, Brook Stickleback and Pearl Dace (Tables 3-2 and 3-3; Appendix Table A-5, A-7 and A-8). There was an abundant fish community in the pond with a total of 6,305 fish captured from 10 different species. This included CPUEs of 44 fish captured per 1,000 seconds of electrofishing effort, 362 fish captured per 15 m seine net haul, and 1.34 fish captured per minnow trap hour (Table 3-3, 3-4; Appendix Tables A-5, A-7 and A-8). Length frequency histograms indicate that multiple age classes including YOY were captured (Appendix Figure A-2). Stockpile Pond obtained the success criteria for species diversity, multiple age classes present, electrofishing and seine net CPUE, whereas the criterion for minnow trap CPUE was not met obtained (Table 3-3 and 3-4, Appendix Figure A-4, Appendix Tables A-5, A-7 and A-8).

In West Creek Pond, a diverse fish community of 10 species was present in 2021. The fish community included (listed in order of abundance) Brown Bullhead, Finescale Dace, Northern

#### ANNUAL MONITORING OF COMPENSATION MEASURES 2021 Compensation Plan Annual Monitoring

Redbelly Dace, Central Mudminnow, Brook Stickleback, Pearl Dace, Creek Chub, Johnny Darter, , Fathead Minnow, and Brassy Minnow (Tables 3-2 and 3-3). There was an abundant fish community in the pond with a total of 9,046 fish captured. This resulted in CPUEs of 27 fish captured per 1,000 seconds of electrofishing effort, 688 fish captured per 15 m seine net haul, and 1.07 fish captured per minnow trap hour (Table 3-3 and 3-4; Appendix Tables A-5, A-7 and A-8). Similar to Stockpile Pond, length frequency histograms indicate that multiple age classes including YOY were captured (Appendix Figure A-5). West Creek Pond obtained the success criteria for species diversity, multiple age classes present and seine net CPUE. Success criteria were not obtained for electrofishing or minnow trap CPUE (Table 3-4).

In Clark Creek Pond, the fish community included (listed in order of abundance) Finescale Dace, Brook Stickleback, Central Mudminnow, Brassy Minnow, Northern Redbelly Dace, Fathead Minnow and Creek Chub, (Tables 3-2 and 3-3). A total of 6,912 fish were captured from seven different fish species. These catches resulted in CPUEs of 76 fish captured per 1,000 seconds of electrofishing effort, 530 fish captured per 15 m seine net haul, and 0.48 fish captured per minnow trap hour (Table 3-3 and 3-4; Appendix Tables A-5, A-7 and A-8). As with the other two ponds, multiple age classes including YOY of various species were captured (Appendix Figure A-6). Clark Pond obtained success criteria for the use by multiple age classes as well as electrofishing and seine net CPUEs. Success criteria were not obtained for species diversity or minnow trap CPUE (Table 3-3).

Similar to the stream features, the current survey represents the fourth annual monitoring (2018-2021) of the pond compensation features at RRM. Over the past four years, all three ponds have met success criteria for use by multiple age classes and at least one fishing technique (i.e., seine net) (Table 3-4, Appendix Figures A-4 to A-6). As previously noted, the criteria of minnow trap CPUE may be unrealistic as the pond features have never approached the success criteria in any of the four years of monitoring (Table 3-4). Stockpile and West Creek Pond consistently meet the success criterion for diversity while Clark Creek Pond has remained similar in all four years (6-7 species), less that the success criterion of nine species (Table 3-4).



The key results of the 2021 Compensation Monitoring are as follows:

- The vegetation communities both within and beside the constructed stream and ponded features are now well established and exceed the 80% cover criteria;
- All compensation features appear stable with no indication of migration of constructed fish habitat such as boulder clusters or woody debris piles;
- Stockpile Pond diversion water levels remained below design basis and this feature did not allow fish passage from West Creek Pond upstream to Stockpile Pond. This lack of connectivity should be corrected by appropriate contingency measures developed through consultation with DFO and applicable interested parties.
- Precipitation levels at RRM that were less than the 20-year climate norm resulted in dry conditions and consequently West Creek and Clark Creek diversions also did not allow fish passage for a portion of the year.
- All waterbody features met a success criterion for at least one fishing technique (electrofishing for streams and seine netting for ponds).
- All features also met the success criteria for multiple age classes, indicating adequate habitat for spawning and rearing habitat for the species that exist within the ponds.
- The West Creek diversion channel, Stockpile Pond and West Creek Pond obtained the success criterion for species diversity;
- Clark Creek diversion channel and Clark Creek Pond did not meet the species diversity criterion.

Overall, the West Creek diversion channel has consistently obtained success criteria for species diversity, at least one fishing technique and multiple year classes in all for years of sampling. Conversely, Clark Creek diversion channel has never obtained the diversity success criterion but has met the criteria for multiple age classes in each year and electrofishing CPUE twice in four years. Stockpile Pond diversion channel obtained species diversity once in 2018 and exceeded electrofishing CPUE in 2021. Fishing effort has been limited throughout the four years and an increase it water should help this feature approach success for the other criteria. The 2021 sampling was conducted during an extreme low water event and consequently none of the diversions provided the designed connectivity. This is somewhat expected given the natural state of the watercourses in the area with large waterbodies such as the Pinewood River also experiencing times of isolated water in reaches near the site. It is worth noting that despite the diversions not allowing for full passage up and down their length, the remaining wetted habitat did provide areas of refuge as was evident by the fish catches.



Although isolated at the top of the West Creek diversion complex Stockpile Pond obtained all of the fish species presence, life cycle usage and abundance criteria as the CPUE exceeded their targets for at least two fish capture methods. Minnow trapping as a means of fish capture has never provided a reasonable representation of the abundance of fish inhabiting the ponded features. As such it's utility as a metric of success may be minimal.

## 5.0 Closure and Recommendations

Based on the findings of the 2021 RRM Compensation Annual Performance surveys conducted in May and July 2021, Stockpile Pond achieved success for all but one (minnow trap CPUE) prescribed abundance criteria with the other watercourses underperforming to varying degrees. As mentioned, minnow trapping has not proven to be a representative means of fish sampling in channelized or pond compensation features over the monitoring period. Instances of not meeting performance criteria at Stockpile Pond and Stockpile Pond Diversion may be abated with an increase in water levels in the system. New Gold is currently in discussions with DFO related to contingency measures at Stockpile Pond to decrease water seepage from the system, therefore increasing and maintaining the pond water levels, thereby improving its connectivity to downstream features. Success of any contingency measures will be determined through continued monitoring of Stockpile Pond and Stockpile diversion channel that will extend beyond the original 5-year period outlined in the FHCP.

As noted, the first four years of the monitoring indicate that Stockpile Pond is highly productive. However, the pond is not meeting the design criteria for wetted area and volume. An investigation by BGC, who is the Engineer of Record for the Stockpile Pond dams indicated that the decreasing water levels in the pond are the result of a slightly smaller watershed than originally assumed during design, but more importantly that water is infiltrating the bottom of the pond and seeping out through the Stockpile Pond dam and the outlet apron. At present, New Gold has entered into discussion with DFO related to the potential implementation of design based contingency measures with the objective to retain water in Stockpile Pond at original design basis levels, thereby maintaining connectivity to downstream features all the way to Loslo Creek.

CPUE criteria were not met in the West Creek and Clark Creek diversions. Meeting the requirement to fulfil both minnow trap and electrofishing efforts under such low water conditions was not feasible. Similar to all studies since 2018, in 2021 the fish species diversity criterion was only achieved in West Creek diversion channel and not the other two diversions. These trends are related to low water / connectivity issues (Stockpile Pond) and a lower natural species assemblage present in that portion of the compensation features (Clark Creek diversion) (AMEC , 2013). New Gold would welcome the opportunity to engage DFO is discussions related to the monitoring program design in advance of the 5<sup>th</sup> year of monitoring to determine if the success criteria and amount of effort remain the most effective metrics for measuring success of the constructed features.

Considering the preceding, it is recommended that:

- RRM staff continue to manage any beaver activity within the compensation features that may hinder connectivity or water contributions to the diversions;
- RRM implement the DFO agreed upon contingency in Stockpile Pond to increase water levels to near the design specifications; and,

Ecometrix Environmental



• Conduct the 5<sup>th</sup> year of monitoring on all features in the FHCP.

### 6.0 References

- AMEC. 2013. Rainy River Resources Ltd. Rainy River Project: Fish Habitat No Net Loss Plan Section 35(2) Waterbodies Version B. December 2013.
- Amec Foster Wheeler. 2015. Rainy River Project: Offset Plan for Fisheries Act Section 35(2)(b) Authorization. May 2015.
- Scott, W.B. and Crossman, E.J. 1998. Freshwater Fishes of Canada. Galt House Publications, Oakville, Ontario.
- Jackson, D.A. and Harvey H.H. 1997. Qualitative and Quantitative Sampling of Lake Fish Communities. Canadian Journal of Fisheries and Aquatic Sciences, 1997. 54(12): 2807-2813
- Wood. 2018a. 2018 Annual Monitoring Report Schedule 2 MDMER Fish Habitat Compensation Plan. December 2017. Wood. 2018b. 2018 Annual Monitoring Report – Offset Plan for Fisheries Act Section 35(2)(b) Authorization. December 2018.
- Wood. 2018b. 2018 Annual Monitoring Report Offset Plan for Fisheries Act Section 35(2)(b) Authorization. December 2018.
- Minnow (Minnow Environmental Inc.). 2019. Annual Monitoring of Compensation and Offset Measures 2019. Report prepared for New Gold Inc. Rainy River Mine. December 2019.
- Minnow (Minnow Environmental Inc.). 2020. Annual Monitoring of Compensation and Offset Measures 2020. Report prepared for New Gold Inc. Rainy River Mine. December 2020.

## Appendix A Detailed Survey Data

Station	Measurement	Channel Interval									
Station	weasurement	1 2 3 4 5 6						7	Mean		
	Distance from shore (m)	0.2	0.4	0.6	0.8	1	1.2	-	-		
SPDC-Culvert	Depth (cm)	6	8	6	5	0	0	-	4.2		
	Velocity (m/s)	0.0138	0.0578	0.0202	-0.0045	0	0	-	0.015		
	Distance from shore (m)	0.9	1.8	2.7	3.6	4.5	5.4	6.3	-		
SPDC-01	Depth (cm)	15	13	27	28	24	13	4	17.7		
	Velocity (m/s)	-0.0001	0	0.0002	0.0038	0.0017	0.0019	0	0.001		
	Distance from shore (m)	0	0.2	0.4	0.7	-	-	-	-		
SPDC-02	Depth (cm)	2	3	5	4	-	-	-	3.5		
	Velocity (m/s)	0	0.00002	0.0587	0.0482	-	-	-	0.027		
	Distance from shore (m)	0.2	0.4	0.6	0.7	-	-	-	-		
SPDC-03	Depth (cm)	3	3	4	2	-	-	-	3		
	Velocity (m/s)	No Surface Flow									
	Distance from shore (m)										
SPDC-04	Depth (cm)			٦	No Surface	Flow					
	Velocity (m/s)										
	Distance from shore (m)										
SPDC-05	Depth (cm)			1	No Surface	Flow					
	Velocity (m/s)										

## Table A-1: Spring, High-Flow Transect Depth and Flow Velocity Data in the Stockpile PondDiversion, May 2021.

Ecometrix Environmental

## Table A-2: Spring, High-Flow Transect Depth and Flow Velocity Data in the West CreekDiversion Upstream of the Haul Road, May 2021.

<b>C</b> (1)(1)	Measurement				Ch	annel Inte	rval				
Station	Measurement	1	2	3	4	5	6	7	8	9	Mean
	Distance from shore (m)	0.3	0.6	0.9	1.2	1.5	1.8	2	-	-	-
WCDC-01	Depth (cm)	7	12	20	16	7	3	0	-	-	9.3
	Velocity (m/s)	0.0005	-0.0001	0.0019	0.0453	0.007	0.001	0	-	-	0.008
	Distance from shore (m)	0	0.1	0.2	0.3	0.4	0.5	-	-	-	-
WCDC-02	Depth (cm)	4	4	5	4	4	3	-	-	-	4
	Velocity (m/s)	0.561	0.5912	0.3066	0.0023	0.1629	0	-	-	-	0.271
	Distance from shore (m)	0	0.2	0.4	0.6	0.8	1	-	-	-	-
WCDC-03	Depth (cm)	33	26	30	25	23	14	-	-	-	25.2
	Velocity (m/s)	0.0001	0.0599	0.0891	0.0002	0	-0.0003	-	-	-	0.025
	Distance from shore (m)	0.15	0.3	0.45	0.6	0.8	-	-	-	-	-
WCDC-04	Depth (cm)	3	6	7	6	5	-	-	-	-	5.4
	Velocity (m/s)	0.1106	0.0363	0.1601	0.0061	0	-	-	-	-	0.063
	Distance from shore (m)	0	0.4	0.8	1.2	1.6	2	2.4	-	-	-
WCDC-05	Depth (cm)	24	25	24	24	24	30	23	-	-	24.9
	Velocity (m/s)	-0.0023	-0.0038	0.0009	0.0027	0.0008	0.0005	0.0015	-	-	0.00004
	Distance from shore (m)	0	0.3	0.6	0.9	1.2	1.5	1.7	-	-	-
WCDC-06	Depth (cm)	23	34	37	37	29	12	5	-	-	25.3
	Velocity (m/s)	0.0002	-0.0014	0.0035	0.001	0.0063	0	0	-	-	0.001
	Distance from shore (m)	0.15	0.3	0.45	0.6	0.75	0.9	-	-	-	-
WCDC-07	Depth (cm)	6	5	5	5	0	0	-	-	-	3.5
	Velocity (m/s)	0.2577	0.0064	0.1176	0.0001	0	0	-	-	-	0.064
	Distance from shore (m)	0	0.5	1	1.5	2	2.5	2.7	-	-	-
WCDC-08	Depth (cm)	18	43	47	53	38	18	4	-	-	31.6
	Velocity (m/s)	0.0002	0.0003	0.0003	0.0029	0.0011	-0.0009	0	-	-	0.001
	Distance from shore (m)	0.75	1.5	2.25	3	3.75	4.5	5.25	6	6.2	-
WCDC-09	Depth (cm)	10	14	18	23	27	22	8	0	0	13.6
	Velocity (m/s)	0.0006	0.0001	0.0001	0.0001	0.0001	0.0026	0	0	0	0.0004

## Table A-3: Spring, High-Flow Transect Depth and Flow Velocity Data in the West CreekDiversion Downstream of the Haul Road, May 2021

a	Measurement						Channel	Interval						
Station	Measurement	1	2	3	4	5	6	7	8	9	10	11	12	Mean
	Distance from shore (m)	0	0.2	0.4	0.6	0.8	1	1.2	1.4	1.6	1.8	2	2.2	-
WCDC-A1	Depth (cm)	1	1	1	1	1	1	1	8	11	6	4	3	3.3
	Velocity (m/s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.0011	0.0004	0.0001	-	0.0003
	Distance from shore (m)	0.5	1	1.5	2	2.5	2.8	-	-	-	-	-	-	-
WCDC-A2	Depth (cm)	26	40	28	12	8	0	-	-	-	-	-	-	19.0
	Velocity (m/s)	-0.0002	0.0017	0.0047	0.0052	-0.0001	0	-	-	-	-	-	-	0.0019
	Distance from shore (m)	0	0.15	0.3	0.45	0.7	0.75	-	-	-	-	-	-	-
WCDC-A3	Depth (cm)	0	6	6	5	5	0	-	-	-	-	-	-	3.7
	Velocity (m/s)	0.1034	0.0981	0.1479	0.0396	0.0005	0	-	-	-	-	-	-	0.0649
	Distance from shore (m)	0.5	1	1.5	2	2.5	3	-	-	-	-	-	-	-
WCDC-A4	Depth (cm)	35	64	80	70	39	3	-	-	-	-	-	-	48.5
	Velocity (m/s)	-0.0028	0.0006	0.0016	0.0025	0.001	0	-	-	-	-	-	-	0.0005
	Distance from shore (m)	0	0.2	0.4	0.7	-	-	-	-	-	-	-	-	-
WCDC-A5	Depth (cm)	5	8	8	5	-	-	-	-	-	-	-	-	6.5
	Velocity (m/s)	0.0066	0.0152	0.0049	0.0002	-	-	-	-	-	-	-	-	0.0067
	Distance from shore (m)	0	0.15	0.3	0.5	0.85	-	-	-	-	-	-	-	-
WCDC-A6	Depth (cm)	7	7	9	9	4	-	-	-	-	-	-	-	7.2
	Velocity (m/s)	0.0525	0.0489	0.0160	0.0001	0.0004	-	-	-	-	-	-	-	0.0236
	Distance from shore (m)	0	0.5	1	1.5	2	2.5	3	3.5	4		-	-	-
WCDC-A7	Depth (cm)	24	53	59	51	31	23	15	3	2	-	-	-	29.0
	Velocity (m/s)	0.0076	0.0004	0.0002	0.0031	0.0028	0.0002	0.0004	0	0	-	-	-	0.0016

## Table A-4: Spring, High-Flow Transect Depth and Flow Velocity Data in the Clark CreekPond Diversion, May 2021

Chatlan	Management			-			Cha	nnel Inte	rval			-			Maara
Station	Measurement	1	2	3	4	5	6	7	8	9	10	11	12	13	Mean
	Distance from shore (m)	0.2	1	2	3	4	5	6	7	8	8.7	-	-	-	-
CCDC-01	Depth (cm)	0	2	52	63	70	73	68	53	33	8	-	-	-	42.2
	Velocity (m/s)	0	0.0012	-0.0002	-0.0015	0.0099	0.0023	0	0.0061	0.0047	0.0035	-	-	-	0.0026
	Distance from shore (m)	1	2	2.5	3	3.5	4	4.5	5	5.8	-	-	-	-	-
CCDC-02	Depth (cm)	10	15	20	21	12	10	5	3	0	-	-	-	-	10.7
	Velocity (m/s)	0	0.0001	0.0428	0.0133	0.0009	0.0001	0.0001	0	0	-	-	-	-	0.0064
	Distance from shore (m)	0	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.4	3.8	4.4	-	-
CCDC-03	Depth (cm)	1	1	1	1	2	3	4	12	5	1	1	1	-	2.8
	Velocity (m/s)	0	0	0	0	0	0	0.0001	0.1181	0.0001	0	0	0	-	0.0099
	Distance from shore (m)	0.5	1	1.5	2	2.2	-	-	-	-	-	-	-	-	-
CCDC-04	Depth (cm)	4	19	21	6	2	-	-	-	-	-	-	-	-	10.4
	Velocity (m/s)	0	0.00554	0.1072	0.0001	0	-	-	-	-	-	-	-	-	0.0226
	Distance from shore (m)	0	0.5	1	1.5	2	2.5	3	3.5	3	4	-	-	-	-
CCDC-05	Depth (cm)	2	12	25	28	33	36	29	17	18	2	-	-	-	20.2
	Velocity (m/s)	0	0.0002	0.0001	0.0058	0.126	0.0002	0.0002	0.0006	0.0014	0	-	-	-	0.0135
	Distance from shore (m)	1	2	3	4	5	6	7	8	9	10	11	12	13	-
CCDC-06	Depth (cm)	16	28	29	27	30	27	26	25	24	23	25	5	0	21.9
	Velocity (m/s)	0.0001	0.0001	0.0001	0.0014	0.0038	0.0703	0.0005	0.0001	0.0000	0.0001	0.0000	0.0000	0.0000	0.0059

Waterbody	UT (NAD 83 Lat		Date				Pass	Effort (sec)	CPUE	Central Mudminnow	Brook Stickleback	Brook Stickleback YOY	Finescale Dace	NRBD		Fathead Minnow		Creek Chub YOY	Brassy Minnow	Brown Bullhead		Common Shiner		Johnny Darter	
Stockpile Pond Diversion			26-Jul-21	(m) 35	( <b>v</b> ) 200	<b>(Hz)</b> 60	SPDC-EF1	279	215.05	20	5	32	1	0	0	0	1	0	0	0	1	0	0	0	60
Channel				•			Total	279	215.05																60
	5410737	426962	27-Jul-21		200	60	SP-EF1	1,505	104.98	18	0	0	0	19	9	58	10	0	0	1	40	2	1	0	158
	5410768	427059	27-Jul-21		200	60	SP-EF2	1,089	42.24	19	0	0	0	0	15	1	9	0	0	0	1	1	0	0	46
Cto duello Dond	5410795	427121	27-Jul-21	350	200	60	SP-EF3	2,594	33.15	48	1	0	0	4	8	3	1	20	0	1	0	0	0	0	86
Stockpile Pond	5410777	427136	27-Jul-21		220	60	SP-EF4	2,356	36.93	31	0	0	0	4	19	4	0	24	0	5	0	0	0	0	87
	5410707	427032	27-Jul-21		220	60	SP-EF5	2,475	26.26	26	0	0	0	7	8	10	3	0	0	3	6	1	1	0	65
				-		•	Total	10,019	44.12																442
West Creek Pond	5410013	422172	25-Jul-21	50	200	60	WCDC-EF1	812	240.15	66	0	24	0	21	17	9	19	0	10	0	8	18	3	0	195
Diversion	5410655	422900	25-Jul-21	50	200	60	WCDC-EF2	256	97.66	6	0	4	1	8	0	1	4	0	0	0	0	1	0	0	25
Channel							Total	1,068	205.99																220
	5410976	425932	26-Jul-21		200	60	WCP-EF1	3,340	30.84	65	4	0	5	0	0	0		0	0	21	0	0	0	8	103
West Creek Pond	5410996	425895	27-Jul-21	200	200	60	WCP-EF2	3,432	34.09	87	2	0	1	0	13	0	0	0	0	0	0	0	1	13	117
West Creek Fond	5411059	425807	27-Jul-21		200	60	WCP-EF3	3,252	16.61	35	4	0	0	0	7	0	0	0	1	2	0	0	0	5	54
							Total	10,024	27.33																274
Clark Creek Pond Diversion	5409322	429978	23-Jul-21	250	275	60	CCDC-EF	1,062	55.56	46	5	0	5	1	2	0	0	0	0	0	0	0	0	0	59
Channel				•			Total	1,062	55.56																59
	5409952	429737	20-Jul-21		300	60	CCP-EF1	1,953	87.56	75	32	0	27	0	34	3	0	0	0	0	0	0	0	0	171
	5409997	429620	21-Jul-21	1	300	60	CCP-EF2	2,068	82.69	27	13	0	110	0	10	11	0	0	0	0	0	0	0	0	171
Clark Crook Dand	5410038	429620	21-Jul-21	315	300	60	CCP-EF3	2,229	59.67	81	19	0	10	4	11	8	0	0	0	0	0	0	0	0	133
Clark Creek Pond	5410038	429616	21-Jul-21	]	300	60	CCP-EF4	1,841	68.98	77	31	0	1	4	14	0	0	0	0	0	0	0	0	0	127
	5409930	429632	21-Jul-21	]	300	60	CCP-EF5	1,910	82.72	101	16	0	30	0	11	0	0	0	0	0	0	0	0	0	158
							Total	10,001	75.99																760

Table A-5: Detailed Electrofishing Results, RRM – July 2021.

\*Catch per unit effort (CPUE) calculated as the number of fish caught per 1000s of efishing effort

YOY - Young of the year; NRBD = Northern Redbelly Dace, CYPR YOY = Unidentified cyprinid YOY



Table A-6: Detailed Minnow Trap Data in Stream Features Results, R	RRM – July 2021.
--	------------------

Waterbod	Minnow Trap ID	U1 (NAD 8		Set Date Lift Date	Set Time	Lift Time		Effort (hrs)	CPUE	Mud	entral minnow	Stic	rook kleback	Finesca		Redb	orthern elly Dace				y Minnow								ny Darter	Eich
<b>,</b>	indp ib	North	East				(")	(1113)		Catch	Mortality	Catch	Mortality	Catch	Mortality	Catch	Mortality	Catch	Mortality	Catch	Mortality	Catch	Mortality	Catch	Mortality	Catch	Mortality	Catch	Mortality	
	CCDC-MT1	5409951	429870	21-Jul-21 22-Jul-21	9:55	15:30	2	59.16	0.52	13	0	13	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	31
Clark	CCDC-MT2	5409632	430134	21-Jul-21 22-Jul-21	10:15	15:10	4	115.68	0.10	6	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Creek	CCDC-MT3	5409949	429765	21-Jul-21 22-Jul-21	10:30	15:55	1	29.42	0.48	13	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Diversion	CCDC-MT4	5409335	429981	21-Jul-21 22-Jul-21	10:55	14:40	2	55.50	0.20	7	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Channel	CCDC-MT5	5409376	430038	21-Jul-21 22-Jul-21	11:20	14:25	2	54.16	0.07	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
							Total	314	1.37	43	0	18	0	9	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	71
West	WCDC-MT1	5410200	422519	21-Jul-21 23-Jul-21	16:20	17:10	2	97.66	1.00	2	2	42	7	2	0	19	13	11	7	0	0	0	0	1	1	21	5	0	0	98
Creek	WCDC-MT2	5410466	6 422811	21-Jul-21 23-Jul-21	16:30	18:10	2	99.34	0.79	0	0	8	0	0	0	53	0	1	0	2	0		0	0	0	13	0	1	0	78
	WCDC-MT3	5410689	422917	21-Jul-21 23-Jul-21	16:40	18:40	2	100.00	1.16	1	1	16	0	1	0	69	0	14	0	4	0	5	0	0	0	6	0	0	0	116
Diversion	WCDC-MT4	5410776	422973	21-Jul-21 23-Jul-21	16:45	19:25	2	102.00	0.58	1	0	21	0	0	0	24	0	4	0	5	0	1	0	0	0	3	0	0	0	59
Channel		•					Total	399	3.53	4	3	87	7	3	0	165	13	30	7	11	0	6	0	1	1	43	5	1	0	351

Note: Catch per unit effort (CPUE) calculated as the number of fish caught per hour



#### ANNUAL MONITORING OF COMPENSATION MEASURES 2021 Appendices

Table A-7: Detailed Minnow Trap Data in Pond Features Results, R	RM – July 2021.
--	-----------------

	Minnow	UTI						_	Effort		C	entral	Brook	Sticklebacl	c Fines	cale Dace	No	rthern	Fathea	ad Minnow	Cree	k Chub	Brass	y Minnow	Brown	Bullhead	White	e Sucker	Commo	on Shiner	Pearl	Dace	_
Waterbody	Trap ID	(NAD 83 North	6, 15U) East	Set Date	Lift Date	Set Time	Lift Time	Traps (#)	(hrs)	CPUE		minnow Mortality				Mortality		elly Dace	Catch	Mortality	Catch	Mortality	Catch	Mortality	Catch	Mortality	Catch	Mortality	Catch	Mortality	Catch N	lortality	Total Fish
				22-Jul-21	24-Jul-21	12:30	9:10	4	178.68	0.51	13	0	27		15		34						0			0							92
	CCP-MT2	5410112		22-Jul-21		12:35	9:20	4	179.00	0.79	5	0	10	0	67	0	55	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	141
-		5410122		22-Jul-21		12:45	9:30	4	179.00	0.45	7	0	7	0	35	0	31	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	81
	CCP-MT4	5410122	429631	22-Jul-21	24-Jul-21	12:55	10:45	4	183.32	0.39	8	0	13	0	23	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72
	CCP-MT5	5409950	429696	22-Jul-21	24-Jul-21	13:00	10:55	4	183.68	0.35	8	0	19	0	24	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
Clark Creek Pond	CCP-MT6	5409942	429664	22-Jul-21	24-Jul-21	13:10	11:00	4	183.32	0.39	6	0	13	0	42	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71
Pona	CCP-MT7	5410005	429616	22-Jul-21	24-Jul-21	13:30	7:35	4	168.32	1.16	2	0	29	0	155	0	8	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	196
	CCP-MT8	5410034	429613	22-Jul-21	24-Jul-21	13:30	7:50	4	169.32	0.41	6	0	23	0	39	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69
	CCP-MT9	5409913	429636	22-Jul-21	24-Jul-21	13:45	8:00	4	169.00	0.22	4	0	7	0	3	0	21	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	38
	CCP-MT10	5410093	429616	22-Jul-21	24-Jul-21	14:00	8:15	4	169.00	0.14	10	0	10	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
								Total	1,763	0.48	69	0	158	0	407	0	201	0	11	0	0	0	2	0	0	0	0	0	0	0	0	0	848
	SP-MT1	5410737		24-Jul-21		10:45	7:40	3	65.76	2.37	0	0	1	0	0	0	6	0	0	0	31	0	0	0	18	0	0	0	100	0	0	0	156
	SP-MT2	5410759		24-Jul-21		10:50	8:45	3	65.76	2.33	0	0	0	0	0	0	1	0	0	0	5	0	0	0	78	0	1	0	68	0	0	0	153
		5410768		24-Jul-21		11:00	9:00	3	66.00	4.29	1	0	0	0	0	0	1	0	2	0	35	0	3	0	68	0	1	0	169	0	3	0	283
				24-Jul-21		11:05	9:30	3	67.26	1.95	0	0	0	0	0	0	0	0	1	0	9	0	0	0	59	0	0	0	62	0	0	0	131
	SP-MT5	5410769		24-Jul-21		11:30	11:05	3	70.74	2.46	0	0	0	0	0	0	0	0	1	0	10	0	0	0	121	0	0	0	42	0	0	0	174
	SP-MT6	5410738		24-Jul-21		11:30	10:55	3	70.23	2.65	0	0	0	0	0	0	0	0	0	0	9	0	0	0	134	0	1	0	41	0	1	0	186
	-	5410741		24-Jul-21		11:45	10:45	3	69.00	4.28	0	0	0	0	0	0	0	0	0	0	5	0	0	0	288	0	0	0	2	0	0	0	295
Stockpile	SP-MT8	5410688		24-Jul-21		11:45	10:10	3	67.23	3.29	0	0	0	0	0	0	3	0	3	0	37	0	1	0	7	0	1	0	168	0	1	0	221
Creek Pond				25-Jul-21		7:45	7:50	3	144.24	0.35	0	0	1	0	0	0	0	1	0	0	13	0	0	0	15	0	0	0	22	0	0	0	51
		5410759		25-Jul-21		8:50	8:05	3	143.25	0.50	0	0	0	0	0	0	0	0	0	0	2	0	0	0	53	0	0	0	17	0	0	0	72
-		5410768		25-Jul-21		9:05	8:15	3	143.49	0.68	0	0	0	0	0	0	0	0	2	0	17	0	0	0	24	0	0	0	54	0	1	0	98 54
	SP-MT4 SP-MT5	5410775 5410769		25-Jul-21 25-Jul-21		9:35 11:05	8:20 9:35	3	140.25 139.50	0.39	0	0	0	0	0	0	0	0	0	0	2	0	0	0	35 47	0	0	0	17 19	0	0	0	54 69
		541078		25-Jul-21 25-Jul-21		10:55	9:25	3	139.50	0.49	0	0	0	0	0	0	0	0	0	0	1	0	0	0	85	0	1	0	0	0	0	0	87
				25-Jul-21		10:35	9:23	3	139.30	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128	0	0	0	1	0	0	0	129
-	-			25-Jul-21		10:45	8:40	3	139.26	0.59	0	0	0	0	0	0	0	0	0	0	16	0	0	0	4	0	1	0	61	0	0	0	82
	51 10110	5410000	427030	25 501 21	27 301 21	10.15	0.40	Total	1,671	1.34	1	0	2	0	0	0	11	1	10	0	194	0	4	0	1,164	0	6	0	843	0	6	0	2,241
	WCP-MT1	5411046	426027	24-Jul-21	26-Jul-21	13:45	15:30	4	199.00	0.71	5	0	2	0	113	0	3	0	0	0	0	0	0	0	2	0	0	0	045	0	16	0	141
1 F		5411002		24-Jul-21		14:00	15:15	4	197.00	1.39	2	0	1	0	79	0	7	0	0	0	0	0	0	0	183	0	0	0	0	0	2	0	274
		5410949		24-Jul-21		14:10	15:00	4	195.32	0.45	6	0	0	0	67	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	88
				24-Jul-21		13:40	14:20	4	194.68	1.72	2	0	1	0	7	0	1	0	0	0	1	0	0	0	321	0	0	0	0	0	1	0	334
		5410970		24-Jul-21		13:50	14:00	4	192.68	0.59	2	0	2	0	32	0	7	0	0	0	0	0	0	0	64	0	0	0	0	0	7	0	114
West Creek	WCP-MT6	5411000	425900	24-Jul-21	26-Jul-21	14:00	11:05	4	180.32	1.52	0	0	0	0	157	0	51	0	0	0	4	0	0	0	14	0	0	0	0	0	48	0	274
Pond		5411110	425732	24-Jul-21	26-Jul-21	13:45	8:05	4	169.32	1.39	0	0	1	0	175	0	29	0	8	0	16	0	7	0	0	0	0	0	0	0	0	0	236
	WCP-MT8	5411137		24-Jul-21		14:00	10:10	4	176.68	0.86	5	0	2	0	90	0	49	0	0	0	5	0	1	0	0	0	0	0	0	0	0	0	152
	WCP-MT9	5411148	425705	24-Jul-21	26-Jul-21	14:15	8:00	2	83.50	1.10	1	0	4	0	67	0	8	0	0	0	2	0	1	0	9	0	0	0	0	0	0	0	92
	WCP-MT10	5411131	425746	24-Jul-21	26-Jul-21	14:20	9:45	2	86.84	1.30	0	0	0	0	66	0	38	0	1	0	4	0	1	0	3	0	0	0	0	0	0	0	113
	WCP-MT11	5411164	425753	24-Jul-21	26-Jul-21	14:15	10:40	2	88.84	0.88	4	0	0	0	63	0	10	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	78
								Total	1,764	1.07	27	0	13	0	916	0	214	0	9	0	32	0	10	0	597	0	0	0	0	0	78	0	1,896

Note: Catch per unit effort (CPUE) calculated as the number of fish caught per hour



#### ANNUAL MONITORING OF COMPENSATION MEASURES 2021 Appendices

Table A-8: Detailed Seine Data in Pond Features Results, RRM -
--

	Column Mark	UI	M			Area		Ce	entral	В	rook			Nort	thern														<u> </u>	~	c1 *			<b>A</b> 11	<b>c</b> 1 ·			Tetal
Waterbody	Seine Net ID	(NAD 8	3, 15U)	Date	Set Time	e Seined	CPUE	Mud	minnow	Stic	deback	Fines	cale Dace	Redbel	lly Dace	Cypri	nid YOY	Fathead	Minnow	Cree	k Chub	Creek C	hub YOY	Brass	y Minnow	Brown	Bullhead	White	e Sucker	Comm	on Shiner	Pearl D	ace	Golden	Shiner	Johnny	y Darter	l otal Fich
			East			(m2)		Catch	Mortality	/ Catch	Mortality	Catch	Mortality	Catch M	Mortality	Catch	Mortality	Catch M	<b>Nortality</b>	Catch	Mortality	Catch N	Mortality	Catch	Mortality	Catch	Mortality	Catch I	Mortality	/ Catch	Mortality	Catch Mo	rtality	Catch M	/lortality	Catch	Mortality	FISH
	CCP-SN1				13:30	75	961	0	0	74	0	25	0	103	0	2	0	505	0	0	0	0	0	11	0	1	0	0	0	0	0	0	0	0	0	0	0	721
			429615		14:15	75	1,051	0	0	66	0	20	0	374	0	2	0	326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	788
			429619		15:45	75	439	0	0	35	0	5	0	65	0	0	0	220	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	329
	CCP-SN4	5409986	429623	27-Jul-21	16:20	60	1,577	0	0	42	0	6	0	41	0	123	0	726	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	946
Clark Creek			429628		17:05	48	379	0	0	2	0	3	0	45	0	0	0	128	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	182
Pond	CCP-SN6	5409958	429627	27-Jul-21	17:30	48	1,935	2	0	5	0	10	0	118	0	0	0	793	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	929
Folia	CCP-SN7	5409942	429632	27-Jul-21	18:05	52	1,408	0	0	2	0	10	0	87	0	0	0	256	0	0	0	0	0	0	0	377	0	0	0	0	0	0	0	0	0	0	0	732
	CCP-SN8	5409930	429633	28-Jul-21	7:45	80	74	0	0	0	0	12	0	25	0	8	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59
	CCP-SN9	5409947	429694	28-Jul-21	8:00	120	266	2	0	57	0	29	0	91	0	38	0	68	0	0	0	0	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	319
	CCP-SN10	5409963	429704	28-Jul-21	8:30	120	249	8	0	27	0	46	0	85	0	17	0	111	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	299
					Tota	l 753	704	12	0	310	0	166	0	1,034	0	190	0	3,147	0	0	0	0	0	11	0	434	0	0	0	0	0	0	0	0	0	0	0	5,304
	SP-SN1	5410713	427008	25-Jul-21	14:40	150	105	0	0	0	0	0	0	0	0	20	0	103	0	20	0	1	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	157
	SP-SN2	5410750	427093	25-Jul-21	15:20	70	129	0	0	0	0	0	0	0	0	5	0	42	0	15	0	11	0	0	0	1	0	0	0	0	0	16	0	0	0	0	0	90
	SP-SN3	5410764	427128	25-Jul-21	16:10	150	159	0	0	5	0	0	0	0	0	105	0	0	0	67	0	26	0	30	0	0	0	1	0	3	0	0	0	1	0	0	0	238
	SP-SN4	5410749	426997	25-Jul-21	17:15	120	798	1	0	2	0	0	0	0	0	145	0	353	0	118	0	70	0	0	0	11	0	1	0	12	0	245	0	0	0	0	0	958
Charles II.	SP-SN5	5410728	426997	26-Jul-21	7:50	150	531	0	0	0	0	0	0	0	0	327	0	235	0	122	0	5	0	1	0	0	0	1	0	0	0	105	0	0	0	0	0	796
Stockpile	SP-SN6	5410749	426998	26-Jul-21	9:30	75	177	0	0	0	0	0	0	0	0	0	0	84	0	0	0	13	0	31	0	0	0	0	0	1	0	4	0	0	0	0	0	133
Pond	SP-SN7	5410779	427019	26-Jul-21	10:15	80	144	0	0	0	0	0	0	0	0	1	0	0	0	53	0	1	0	0	0	0	0	11	0	4	0	45	0	0	0	0	0	115
	SP-SN8	5410776	427022	26-Jul-21	10:40	100	415	0	0	0	0	0	0	0	0	0	0	195	0	31	0	0	0	150	0	0	0	14	0	11	0	14	0	0	0	0	0	415
	SP-SN9	5410802	427105	26-Jul-21	11:20	80	615	1	0	4	0	0	0	0	0	27	0	270	0	19	0	136	0	0	0	19	0	0	0	2	0	14	0	0	0	0	0	492
	SP-SN10	5410817	427142	27-Jul-21	13:50	150	152	0	0	2	0	0	0	0	0	1	0	103	0	2	0	102	0	0	0	14	0	0	0	0	0	4	0	0	0	0	0	228
					Tota	1,125	322	2	0	13	0	0	0	0	0	631	0	1,385	0	447	0	365	0	212	0	45	0	28	0	33	0	460	0	1	0	0	0	3,622
	WCP-SN1	5410961	425941	24-Jul-21	14:30	100	187	0	0	0	0	0	0	0	0	6	0	177	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	187
	WCP-SN2	5411919	425859	24-Jul-21	15:15	100	169	0	0	6	0	0	0	4	0	19	0	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	169
	WCP-SN3	5410970	425952	24-Jul-21	16:45	120	2,810	0	0	0	0	0	0	25	0	17	0	0	0	0	0	0	0	0	0	3330	0	0	0	0	0	0	0	0	0	0	0	3372
	WCP-SN4	5411103	425765	25-Jul-21	8:00	80	68	0	0	0	0	0	0	3	0	9	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
	WCP-SN5	5411131	425721	24-Jul-21	8:40	80	66	0	0	7	0	0	0	6	0	4	0	31	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	53
West Creek	WCP-SN6	5411134	425752	25-Jul-21	9:10	130	178	0	0	0	0	0	0	8	0	4	0	213	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	231
Pond	WCP-SN7	5411183	425772	25-Jul-21	9:45	130	132	8	0	12	0	0	0	11	0	0	0	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	171
	WCP-SN8	5411200	425785	25-Jul-21	10:20	150	457	4	0	23	0	0	0	54	0	11	0	123	0	0	0	0	0	0	0	471	0	0	0	0	0	0	0	0	0	0	0	686
	WCP-SN9	5410969	425964	25-Jul-21	12:00	150	265	4	0	2	0	0	0	25	0	5	0	275	0	4	0	0	0	0	0	83	0	0	0	0	0	0	0	0	0	0	0	398
	WCP-SN10	5411098	425985	25-Jul-21	13:20	200	778	0	0	11	0	0	0	14	0	8	0	176	0	0	0	0	0	0	0	1346	0	0	0	0	0	0	0	0	0	0	0	1555
				I [	Total	1,240	555	16	0	61	0	0	0	150	0	83	0	1,314	0	15	0	0	0	0	0	5,232	0	0	0	0	0	0	0	0	0	5	0	6,876
Note: Catch p			I				L	2 . 6					-		-		-				-		-	-					-		-		-	- 1	-			

Note: Catch per unit effort (CPUE) calculated as the number of fish caught per 100m<sup>2</sup> of seine net



#### ANNUAL MONITORING OF COMPENSATION MEASURES 2021 Appendices

Z

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Brassy Minnow	8.7	8.1	5.9	None	R
25-Jul-21	Brassy Minnow	7.7	7.1	4.3	None	R
25-Jul-21	Brassy Minnow	7.4	6.9	3.8	None	R
25-Jul-21	Brassy Minnow	7.7	7.1	4.2	None	R
25-Jul-21	Brassy Minnow	7.2	6.7	3.7	None	R
25-Jul-21	Brassy Minnow	7.8	7.3	4.8	None	R
25-Jul-21	Brassy Minnow	7.1	6.6	3.5	None	R
25-Jul-21	Brassy Minnow	8.2	7.5	5.2	None	R
25-Jul-21	Brassy Minnow	7.2	6.7	3.8	None	R
25-Jul-21	Brassy Minnow	5.5	5.1	1.6	None	R
21-Jul-21	Brassy Minnow	6.1	5.8	2.2	None	R
21-Jul-21	Brassy Minnow	5.5	5.1	1.4	None	R
21-Jul-21	Brassy Minnow	6.0	5.6	2.2	None	R
21-Jul-21	Brassy Minnow	8.1	7.5	4.9	Live	R
21-Jul-21	Brassy Minnow	5.3	5.0	1.3	Live	R
21-Jul-21	Brassy Minnow	4.9	4.6	7.3	Live	R
21-Jul-21	Brassy Minnow	5.2	-	1.3	None	R
21-Jul-21	Brassy Minnow	5.5	5.1	1.6	None	R
21-Jul-21	Brassy Minnow	4.7	4.4	1.0	None	R
21-Jul-21	Brassy Minnow	5.3	4.9	1.3	None	R
21-Jul-21	Brassy Minnow	5.2	4.8	1.4	None	R
25-Jul-21	Brook Stickleback	4.1	-	0.7	None	R
25-Jul-21	Brook Stickleback	3.0	-	0.4	None	R
25-Jul-21	Brook Stickleback	5.0	-	1.2	None	R
25-Jul-21	Brook Stickleback	2.7	-	0.2	None	R
25-Jul-21	Brook Stickleback	5.0	-	1.3	None	R
25-Jul-21	Brook Stickleback	4.5	-	0.8	None	R
25-Jul-21	Brook Stickleback	4.3	-	0.7	None	R
25-Jul-21	Brook Stickleback	2.5	-	0.2	None	R
25-Jul-21	Brook Stickleback	3.0	-	0.3	None	R
25-Jul-21	Brook Stickleback	2.7	-	0.2	None	R
25-Jul-21	Brook Stickleback	3.4	-	0.4	None	R
21-Jul-21	Brook Stickleback	5.8	-	1.2	Dead	М

## Table A-9: Detailed Fish Measurements for West Creek diversion channel, RRM – July2021.



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
21-Jul-21	Brook Stickleback	5.2	-	1.3	Dead	М
21-Jul-21	Brook Stickleback	5.7	-	7.1	Dead	М
21-Jul-21	Brook Stickleback	5.6	-	2.7	Dead	М
21-Jul-21	Brook Stickleback	5.5	-	2.4	Dead	М
21-Jul-21	Brook Stickleback	4.8	-	1.4	Dead	М
21-Jul-21	Brook Stickleback	4.5	-	0.6	Dead	М
21-Jul-21	Brook Stickleback	3.7	-	0.5	Live	R
21-Jul-21	Brook Stickleback	4.7	-	0.9	Live	R
21-Jul-21	Brook Stickleback	5.2	-	1.4	Live	R
21-Jul-21	Brook Stickleback	4.7	-	0.9	Live	R
21-Jul-21	Brook Stickleback	4.8	-	1.0	Live	R
21-Jul-21	Brook Stickleback	5.1	-	1.2	Live	R
21-Jul-21	Brook Stickleback	4.9	-	1.1	Live	R
21-Jul-21	Brook Stickleback	3.8	-	0.6	Live	R
21-Jul-21	Brook Stickleback	5.2	-	1.2	Live	R
21-Jul-21	Brook Stickleback	4.8	-	1.1	Live	R
21-Jul-21	Brook Stickleback	4.4	-	0.8	Live	R
21-Jul-21	Brook Stickleback	5.2	-	1.3	Live	R
21-Jul-21	Brook Stickleback	3.3	-	0.6	Live	R
21-Jul-21	Brook Stickleback	4.9	-	0.9	Live	R
21-Jul-21	Brook Stickleback	4.9	-	1.0	Live	R
21-Jul-21	Brook Stickleback	2.9	-	0.1	Live	R
21-Jul-21	Brook Stickleback	3.9	-	0.4	Live	R
21-Jul-21	Brook Stickleback	5.8	-	1.2	Live	R
21-Jul-21	Brook Stickleback	5.3	-	1.2	Live	R
21-Jul-21	Brook Stickleback	5.0	-	1.1	Live	R
21-Jul-21	Brook Stickleback	5.0	-	1.1	Live	R
21-Jul-21	Brook Stickleback	4.5	_	0.9	Dead	М
21-Jul-21	Brook Stickleback	5.0	-	1.0	Live	R
21-Jul-21	Brook Stickleback	5.2	-	1.2	Live	R
21-Jul-21	Brook Stickleback	5.2	_	1.1	DEAD	М
21-Jul-21	Brook Stickleback	5.2	-	1.3	DEAD	М
21-Jul-21	Brook Stickleback	5.0	-	1.4	DEAD	М
21-Jul-21	Brook Stickleback	5.8	-	1.5	DEAD	М
21-Jul-21	Brook Stickleback	4.6	-	1.2	DEAD	М



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
21-Jul-21	Brook Stickleback	4.7	-	1.2	DEAD	М
21-Jul-21	Brook Stickleback	4.9	-	1.2	DEAD	М
21-Jul-21	Brook Stickleback	5.2	-	1.3	None	R
21-Jul-21	Brook Stickleback	5.3	-	1.3	None	R
21-Jul-21	Brook Stickleback	5.1	-	1.1	None	R
21-Jul-21	Brook Stickleback	5.2	-	1.6	None	R
21-Jul-21	Brook Stickleback	4.8	-	1.1	None	R
21-Jul-21	Brook Stickleback	4.4	-	0.9	None	R
21-Jul-21	Brook Stickleback	4.9	-	1.4	None	R
21-Jul-21	Brook Stickleback	4.9	-	1.2	None	R
21-Jul-21	Brook Stickleback	4.7	-	1.2	None	R
21-Jul-21	Brook Stickleback	4.8	-	1.1	None	R
21-Jul-21	Brook Stickleback	5.1	-	1.2	None	R
21-Jul-21	Brook Stickleback	4.7	-	1.1	None	R
21-Jul-21	Brook Stickleback	5.0	-	1.5	Live	R
21-Jul-21	Brook Stickleback	4.6	-	1.4	Live	R
21-Jul-21	Brook Stickleback	4.1	-	1.0	Live	R
21-Jul-21	Brook Stickleback	5.3	-	7.6	Live	R
21-Jul-21	Brook Stickleback	5.6	-	1.8	Live	R
21-Jul-21	Brook Stickleback	4.7	-	1.3	Live	R
21-Jul-21	Brook Stickleback	5.2	4.9	1.7	Live	R
21-Jul-21	Brook Stickleback	4.6	-	1.3	None	R
21-Jul-21	Brook Stickleback	5.2	-	1.6	None	R
21-Jul-21	Brook Stickleback	4.7	-	1.0	None	R
21-Jul-21	Brook Stickleback	4.6	-	0.8	None	R
21-Jul-21	Brook Stickleback	4.6	-	1.0	None	R
21-Jul-21	Brook Stickleback	3.4	-	0.7	None	R
21-Jul-21	Brook Stickleback	4.6	-	1.0	None	R
21-Jul-21	Brook Stickleback	5.0	-	1.4	None	R
21-Jul-21	Brook Stickleback	5.3	-	1.6	None	R
21-Jul-21	Brook Stickleback	6.5	-	1.7	None	R
21-Jul-21	Brook Stickleback	5.4	-	1.7	None	R
21-Jul-21	Brook Stickleback	4.8	-	1.0	None	R
21-Jul-21	Brook Stickleback	4.9	-	1.4	None	R
21-Jul-21	Brook Stickleback	5.1	-	1.2	None	R

Ecometrix Environmental



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
21-Jul-21	Brook Stickleback	4.8	-	1.3	None	R
21-Jul-21	Brook Stickleback	4.8	-	1.2	None	R
21-Jul-21	Brook Stickleback	5.5	-	1.6	None	R
21-Jul-21	Brook Stickleback	5.7	-	1.4	None	R
21-Jul-21	Brook Stickleback	4.4	-	1.1	None	R
21-Jul-21	Brook Stickleback	4.6	-	1.0	None	R
21-Jul-21	Brook Stickleback	4.8	-	1.2	None	R
25-Jul-21	Creek Chub	10.4	9.8	9.9	None	R
25-Jul-21	Creek Chub	6.1	5.6	2.5	None	R
25-Jul-21	Creek Chub	11.6	10.8	12.3	None	R
25-Jul-21	Creek Chub	16.7	15.8	47.9	None	R
25-Jul-21	Creek Chub	7.4	6.9	3.8	None	R
25-Jul-21	Creek Chub	10.0	9.5	8.8	None	R
25-Jul-21	Creek Chub	11.7	11.0	14.4	None	R
25-Jul-21	Creek Chub	11.4	10.8	14.3	None	R
25-Jul-21	Creek Chub	14.4	13.6	21.5	None	R
25-Jul-21	Creek Chub	9.2	8.4	6.9	None	R
25-Jul-21	Creek Chub	15.3	14.4	28.7	None	R
25-Jul-21	Creek Chub	14.1	13.2	2.8	None	R
25-Jul-21	Creek Chub	6.9	6.4	2.6	None	R
25-Jul-21	Creek Chub	11.3	10.7	12.9	None	R
25-Jul-21	Creek Chub	13.3	12.7	20.5	None	R
25-Jul-21	Creek Chub	10.0	9.2	9.1	None	R
25-Jul-21	Creek Chub	10.4	9.6	9.8	None	R
25-Jul-21	Creek Chub	11.0	10.3	11.9	None	R
25-Jul-21	Creek Chub	11.2	10.4	11.5	None	R
25-Jul-21	Creek Chub	16.1	15.3	37.7	None	R
25-Jul-21	Creek Chub	12.4	11.7	18.0	None	R
25-Jul-21	Creek Chub	16.5	15.6	41.1	None	R
25-Jul-21	Creek Chub	15.1	14.2	9.3	None	R
21-Jul-21	Creek Chub	11.7	10.1	15.3	DEAD	М
21-Jul-21	Creek Chub	8.5	8.3	6.8	DEAD	М
21-Jul-21	Creek Chub	10.6	10.2	12.4	DEAD	М
21-Jul-21	Creek Chub	8.6	8.2	6.4	DEAD	М
21-Jul-21	Creek Chub	8.8	8.4	6.6	DEAD	М

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
21-Jul-21	Creek Chub	8.9	8.4	6.4	DEAD	М
21-Jul-21	Creek Chub	6.5	6.1	2.5	DEAD	М
21-Jul-21	Creek Chub	6.9	6.5	3.4	None	R
21-Jul-21	Creek Chub	7.5	7.1	4.1	None	R
21-Jul-21	Creek Chub	8.3	7.7	5.5	None	R
21-Jul-21	Creek Chub	8.4	8.0	5.9	None	R
21-Jul-21	Creek Chub	7.7	7.2	4.5	None	R
21-Jul-21	Creek Chub	11.6	11.1	15.4	None	R
21-Jul-21	Creek Chub	12.2	11.6	17.2	None	R
21-Jul-21	Creek Chub	12.7	11.0	19.3	None	R
21-Jul-21	Creek Chub	8.0	7.5	4.9	None	R
21-Jul-21	Creek Chub	8.6	8.1	6.4	Live	R
21-Jul-21	Creek Chub	10.7	10.2	12.5	Live	R
21-Jul-21	Creek Chub	12.8	12.1	19.9	Live	R
21-Jul-21	Creek Chub	12.5	11.6	18.2	Live	R
21-Jul-21	Creek Chub	15.3	14.1	34.0	Live	R
21-Jul-21	Creek Chub	14.1	13.4	30.0	None	R
21-Jul-21	Creek Chub	12.4	11.6	18.7	None	R
21-Jul-21	Creek Chub	12.0	11.5	16.5	None	R
21-Jul-21	Creek Chub	11.5	11.0	18.6	None	R
21-Jul-21	Central Mudminnow	9.1	-	9.0	DEAD	М
21-Jul-21	Central Mudminnow	7.7	-	5.3	DEAD	М
21-Jul-21	Central Mudminnow	11.8	-	22.9	DEAD	М
21-Jul-21	Central Mudminnow	9.7	-	12.3	None	R
25-Jul-21	Common Shiner	5.6	4.9	1.5	None	R
25-Jul-21	Common Shiner	5.1	4.6	1.3	None	R
25-Jul-21	Common Shiner	4.3	3.8	0.4	None	R
25-Jul-21	Common Shiner	5.6	4.9	1.3	None	R
25-Jul-21	Common Shiner	4.2	3.8	0.6	None	R
25-Jul-21	Common Shiner	5.1	4.5	0.8	None	R
25-Jul-21	Common Shiner	5.0	4.5	0.9	None	R
25-Jul-21	Common Shiner	5.0	4.4	0.8	None	R
25-Jul-21	Common Shiner	5.2	4.8	1.1	None	R
25-Jul-21	Common Shiner	4.8	4.4	0.8	None	R
25-Jul-21	Common Shiner	9.7	8.9	7.5	None	R



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Common Shiner	4.8	4.3	0.6	None	R
25-Jul-21	Common Shiner	11.4	10.5	14.2	None	R
25-Jul-21	Common Shiner	4.6	4.1	0.5	None	R
25-Jul-21	Common Shiner	8.5	7.7	5.5	None	R
25-Jul-21	Common Shiner	8.2	7.5	4.7	None	R
25-Jul-21	Common Shiner	5.7	5.0	1.9	None	R
25-Jul-21	Common Shiner	5.4	4.9	1.2	None	R
25-Jul-21	Common Shiner	9.4	8.5	8.4	None	R
21-Jul-21	Common Shiner	9.9	9.1	8.5	DEAD	М
25-Jul-21	Fathead Minnow	6.2	5.9	2.7	None	R
25-Jul-21	Fathead Minnow	6.7	6.2	-	None	R
25-Jul-21	Fathead Minnow	7.7	7.4	5.3	None	R
25-Jul-21	Fathead Minnow	7.2	6.6	3.9	None	R
25-Jul-21	Fathead Minnow	7.1	6.7	4.1	None	R
25-Jul-21	Fathead Minnow	6.4	5.9	3.0	None	R
25-Jul-21	Fathead Minnow	7.7	7.1	3.9	None	R
25-Jul-21	Fathead Minnow	6.5	5.9	3.0	None	R
25-Jul-21	Fathead Minnow	5.4	4.9	1.3	None	R
25-Jul-21	Fathead Minnow	7.9	7.4	6.1	None	R
21-Jul-21	Finescale Dace	5.9	5.7	1.9	Live	R
21-Jul-21	Finescale Dace	5.5	5.3	1.3	Live	R
21-Jul-21	Finescale Dace	7.1	6.8	4.2	Live	R
21-Jul-21	Johnny Darter	4.4	4.3	1.0		R
21-Jul-21	Northern Redbelly Dace	4.9	4.7	1.1	Live	R
21-Jul-21	Northern Redbelly Dace	5.5	5.2	7.6	DEAD	М
21-Jul-21	Northern Redbelly Dace	5.2	5.0	7.6	DEAD	М
21-Jul-21	Northern Redbelly Dace	5.3	5.0	7.5	DEAD	М
21-Jul-21	Northern Redbelly Dace	5.0	4.7	1.2	DEAD	М
21-Jul-21	Northern Redbelly Dace	5.3	5.0	1.6	DEAD	М
21-Jul-21	Northern Redbelly Dace	4.9	4.7	1.2	DEAD	М
21-Jul-21	Northern Redbelly Dace	5.4	5.1	1.4	DEAD	М
21-Jul-21	Northern Redbelly Dace	4.9	4.6	1.2	DEAD	М
21-Jul-21	Northern Redbelly Dace	5.2	5.0	1.4	DEAD	М
21-Jul-21	Northern Redbelly Dace	5.1	4.9	1.6	DEAD	М
21-Jul-21	Northern Redbelly Dace	5.4	5.1	1.7	DEAD	М

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
21-Jul-21	Northern Redbelly Dace	5.4	5.1	1.8	DEAD	Μ
21-Jul-21	Northern Redbelly Dace	5.1	4.8	-	DEAD	Μ
21-Jul-21	Northern Redbelly Dace	5.4	5.1	1.6	None	R
21-Jul-21	Northern Redbelly Dace	6.1	5.8	1.4	None	R
21-Jul-21	Northern Redbelly Dace	5.2	4.8	1.4	None	R
21-Jul-21	Northern Redbelly Dace	5.4	5.0	1.4	None	R
21-Jul-21	Northern Redbelly Dace	5.0	4.7	1.4	None	R
21-Jul-21	Northern Redbelly Dace	5.0	4.7	1.3	None	R
21-Jul-21	Northern Redbelly Dace	5.3	4.9	1.3	None	R
21-Jul-21	Northern Redbelly Dace	5.7	5.4	1.8	None	R
21-Jul-21	Northern Redbelly Dace	5.4	4.9	1.2	None	R
21-Jul-21	Northern Redbelly Dace	4.9	4.6	1.1	None	R
21-Jul-21	Northern Redbelly Dace	5.1	4.7	1.1	None	R
21-Jul-21	Northern Redbelly Dace	5.0	4.7	1.1	None	R
21-Jul-21	Northern Redbelly Dace	5.4	5.1	1.3	None	R
21-Jul-21	Northern Redbelly Dace	5.0	4.7	1.1	None	R
21-Jul-21	Northern Redbelly Dace	5.7	5.4	1.5	None	R
21-Jul-21	Northern Redbelly Dace	4.9	4.6	1.0	None	R
21-Jul-21	Northern Redbelly Dace	5.3	5.0	1.4	None	R
21-Jul-21	Northern Redbelly Dace	5.2	4.9	1.5	None	R
21-Jul-21	Northern Redbelly Dace	5.3	5.1	1.4	None	R
21-Jul-21	Northern Redbelly Dace	5.1	4.9	1.4	None	R
21-Jul-21	Northern Redbelly Dace	5.4	5.1	1.5	None	R
21-Jul-21	Northern Redbelly Dace	4.9	4.6	1.3	None	R
21-Jul-21	Northern Redbelly Dace	5.1	4.8	1.5	None	R
21-Jul-21	Northern Redbelly Dace	5.2	4.9	1.5	None	R
21-Jul-21	Northern Redbelly Dace	5.1	4.8	1.3	None	R
21-Jul-21	Northern Redbelly Dace	5.2	4.8	1.4	None	R
21-Jul-21	Northern Redbelly Dace	5.3	4.9	1.4	None	R
21-Jul-21	Northern Redbelly Dace	5.2	4.9	1.4	None	R
21-Jul-21	Northern Redbelly Dace	5.0	4.7	1.1	None	R
21-Jul-21	Northern Redbelly Dace	5.2	4.8	1.2	None	R
21-Jul-21	Northern Redbelly Dace	5.2	4.8	1.4	None	R
21-Jul-21	Northern Redbelly Dace	5.3	5.0	1.3	None	R
21-Jul-21	Northern Redbelly Dace	5.4	5.1	1.4	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
21-Jul-21	Northern Redbelly Dace	5.0	4.7	1.1	None	R
21-Jul-21	Northern Redbelly Dace	5.5	5.1	1.5	None	R
25-Jul-21	Pearl Dace	9.0	8.4	6.7	None	R
25-Jul-21	Pearl Dace	9.3	8.8	7.2	None	R
25-Jul-21	Pearl Dace	9.7	9.1	7.7	None	R
21-Jul-21	Pearl Dace	10.5	9.9	9.0	Dead	М
21-Jul-21	Pearl Dace	9.8	9.1	7.3	Dead	М
21-Jul-21	Pearl Dace	10.6	10.0	5.2	Dead	М
21-Jul-21	Pearl Dace	9.5	8.9	13.1	Dead	М
21-Jul-21	Pearl Dace	8.3	7.8	12.3	Dead	М
21-Jul-21	Pearl Dace	10.7	9.9	9.7	Live	R
21-Jul-21	Pearl Dace	11.1	10.5	11.0	Live	R
21-Jul-21	Pearl Dace	7.1	6.7	-	Live	R
21-Jul-21	Pearl Dace	8.9	8.5	5.5	Live	R
21-Jul-21	Pearl Dace	7.5	7.1	3.2	Live	R
21-Jul-21	Pearl Dace	6.7	6.4	2.4	Live	R
21-Jul-21	Pearl Dace	7.7	7.3	3.6	Live	R
21-Jul-21	Pearl Dace	6.7	6.4	2.6	Live	R
21-Jul-21	Pearl Dace	7.1	6.9	-	Live	R
21-Jul-21	Pearl Dace	8.7	8.3	6.1	Live	R
21-Jul-21	Pearl Dace	9.9	9.4	8.7	Live	R
21-Jul-21	Pearl Dace	9.7	8.0	6.2	Live	R
21-Jul-21	Pearl Dace	7.8	7.4	4.3	Live	R
21-Jul-21	Pearl Dace	9.1	8.5	6.3	Live	R
21-Jul-21	Pearl Dace	8.2	7.7	4.5	Live	R
21-Jul-21	Pearl Dace	6.9	6.5	2.6	Live	R
21-Jul-21	Pearl Dace	7.0	6.6	2.9	None	R
21-Jul-21	Pearl Dace	7.4	7.0	-	None	R
21-Jul-21	Pearl Dace	5.6	4.7	1.5	None	R
21-Jul-21	Pearl Dace	7.1	6.6	2.1	None	R
21-Jul-21	Pearl Dace	7.3	6.9	3.7	None	R
21-Jul-21	Pearl Dace	7.1	6.8	4.3	None	R
21-Jul-21	Pearl Dace	6.8	6.4	3.0	None	R
21-Jul-21	Pearl Dace	6.8	6.4	3.2	None	R
21-Jul-21	Pearl Dace	5.7	5.4	1.7	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
21-Jul-21	Pearl Dace	7.1	6.8	3.2	None	R
21-Jul-21	Pearl Dace	6.6	6.1	2.5	None	R
21-Jul-21	Pearl Dace	7.0	6.0	2.8	None	R
21-Jul-21	Pearl Dace	6.6	6.3	2.7	None	R
21-Jul-21	Pearl Dace	9.9	9.3	9.5	None	R
21-Jul-21	Pearl Dace	10.5	9.9	11.3	None	R
21-Jul-21	Pearl Dace	10.1	9.5	9.6	Live	R
21-Jul-21	Pearl Dace	11.1	10.7	13.1	Live	R
21-Jul-21	Pearl Dace	10.6	10.0	11.0	Live	R
21-Jul-21	Pearl Dace	9.0	8.4	7.5	Live	R
21-Jul-21	Pearl Dace	9.4	8.8	7.6	None	R
21-Jul-21	Pearl Dace	10.4	9.6	10.0	None	R
25-Jul-21	White Sucker	14.2	13.3	25.9	None	R
25-Jul-21	White Sucker	9.8	9.3	9.5	None	R
25-Jul-21	White Sucker	15.2	14.4	35.0	None	R
25-Jul-21	White Sucker	13.2	12.4	21.5	None	R
25-Jul-21	White Sucker	15.7	14.7	35.5	None	R
25-Jul-21	White Sucker	14.9	14.0	29.7	None	R
25-Jul-21	White Sucker	10.2	9.4	9.5	None	R
25-Jul-21	White Sucker	9.7	9.2	8.0	None	R
21-Jul-21	White Sucker	10.5	10.2	11.2	None	R
21-Jul-21	White Sucker	10.0	9.6	9.9	None	R
21-Jul-21	White Sucker	10.7	10.2	11.6	Live	R
21-Jul-21	White Sucker	10.0	9.6	9.2	Live	R
21-Jul-21	White Sucker	9.6	9.4	9.2	Live	R
21-Jul-21	White Sucker	11.1	10.7	12.8	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
22-Jul-21	Brassy Minnow	4.3	4.0	0.7	None	R
22-Jul-21	Brook Stickleback	5.1	-	1.2	None	R
22-Jul-21	Brook Stickleback	5.7	-	1.8	None	R
22-Jul-21	Brook Stickleback	4.8	-	0.8	None	R
22-Jul-21	Brook Stickleback	3.9	-	0.6	None	R
22-Jul-21	Brook Stickleback	4.8	-	1.0	None	R
22-Jul-21	Brook Stickleback	5.1	-	1.4	None	R
22-Jul-21	Brook Stickleback	5.2	-	1.2	None	R
22-Jul-21	Brook Stickleback	4.2	-	0.7	None	R
22-Jul-21	Brook Stickleback	4.0	-	0.6	None	R
22-Jul-21	Brook Stickleback	5.4	-	1.5	None	R
22-Jul-21	Brook Stickleback	5.1	-	1.1	None	R
22-Jul-21	Brook Stickleback	4.0	-	0.6	None	R
22-Jul-21	Brook Stickleback	4.2	-	0.7	None	R
22-Jul-21	Brook Stickleback	4.8	-	1.0	None	R
22-Jul-21	Brook Stickleback	3.8	-	0.5	None	R
22-Jul-21	Brook Stickleback	3.5	-	0.5	None	R
22-Jul-21	Brook Stickleback	5.4	-	1.5	None	R
22-Jul-21	Brook Stickleback	4.2	-	0.8	None	R
22-Jul-21	Brook Stickleback	4.5	-	1.0	None	R
22-Jul-21	Brook Stickleback	2.6	-	0.2	None	R
22-Jul-21	Brook Stickleback	3.7	-	0.6	None	R
22-Jul-21	Brook Stickleback	3.8	-	0.7	None	R
22-Jul-21	Brook Stickleback	2.4	-	0.2	None	R
22-Jul-21	Central Mudminnow	10.5	-	11.5	None	R
22-Jul-21	Central Mudminnow	9.4	-	9.3	None	R
22-Jul-21	Central Mudminnow	4.7	-	1.4	None	R
22-Jul-21	Central Mudminnow	10.1	-	12.2	None	R
22-Jul-21	Central Mudminnow	6.7	-	3.0	black spots	R
22-Jul-21	Central Mudminnow	7.7	_	4.8	pictures of black spot	R
22-Jul-21	Central Mudminnow	7.3	-	4.7	None	R
22-Jul-21	Central Mudminnow	4.7	-	1.6	(black spot) scoliosis	R
22-Jul-21	Central Mudminnow	5.7	-	2.5	None	R

# Table A-10: Detailed Fish Measurements for Clark Creek diversion channel, RRM – July2021.



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
22-Jul-21	Central Mudminnow	5.3	-	1.8	None	R
22-Jul-21	Central Mudminnow	6.9	-	3.7	None	R
22-Jul-21	Central Mudminnow	5.4	-	1.9	black spot	R
22-Jul-21	Central Mudminnow	8.6	-	7.0	None	R
22-Jul-21	Central Mudminnow	8.2	-	6.5	None	R
22-Jul-21	Central Mudminnow	7.3	-	4.6	None	R
22-Jul-21	Central Mudminnow	7.4	-	4.7	None	R
22-Jul-21	Central Mudminnow	7.1	-	4.2	None	R
22-Jul-21	Central Mudminnow	7.7	-	4.9	None	R
22-Jul-21	Central Mudminnow	5.6	-	2.3	None	R
22-Jul-21	Central Mudminnow	10.2	-	12.5	None	R
22-Jul-21	Central Mudminnow	9.9	-	12.3	None	R
22-Jul-21	Central Mudminnow	9.0	-	7.9	None	R
22-Jul-21	Central Mudminnow	8.6	-	6.9	None	R
22-Jul-21	Central Mudminnow	10.7	-	14.3	None	R
22-Jul-21	Central Mudminnow	9.0	-	8.7	None	R
22-Jul-21	Central Mudminnow	9.1	-	8.8	None	R
22-Jul-21	Central Mudminnow	9.1	-	7.8	None	R
22-Jul-21	Central Mudminnow	11.0	-	15.2	None	R
22-Jul-21	Central Mudminnow	9.7	-	10.3	None	R
22-Jul-21	Central Mudminnow	5.8	-	2.7	None	R
22-Jul-21	Central Mudminnow	6.5	-	3.3	None	R
22-Jul-21	Central Mudminnow	10.3	-	10.3	None	R
22-Jul-21	Central Mudminnow	8.0	-	5.6	None	R
22-Jul-21	Central Mudminnow	11.6	-	16.7	None	R
22-Jul-21	Central Mudminnow	9.6	-	10.6	None	R
22-Jul-21	Central Mudminnow	8.0	-	6.6	None	R
22-Jul-21	Central Mudminnow	11.4	-	17.7	None	R
22-Jul-21	Central Mudminnow	8.1	-	6.6	Growth on side	R
22-Jul-21	Central Mudminnow	8.4	-	6.0	None	R
22-Jul-21	Central Mudminnow	9.0	-	7.8	Growth on caudal peduncle	R
22-Jul-21	Central Mudminnow	9.3	-	8.5	None	R
22-Jul-21	Central Mudminnow	9.5	-	9.0	None	R
22-Jul-21	Central Mudminnow	8.8	-	7.6	None	R

Ecometrix Environmental



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
22-Jul-21	Central Mudminnow	2.4	-	0.2	None	R
22-Jul-21	Central Mudminnow	2.4	-	0.2	None	R
22-Jul-21	Central Mudminnow	2.4	-	0.2	None	R
22-Jul-21	Central Mudminnow	5.1	-	1.5	None	R
22-Jul-21	Central Mudminnow	2.2	-	0.1	None	R
22-Jul-21	Central Mudminnow	2.4	-	0.1	None	R
22-Jul-21	Central Mudminnow	6.5	-	2.9	None	R
22-Jul-21	Central Mudminnow	6.3	-	2.9	None	R
22-Jul-21	Central Mudminnow	9.9	-	11.7	None	R
22-Jul-21	Central Mudminnow	8.9	-	7.9	None	R
22-Jul-21	Central Mudminnow	7.9	-	6.1	None	R
22-Jul-21	Central Mudminnow	7.9	-	5.2	None	R
22-Jul-21	Central Mudminnow	7.0	-	3.8	None	R
22-Jul-21	Central Mudminnow	7.0	-	3.7	None	R
22-Jul-21	Central Mudminnow	2.3	-	0.1	None	R
22-Jul-21	Central Mudminnow	7.1	-	3.8	None	R
22-Jul-21	Central Mudminnow	7.5	-	5.3	None	R
22-Jul-21	Central Mudminnow	5.3	-	1.7	None	R
22-Jul-21	Central Mudminnow	5.4	-	1.7	None	R
22-Jul-21	Central Mudminnow	8.2	-	7.3	None	R
22-Jul-21	Central Mudminnow	8.3	-	6.8	None	R
22-Jul-21	Central Mudminnow	9.4	-	10.8	None	R
22-Jul-21	Central Mudminnow	8.2	-	6.5	None	R
22-Jul-21	Central Mudminnow	7.4	-	4.7	None	R
22-Jul-21	Central Mudminnow	9.4	-		None	R
22-Jul-21	Central Mudminnow	7.7	-	5.7	None	R
22-Jul-21	Central Mudminnow	10.1	-	12.2	None	R
22-Jul-21	Central Mudminnow	6.9	-	3.9	None	R
22-Jul-21	Central Mudminnow	8.5	-	8.1	None	R
22-Jul-21	Central Mudminnow	6.6	-	4.3	None	R
22-Jul-21	Central Mudminnow	6.2	-	3.0	None	R
22-Jul-21	Central Mudminnow	7.6	-	5.9	None	R
22-Jul-21	Central Mudminnow	6.7	-	4.0	None	R
22-Jul-21	Central Mudminnow	5.0	-	1.7	None	R
22-Jul-21	Central Mudminnow	10.7	-	15.6	None	R

Ecometrix Environmental

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
22-Jul-21	Central Mudminnow	7.6	-	5.6	None	R
22-Jul-21	Central Mudminnow	7.4	-	4.7	None	R
22-Jul-21	Central Mudminnow	7.0	-	4.8	None	R
22-Jul-21	Central Mudminnow	6.5	-	1.9	None	R
22-Jul-21	Central Mudminnow	11.5	-	20.0	None	R
22-Jul-21	Finescale Dace	4.3	4.0	0.9	None	R
22-Jul-21	Finescale Dace	4.6	4.4	1.0	None	R
22-Jul-21	Finescale Dace	4.8	4.5	1.0	None	R
22-Jul-21	Finescale Dace	4.4	4.1	0.9	None	R
22-Jul-21	Finescale Dace	4.3	4.0	0.8	None	R
22-Jul-21	Finescale Dace	9.6	9.0	8.6	None	R
22-Jul-21	Finescale Dace	9.7	9.1	9.6	None	R
22-Jul-21	Finescale Dace	9.7	9.2	10.6	None	R
22-Jul-21	Finescale Dace	4.7	4.4	1.0	None	R
22-Jul-21	Finescale Dace	4.7	4.4	1.1	None	R
22-Jul-21	Finescale Dace	9.5	8.9	8.5	None	R
22-Jul-21	Finescale Dace	9.4	8.9	9.1	None	R
22-Jul-21	Finescale Dace	9.9	9.4	10.2	None	R
22-Jul-21	Finescale Dace	9.6	9.0	10.3	None	R
22-Jul-21	Northern Redbelly Dace	3.2	2.9		None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Brown Bullhead	4.4	4.1	0.8	None	R
25-Jul-21	Brown Bullhead	4.1	3.7	0.7	None	R
25-Jul-21	Brown Bullhead	10.6	-	17.1	None	R
25-Jul-21	Brown Bullhead	11.7	-	19.7	None	R
25-Jul-21	Brown Bullhead	8.9	-	10.4	None	R
25-Jul-21	Brown Bullhead	10.7	-	16.0	None	R
25-Jul-21	Brown Bullhead	9.8	-	10.6	None	R
25-Jul-21	Brown Bullhead	10.0	-	12.0	None	R
25-Jul-21	Brown Bullhead	7.1	-	4.6	None	R
25-Jul-21	Brown Bullhead	11.0	-	17.8	None	R
25-Jul-21	Brown Bullhead	7.5	-	5.7	None	R
25-Jul-21	Brown Bullhead	9.1	-	9.2	None	R
25-Jul-21	Brown Bullhead	9.7	-	10.5	None	R
25-Jul-21	Brown Bullhead	9.3	-	9.3	None	R
25-Jul-21	Brown Bullhead	9.2	-	8.8	None	R
25-Jul-21	Brown Bullhead	9.5	-	11.2	None	R
25-Jul-21	Brown Bullhead	10.7	-	17.3	None	R
25-Jul-21	Brown Bullhead	9.9	-	13.6	None	R
25-Jul-21	Brown Bullhead	11.5	-	22.3	None	R
25-Jul-21	Brown Bullhead	11.1	-	14.5	None	R
25-Jul-21	Brown Bullhead	11.1	-	29.4	None	R
25-Jul-21	Brown Bullhead	7.3	-	4.6	None	R
25-Jul-21	Brown Bullhead	10.1	-	13.3	None	R
25-Jul-21	Brown Bullhead	9.2	-	9.3	None	R
25-Jul-21	Brown Bullhead	7.0	-	4.2	None	R
25-Jul-21	Brown Bullhead	9.8	-	14.3	None	R
25-Jul-21	Brown Bullhead	8.9	_	10.7	None	R
25-Jul-21	Brown Bullhead	9.8	_	12.5	None	R
25-Jul-21	Brown Bullhead	10.9	_	18.3	None	R
25-Jul-21	Brown Bullhead	10.4	_	14.5	None	R
25-Jul-21	Brown Bullhead	9.0	-	8.3	None	R
25-Jul-21	Brown Bullhead	11.0	_	20.6	None	R
25-Jul-21	Brown Bullhead	9.9	-	12.6	None	R

### Table A-11: Detailed Fish Measurements for Stockpile Pond, RRM – July 2021.

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Brown Bullhead	9.5	-	9.9	None	R
25-Jul-21	Brown Bullhead	9.3	-	10.6	None	R
25-Jul-21	Brown Bullhead	16.0	-	57.3	None	R
25-Jul-21	Brown Bullhead	11.1	-	18.7	None	R
25-Jul-21	Brown Bullhead	9.2	-	9.0	None	R
25-Jul-21	Brown Bullhead	11.0	-	15.0	None	R
25-Jul-21	Brown Bullhead	11.4	-	21.9	None	R
25-Jul-21	Brown Bullhead	9.2	-	9.2	None	R
25-Jul-21	Brown Bullhead	12.3	-	24.1	None	R
25-Jul-21	Brown Bullhead	13.4	-	29.7	None	R
25-Jul-21	Brown Bullhead	16.0	-	41.5	None	R
25-Jul-21	Brown Bullhead	5.5	5.1	-	None	R
25-Jul-21	Brown Bullhead	3.6	3.3	-	None	R
25-Jul-21	Brown Bullhead	8.9	8.3	-	None	R
25-Jul-21	Brown Bullhead	8.4	7.9	-	None	R
25-Jul-21	Brown Bullhead	7.1	6.8	-	None	R
25-Jul-21	Brown Bullhead	8.4	7.9	-	None	R
25-Jul-21	Brown Bullhead	7.8	7.4	-	None	R
25-Jul-21	Brown Bullhead	8.7	8.1	-	None	R
25-Jul-21	Brown Bullhead	7.5	7.0	-	None	R
25-Jul-21	Brown Bullhead	7.6	7.1	-	None	R
25-Jul-21	Brown Bullhead	6.5	4.2	-	None	R
25-Jul-21	Brown Bullhead	5.1	4.8	-	None	R
25-Jul-21	Brown Bullhead	4.2	3.9	-	None	R
25-Jul-21	Brown Bullhead	4.5	4.2	-	None	R
25-Jul-21	Brown Bullhead	4.6	4.3	-	None	R
25-Jul-21	Brown Bullhead	4.6	4.3	-	None	R
25-Jul-21	Brown Bullhead	4.6	4.3	-	None	R
25-Jul-21	Brown Bullhead	4.5	4.2	-	None	R
25-Jul-21	Brown Bullhead	4.4	4.1	-	None	R
25-Jul-21	Brown Bullhead	4.9	4.6	-	None	R
25-Jul-21	Brown Bullhead	4.5	4.2	-	None	R
25-Jul-21	Brown Bullhead	4.9	4.4	-	None	R
25-Jul-21	Brown Bullhead	5.0	4.7	-	None	R
25-Jul-21	Brown Bullhead	4.9	4.6	-	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Brown Bullhead	4.6	4.3	-	None	R
25-Jul-21	Brown Bullhead	4.6	4.3	-	None	R
25-Jul-21	Brassy Minnow	5.8	5.4	1.7	None	R
25-Jul-21	Brassy Minnow	5.8	5.3	1.7	None	R
25-Jul-21	Brassy Minnow	5.7	5.3	1.3	None	R
25-Jul-21	Brassy Minnow	6.1	5.7	2.5	None	R
25-Jul-21	Brassy Minnow	5.1	4.8	-	None	R
25-Jul-21	Brassy Minnow	5.1	4.7	-	None	R
25-Jul-21	Brassy Minnow	3.6	3.4	-	None	R
25-Jul-21	Brassy Minnow	4.4	4.2	-	None	R
25-Jul-21	Brassy Minnow	4.6	4.4	-	None	R
25-Jul-21	Brassy Minnow	3.5	3.3	-	None	R
25-Jul-21	Brassy Minnow	3.6	3.4	-	None	R
25-Jul-21	Brassy Minnow	4.2	3.9	-	None	R
25-Jul-21	Brassy Minnow	4.8	4.5	-	None	R
25-Jul-21	Brook Stickleback	4.1	-	0.6	None	R
27-Jul-21	Brook Stickleback	6.0	-	1.8	None	R
27-Jul-21	Brook Stickleback	4.4	-	-	None	R
27-Jul-21	Brook Stickleback	3.6	-	-	None	R
27-Jul-21	Brook Stickleback	5.9	-	-	No Scale	R
27-Jul-21	Brook Stickleback	4.3	-	-	None	R
27-Jul-21	Brook Stickleback	5.8	-	-	None	R
27-Jul-21	Brook Stickleback	4.4	-	-	None	R
27-Jul-21	Brook Stickleback	4.2	-	-	None	R
27-Jul-21	Brook Stickleback	5.4	-	-	3	R
27-Jul-21	Creek Chub	20.8	20.0	66.4	None	R
27-Jul-21	Creek Chub	19.6	18.7	75.8	None	R
25-Jul-21	Creek Chub	7.0	6.4	3.4	None	R
25-Jul-21	Creek Chub	14.0	13.1	27.4	None	R
25-Jul-21	Creek Chub	10.7	10.0	12.4	None	R
25-Jul-21	Creek Chub	11.6	10.8	16.3	None	R
25-Jul-21	Creek Chub	8.8	8.2	6.8	None	R
25-Jul-21	Creek Chub	10.2	9.5	11.2	None	R
25-Jul-21	Creek Chub	9.7	9.2	9.3	None	R
25-Jul-21	Creek Chub	9.0	8.2	6.3	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Creek Chub	10.5	9.6	6.8	None	R
25-Jul-21	Creek Chub	10.1	9.4	10.1	None	R
25-Jul-21	Creek Chub	9.4	8.8	8.1	None	R
25-Jul-21	Creek Chub	17.0	16.1	49.7	None	R
25-Jul-21	Creek Chub	12.5	11.8	19.6	Blackspot	R
25-Jul-21	Creek Chub	17.3	16.4	51.0	None	R
25-Jul-21	Creek Chub	10.3	9.4	10.9	None	R
25-Jul-21	Creek Chub	9.6	9.0	9.2	None	R
25-Jul-21	Creek Chub	8.1	7.5	4.6	None	R
25-Jul-21	Creek Chub	10.7	10.0	12.2	None	R
27-Jul-21	Creek Chub	8.9	8.4	6.3	None	R
25-Jul-21	Creek Chub	11.6	10.9	14.0	None	R
25-Jul-21	Creek Chub	14.7	13.8	30.4	None	R
25-Jul-21	Creek Chub	8.9	8.3	6.3	None	R
25-Jul-21	Creek Chub	8.9	8.3	6.7	None	R
25-Jul-21	Creek Chub	6.8	6.4	3.2	None	R
25-Jul-21	Creek Chub	6.6	6.1	2.4	None	R
25-Jul-21	Creek Chub	5.7	5.2	1.6	None	R
25-Jul-21	Creek Chub	7.2	6.7	3.5	None	R
25-Jul-21	Creek Chub	8.3	7.8	5.8	None	R
25-Jul-21	Creek Chub	7.8	7.4	4.2	None	R
25-Jul-21	Creek Chub	6.2	5.8	2.4	None	R
25-Jul-21	Creek Chub	6.9	6.4	3.0	None	R
25-Jul-21	Creek Chub	4.6	4.2	0.8	None	R
25-Jul-21	Creek Chub	16.6	15.3	42.1	None	R
25-Jul-21	Creek Chub	7.2	6.7	3.5	None	R
25-Jul-21	Creek Chub	10.2	9.5	9.8	None	R
25-Jul-21	Creek Chub	9.3	8.7	7.4	None	R
25-Jul-21	Creek Chub	9.2	8.4	7.1	None	R
25-Jul-21	Creek Chub	10.3	9.6	10.1	None	R
25-Jul-21	Creek Chub	12.8	12.1	20.0	None	R
25-Jul-21	Creek Chub	7.8	7.3	4.7	None	R
25-Jul-21	Creek Chub	7.1	6.4	2.9	None	R
25-Jul-21	Creek Chub	16.7	15.9	-	No Scale	R
25-Jul-21	Creek Chub	4.5	4.2	-	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Creek Chub	4.4	4.0	-	None	R
25-Jul-21	Creek Chub	4.5	4.3	-	None	R
25-Jul-21	Creek Chub	7.9	7.5	-	None	R
25-Jul-21	Creek Chub	6.1	5.8	-	None	R
25-Jul-21	Creek Chub	4.1	3.9	-	None	R
25-Jul-21	Creek Chub	4.1	3.8	-	None	R
25-Jul-21	Creek Chub	4.3	4.1	-	None	R
25-Jul-21	Creek Chub	4.1	3.9	-	None	R
25-Jul-21	Creek Chub	4.1	3.9	-	None	R
25-Jul-21	Creek Chub	6.2	4.0	-	None	R
25-Jul-21	Creek Chub	6.2	6.0	-	None	R
25-Jul-21	Creek Chub	4.0	3.8	-	None	R
25-Jul-21	Creek Chub	4.0	3.8	-	None	R
25-Jul-21	Creek Chub	4.3	4.1	-	None	R
25-Jul-21	Creek Chub	4.6	4.3	-	None	R
25-Jul-21	Creek Chub	4.7	4.4	-	None	R
25-Jul-21	Creek Chub	4.6	4.4	-	None	R
27-Jul-21	Central Mudminnow	5.7	-	2.3	None	R
27-Jul-21	Central Mudminnow	6.3	-	2.8	None	R
27-Jul-21	Central Mudminnow	5.8	-	2.0	None	R
27-Jul-21	Central Mudminnow	6.0	-	2.1	None	R
27-Jul-21	Central Mudminnow	5.9	-	2.0	None	R
27-Jul-21	Central Mudminnow	7.0	-	3.9	None	R
27-Jul-21	Central Mudminnow	5.7	-	2.1	None	R
27-Jul-21	Central Mudminnow	5.7	-	1.9	None	R
27-Jul-21	Central Mudminnow	5.6	-	1.9	None	R
27-Jul-21	Central Mudminnow	6.0	-	2.4	None	R
27-Jul-21	Central Mudminnow	6.4	-	2.8	None	R
27-Jul-21	Central Mudminnow	5.6	-	1.9	None	R
27-Jul-21	Central Mudminnow	5.7	-	2.3	None	R
27-Jul-21	Central Mudminnow	6.2	-	2.6	None	R
27-Jul-21	Central Mudminnow	6.7	-	3.2	None	R
27-Jul-21	Central Mudminnow	6.1	-	2.3	None	R
27-Jul-21	Central Mudminnow	6.8	-	3.3	None	R
27-Jul-21	Central Mudminnow	8.6	-	5.6	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
27-Jul-21	Central Mudminnow	5.9	-	2.9	None	R
27-Jul-21	Central Mudminnow	6.1	-	3.2	None	R
27-Jul-21	Central Mudminnow	10.5	-	13.6	None	R
27-Jul-21	Central Mudminnow	7.4	-	4.0	None	R
27-Jul-21	Central Mudminnow	8.1	-	5.7	None	R
27-Jul-21	Central Mudminnow	9.6	-	10.7	None	R
27-Jul-21	Central Mudminnow	7.1	-	4.0	None	R
27-Jul-21	Central Mudminnow	7.4	-	4.2	None	R
27-Jul-21	Central Mudminnow	7.6	-	4.6	None	R
27-Jul-21	Central Mudminnow	6.9	-	3.9	None	R
27-Jul-21	Central Mudminnow	6.2	-	3.1	None	R
27-Jul-21	Central Mudminnow	8.1	-	5.8	None	R
27-Jul-21	Central Mudminnow	6.2	-	3.1	None	R
27-Jul-21	Central Mudminnow	6.6	-	3.0	None	R
27-Jul-21	Central Mudminnow	6.4	-	3.4	None	R
27-Jul-21	Central Mudminnow	6.1	-	2.9	None	R
27-Jul-21	Central Mudminnow	8.5	-	5.8	None	R
27-Jul-21	Central Mudminnow	8.7	-	5.6	None	R
27-Jul-21	Central Mudminnow	7.1	-	4.4	None	R
27-Jul-21	Central Mudminnow	5.8	-	2.1	None	R
27-Jul-21	Central Mudminnow	6.5	-	3.0	None	R
25-Jul-21	Central Mudminnow	7.6	-	4.9	None	R
25-Jul-21	Central Mudminnow	6.4	-	-	14	R
25-Jul-21	Common Shiner	6.2	5.0	5.7	None	R
25-Jul-21	Common Shiner	7.7	7.1	2.9	None	R
25-Jul-21	Common Shiner	6.8	6.2	2.3	None	R
25-Jul-21	Common Shiner	8.1	7.3	3.9	None	R
25-Jul-21	Common Shiner	6.8	6.1	2.2	None	R
25-Jul-21	Common Shiner	8.8	7.9	5.7	None	R
25-Jul-21	Common Shiner	7.8	7.1	3.4	None	R
25-Jul-21	Common Shiner	9.9	9.0	7.3	None	R
25-Jul-21	Common Shiner	9.0	8.3	5.9	None	R
25-Jul-21	Common Shiner	8.4	7.7	4.2	None	R
25-Jul-21	Common Shiner	7.1	6.4	2.5	None	R
25-Jul-21	Common Shiner	12.9	11.8	17.5	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Common Shiner	10.1	9.1	7.0	None	R
25-Jul-21	Common Shiner	8.9	8.1	5.8	None	R
25-Jul-21	Common Shiner	8.6	7.8	4.0	None	R
25-Jul-21	Common Shiner	9.4	8.5	6.3	None	R
25-Jul-21	Common Shiner	7.5	6.7	2.7	None	R
25-Jul-21	Common Shiner	7.2	6.4	2.5	None	R
25-Jul-21	Common Shiner	8.7	7.9	5.0	None	R
25-Jul-21	Common Shiner	8.9	8.0	4.9	None	R
25-Jul-21	Common Shiner	9.3	8.6	5.4	None	R
25-Jul-21	Common Shiner	8.2	7.7	4.5	None	R
25-Jul-21	Common Shiner	9.0	8.2	6.3	None	R
25-Jul-21	Common Shiner	7.5	6.7	2.7	None	R
25-Jul-21	Common Shiner	5.7	5.2	1.4	None	R
25-Jul-21	Common Shiner	8.1	7.4	3.5	None	R
25-Jul-21	Common Shiner	7.4	6.1	2.6	None	R
25-Jul-21	Common Shiner	7.5	6.7	2.8	None	R
25-Jul-21	Common Shiner	7.1	6.4	2.5	None	R
25-Jul-21	Common Shiner	8.2	7.3	3.7	None	R
25-Jul-21	Common Shiner	6.4	5.7	1.7	None	R
25-Jul-21	Common Shiner	9.5	8.4	5.7	None	R
25-Jul-21	Common Shiner	8.3	7.4	3.3	None	R
25-Jul-21	Common Shiner	9.1	8.1	5.3	None	R
25-Jul-21	Common Shiner	8.3	7.4	4.3	None	R
25-Jul-21	Common Shiner	7.4	6.5	2.8	None	R
25-Jul-21	Common Shiner	7.6	6.8	2.7	None	R
25-Jul-21	Common Shiner	7.7	6.9	2.9	None	R
25-Jul-21	Common Shiner	10.2	9.3	8.5	None	R
25-Jul-21	Common Shiner	6.7	6.0	2.4	None	R
25-Jul-21	Common Shiner	9.3	8.6	5.5	None	R
25-Jul-21	Common Shiner	6.8	6.2	2.5	None	R
25-Jul-21	Common Shiner	10.4	9.4	7.8	None	R
25-Jul-21	Common Shiner	12.8	11.7	15.1	None	R
25-Jul-21	Common Shiner	13.4	12.4	16.1	Black spot	R
25-Jul-21	Common Shiner	13.5	12.3	28.3	None	R
25-Jul-21	Common Shiner	13.9	12.7	23.0	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Common Shiner	14.2	12.9	23.7	None	R
25-Jul-21	Common Shiner	13.0	11.9	14.8	None	R
25-Jul-21	Common Shiner	12.2	11.0	11.8	None	R
25-Jul-21	Common Shiner	13.3	12.1	14.5	None	R
25-Jul-21	Common Shiner	13.8	12.3	20.2	None	R
25-Jul-21	Common Shiner	13.4	12.2	17.4	None	R
25-Jul-21	Common Shiner	17.0	15.5	-	None	R
27-Jul-21	Fathead Minnow	6.6	6.1	3.3	None	R
27-Jul-21	Fathead Minnow	7.0	6.5	3.3	Black spot	R
27-Jul-21	Fathead Minnow	7.2	6.7	4.1	None	R
27-Jul-21	Fathead Minnow	6.6	6.2	3.4	None	R
27-Jul-21	Fathead Minnow	7.2	6.7	4.1	None	R
27-Jul-21	Fathead Minnow	5.8	5.4	2.5	None	R
27-Jul-21	Fathead Minnow	5.8	5.5	2.4	None	R
27-Jul-21	Fathead Minnow	5.4	4.9	1.7	None	R
27-Jul-21	Fathead Minnow	6.3	5.8	3.0	None	R
27-Jul-21	Fathead Minnow	6.4	6.0	3.0	None	R
27-Jul-21	Fathead Minnow	6.8	6.4	2.8	None	R
27-Jul-21	Fathead Minnow	7.2	6.7	4.6	None	R
27-Jul-21	Fathead Minnow	6.7	6.3	4.1	None	R
27-Jul-21	Fathead Minnow	6.8	6.4	3.8	None	R
27-Jul-21	Fathead Minnow	5.8	5.4	2.1	None	R
27-Jul-21	Fathead Minnow	6.4	5.9	2.7	None	R
27-Jul-21	Fathead Minnow	6.9	6.4	3.8	None	R
27-Jul-21	Fathead Minnow	6.6	6.1	3.3	None	R
27-Jul-21	Fathead Minnow	6.9	6.4	2.9	None	R
27-Jul-21	Fathead Minnow	6.3	5.8	2.6	None	R
27-Jul-21	Fathead Minnow	6.5	6.0	2.6	None	R
27-Jul-21	Fathead Minnow	6.3	5.8	2.5	None	R
27-Jul-21	Fathead Minnow	6.2	5.7	2.3	None	R
27-Jul-21	Fathead Minnow	6.3	5.8	2.4	None	R
27-Jul-21	Fathead Minnow	6.1	5.6	2.2	None	R
27-Jul-21	Fathead Minnow	6.3	5.8	2.8	None	R
27-Jul-21	Fathead Minnow	6.3	6.9	4.1	None	R
27-Jul-21	Fathead Minnow	6.7	6.2	3.1	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
27-Jul-21	Fathead Minnow	5.8	5.4	1.9	None	R
27-Jul-21	Fathead Minnow	7.3	6.8	4.2	None	R
27-Jul-21	Fathead Minnow	7.2	6.7	4.2	None	R
27-Jul-21	Fathead Minnow	7.5	7.0	4.0	None	R
27-Jul-21	Fathead Minnow	7.1	6.7	4.0	None	R
27-Jul-21	Fathead Minnow	6.4	5.9	3.1	None	R
27-Jul-21	Fathead Minnow	5.7	5.2	2.3	None	R
27-Jul-21	Fathead Minnow	6.1	5.6	2.0	None	R
27-Jul-21	Fathead Minnow	5.7	5.2	1.8	None	R
25-Jul-21	Fathead Minnow	6.6	6.3	3.1	None	R
27-Jul-21	Fathead Minnow	6.8	6.4	3.0	None	R
25-Jul-21	Fathead Minnow	6.8	6.4	2.5	None	R
25-Jul-21	Fathead Minnow	6.4	6.0	2.7	None	R
25-Jul-21	Fathead Minnow	6.4	6.0	2.8	None	R
25-Jul-21	Fathead Minnow	6.1	5.6	2.2	None	R
25-Jul-21	Fathead Minnow	6.7	6.3		None	R
25-Jul-21	Fathead Minnow	6.5	6.0	-	None	R
25-Jul-21	Fathead Minnow	6.8	6.4	-	None	R
25-Jul-21	Fathead Minnow	6.1	5.7	-	None	R
25-Jul-21	Fathead Minnow	7.2	6.8	-	None	R
25-Jul-21	Fathead Minnow	6.1	5.8	-	None	R
25-Jul-21	Fathead Minnow	8.1	7.7	-	None	R
25-Jul-21	Fathead Minnow	6.5	6.2	-	None	R
25-Jul-21	Fathead Minnow	6.4	5.9	-	None	R
25-Jul-21	Fathead Minnow	6.5	6.2	-	None	R
25-Jul-21	Fathead Minnow	7.3	6.9	-	None	R
25-Jul-21	Fathead Minnow	6.2	5.8	-	None	R
25-Jul-21	Fathead Minnow	7.1	6.6	-	None	R
25-Jul-21	Fathead Minnow	7.1	6.8	-	None	R
25-Jul-21	Fathead Minnow	6.3	5.9	-	None	R
25-Jul-21	Fathead Minnow	6.1	5.6	-	None	R
25-Jul-21	Fathead Minnow	7.1	6.7	-	None	R
25-Jul-21	Fathead Minnow	6.5	6.0	-	None	R
25-Jul-21	Fathead Minnow	5.5	5.1	-	None	R
25-Jul-21	Fathead Minnow	6.6	6.4	-	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Fathead Minnow	6.0	5.5	-	None	R
25-Jul-21	Fathead Minnow	6.0	5.6	-	None	R
25-Jul-21	Fathead Minnow	5.9	5.5	-	None	R
25-Jul-21	Fathead Minnow	6.8	6.4	-	None	R
25-Jul-21	Fathead Minnow	7.1	6.7	-	None	R
25-Jul-21	Fathead Minnow	6.6	6.2	-	None	R
25-Jul-21	Fathead Minnow	7.1	6.7	-	None	R
25-Jul-21	Fathead Minnow	5.2	4.9	-	None	R
25-Jul-21	Fathead Minnow	6.9	6.5	-	None	R
25-Jul-21	Fathead Minnow	6.8	6.5	-	None	R
25-Jul-21	Fathead Minnow	7.1	6.6	-	None	R
25-Jul-21	Fathead Minnow	6.3	5.9	-	None	R
25-Jul-21	Fathead Minnow	6.5	6.2	-	None	R
25-Jul-21	Fathead Minnow	6.7	6.4	-	None	R
25-Jul-21	Fathead Minnow	7.0	6.6	-	None	R
25-Jul-21	Fathead Minnow	6.0	5.6	-	None	R
27-Jul-21	Northern Redbelly Dace	6.5	6.1	1.9	None	R
27-Jul-21	Northern Redbelly Dace	5.7	5.3	1.4	None	R
27-Jul-21	Northern Redbelly Dace	4.9	4.5	1.3	None	R
27-Jul-21	Northern Redbelly Dace	6.4	5.9	2.8	None	R
27-Jul-21	Northern Redbelly Dace	4.7	4.4	1.1	None	R
27-Jul-21	Northern Redbelly Dace	5.3	4.8	1.4	None	R
27-Jul-21	Northern Redbelly Dace	4.7	4.4	1.1	None	R
27-Jul-21	Northern Redbelly Dace	5.2	4.8	1.4	None	R
27-Jul-21	Northern Redbelly Dace	6.1	5.7	1.9	None	R
27-Jul-21	Northern Redbelly Dace	4.6	4.3	0.9	None	R
27-Jul-21	Northern Redbelly Dace	5.1	4.7	-	None	R
27-Jul-21	Northern Redbelly Dace	5.3	4.9	1.4	None	R
27-Jul-21	Northern Redbelly Dace	5.2	4.9	1.2	None	R
27-Jul-21	Northern Redbelly Dace	6.0	5.6	1.8	None	R
27-Jul-21	Northern Redbelly Dace	5.2	4.9	0.9	None	R
27-Jul-21	Northern Redbelly Dace	5.4	5.0	1.6	None	R
27-Jul-21	Northern Redbelly Dace	5.3	4.9	1.2	None	R
27-Jul-21	Northern Redbelly Dace	5.6	5.2	1.5	None	R
27-Jul-21	Northern Redbelly Dace	5.1	4.7	1.3	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Northern Redbelly Dace	5.1	4.7	1.2	None	R
25-Jul-21	Northern Redbelly Dace	4.8	4.5	1.0	None	R
25-Jul-21	Northern Redbelly Dace	6.5	6.1	1.7	None	R
25-Jul-21	Northern Redbelly Dace	6.1	5.6	1.7	None	R
25-Jul-21	Northern Redbelly Dace	5.1	4.7	1.8	None	R
25-Jul-21	Northern Redbelly Dace	5.0	4.5	1.0	Dead	М
25-Jul-21	Northern Redbelly Dace	5.1	4.6	1.1	None	R
25-Jul-21	Northern Redbelly Dace	6.4	6.0	2.0	None	R
25-Jul-21	Northern Redbelly Dace	5.1	4.6	0.1	None	R
25-Jul-21	Northern Redbelly Dace	5.2	4.8	0.1	None	R
25-Jul-21	Northern Redbelly Dace	6.7	6.4	-	None	R
25-Jul-21	Northern Redbelly Dace	5.1	4.8	-	None	R
25-Jul-21	Northern Redbelly Dace	4.9	4.6	-	None	R
25-Jul-21	Northern Redbelly Dace	4.7	4.5	-	None	R
25-Jul-21	Northern Redbelly Dace	5.5	5.2	-	None	R
25-Jul-21	Northern Redbelly Dace	6.1	4.8	-	None	R
25-Jul-21	Northern Redbelly Dace	5.4	4.9	-	None	R
25-Jul-21	Northern Redbelly Dace	5.2	4.8	-	None	R
25-Jul-21	Northern Redbelly Dace	4.8	4.4	-	None	R
25-Jul-21	Northern Redbelly Dace	4.6	4.2	-	None	R
25-Jul-21	Northern Redbelly Dace	5.1	4.8	-	None	R
25-Jul-21	Northern Redbelly Dace	5.1	4.8	-	None	R
25-Jul-21	Northern Redbelly Dace	4.4	4.1	-	None	R
25-Jul-21	Northern Redbelly Dace	5.4	5.1	-	None	R
25-Jul-21	Northern Redbelly Dace	5.0	4.6	-	None	R
25-Jul-21	Northern Redbelly Dace	5.0	4.7	-	None	R
25-Jul-21	Northern Redbelly Dace	4.6	4.3	-	None	R
25-Jul-21	Northern Redbelly Dace	5.6	5.2	-	None	R
25-Jul-21	Northern Redbelly Dace	5.1	4.8	-	None	R
25-Jul-21	Northern Redbelly Dace	5.1	4.9	-	None	R
25-Jul-21	Northern Redbelly Dace	5.0	4.8	-	None	R
25-Jul-21	Northern Redbelly Dace	5.0	4.7	-	None	R
25-Jul-21	Northern Redbelly Dace	5.1	4.8	-	None	R
25-Jul-21	Northern Redbelly Dace	5.1	4.7	-	None	R
25-Jul-21	Northern Redbelly Dace	5.1	4.6	-	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
25-Jul-21	Northern Redbelly Dace	6.1	5.7	-	None	R
25-Jul-21	Northern Redbelly Dace	5.1	4.9	-	None	R
25-Jul-21	Northern Redbelly Dace	5.2	4.8	-	None	R
25-Jul-21	Northern Redbelly Dace	4.7	4.4	-	None	R
25-Jul-21	Northern Redbelly Dace	5.0	4.6	-	None	R
25-Jul-21	Northern Redbelly Dace	5.0	4.8	-	None	R
27-Jul-21	Pearl Dace	4.2	3.8	0.7	None	R
27-Jul-21	Pearl Dace	6.6	6.1	2.1	None	R
25-Jul-21	Pearl Dace	12.7	12.0	11.9	None	R
25-Jul-21	Pearl Dace	10.0	9.4	6.6	None	R
27-Jul-21	Pearl Dace	6.2	5.7	2.1	None	R
25-Jul-21	Pearl Dace	7.2	6.7	3.6	None	R
27-Jul-21	White Sucker	10.2	9.4	11.9	None	R
27-Jul-21	White Sucker	11.3	10.5	14.6	None	R
27-Jul-21	White Sucker	11.7	10.9	15.8	None	R
27-Jul-21	White Sucker	9.7	9.1	9.0	None	R
27-Jul-21	White Sucker	11.3	10.4	13.0	None	R
27-Jul-21	White Sucker	10.9	10.1	11.1	None	R
27-Jul-21	White Sucker	10.6	9.9	10.7	None	R
27-Jul-21	White Sucker	10.7	9.9	11.5	None	R
27-Jul-21	White Sucker	10.7	10.0	11.1	None	R
27-Jul-21	White Sucker	10.4	9.7	10.9	None	R
27-Jul-21	White Sucker	11.2	10.4	13.2	None	R
27-Jul-21	White Sucker	10.6	9.8	11.6	None	R
27-Jul-21	White Sucker	9.8	9.2	9.3	None	R
27-Jul-21	White Sucker	10.6	9.8	11.1	None	R
27-Jul-21	White Sucker	11.4	10.8	12.9	None	R
27-Jul-21	White Sucker	9.8	9.3	9.1	None	R
27-Jul-21	White Sucker	10.7	9.9	12.0	None	R
27-Jul-21	White Sucker	10.4	9.8	10.4	None	R
27-Jul-21	White Sucker	10.4	9.7	10.8	None	R
27-Jul-21	White Sucker	11.1	10.3	11.9	None	R
27-Jul-21	White Sucker	11.7	11.0	13.7	None	R
27-Jul-21	White Sucker	11.8	11.1	15.1	None	R
27-Jul-21	White Sucker	12.3	11.5	18.7	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
27-Jul-21	White Sucker	10.4	9.8	10.5	None	R
27-Jul-21	White Sucker	10.6	9.9	11.4	None	R
27-Jul-21	White Sucker	11.1	10.4	13.0	None	R
27-Jul-21	White Sucker	12.4	11.6	17.7	None	R
27-Jul-21	White Sucker	11.2	10.5	12.4	None	R
27-Jul-21	White Sucker	11.6	10.7	14.9	None	R
27-Jul-21	White Sucker	10.9	10.1	12.1	None	R
27-Jul-21	White Sucker	11.3	10.5	14.3	None	R
27-Jul-21	White Sucker	10.4	9.7	10.9	None	R
27-Jul-21	White Sucker	10.6	9.8	10.0	None	R
27-Jul-21	White Sucker	10.3	9.7	10.7	None	R
27-Jul-21	White Sucker	10.4	9.8	10.6	None	R
27-Jul-21	White Sucker	10.5	9.8	12.2	None	R
27-Jul-21	White Sucker	5.7	4.8	1.2	None	R
27-Jul-21	White Sucker	10.4	9.9	10.8	None	R
27-Jul-21	White Sucker	11.1	10.8	10.8	None	R
27-Jul-21	White Sucker	10.6	9.9	10.8	None	R
27-Jul-21	White Sucker	10.4	9.8	11.3	None	R
27-Jul-21	White Sucker	10.7	10.1	12.7	None	R
27-Jul-21	White Sucker	10.0	9.4	9.2	None	R
25-Jul-21	White Sucker	10.6	9.9	10.6	None	R
25-Jul-21	White Sucker	4.3	4.9	1.3	None	R
27-Jul-21	White Sucker	10.4	9.1	9.4	None	R
27-Jul-21	White Sucker	5.5	5.2	-	None	R
27-Jul-21	White Sucker	4.0	4.7	-	None	R
27-Jul-21	White Sucker	9.7	8.9	-	None	R
27-Jul-21	White Sucker	24.3	22.9	-	No Scale	R
27-Jul-21	White Sucker	3.0	2.8	-	None	R
27-Jul-21	White Sucker	11.0	10.1	-	None	R
27-Jul-21	White Sucker	9.7	9.0	_	None	R
27-Jul-21	White Sucker	5.3	4.8	-	None	R
27-Jul-21	White Sucker	5.2	4.8	_	None	R
27-Jul-21	White Sucker	5.0	4.7	-	None	R
27-Jul-21	White Sucker	4.0	3.7	-	None	R
27-Jul-21	White Sucker	4.5	4.2	-	None	R

Ecometrix Environmental



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
27-Jul-21	White Sucker	3.7	3.5	-	None	R
27-Jul-21	White Sucker	5.0	4.8	-	None	R
27-Jul-21	White Sucker	5.0	4.8	-	None	R
27-Jul-21	White Sucker	4.6	4.3	-	None	R
27-Jul-21	White Sucker	9.4	5.1	-	None	R
27-Jul-21	White Sucker	4.4	4.1	-	None	R
27-Jul-21	White Sucker	4.4	6.1	-	None	R
27-Jul-21	White Sucker	4.4	4.1	-	None	R
27-Jul-21	White Sucker	5.2	4.9	-	None	R

Z

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
24-Jul-21	Brown Bullhead	18.9	-	117.1	None	R
24-Jul-21	Brown Bullhead	15.3	-	-	None	R
24-Jul-21	Brown Bullhead	16.4	-	-	None	R
24-Jul-21	Brown Bullhead	3.4	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.2	-	0.6	None	R
24-Jul-21	Brown Bullhead	3.8	-	0.7	None	R
24-Jul-21	Brown Bullhead	4.6	-	1.3	None	R
24-Jul-21	Brown Bullhead	4.3	-	1.1	None	R
24-Jul-21	Brown Bullhead	4.9	-	1.7	None	R
24-Jul-21	Brown Bullhead	4.4	-	1.2	None	R
24-Jul-21	Brown Bullhead	3.5	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.4	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.5	-	0.6	None	R
24-Jul-21	Brown Bullhead	3.4	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.0	-	0.3	None	R
24-Jul-21	Brown Bullhead	3.1	-	0.4	None	R
24-Jul-21	Brown Bullhead	4.2	-	1.0	None	R
24-Jul-21	Brown Bullhead	3.6	-	0.9	None	R
24-Jul-21	Brown Bullhead	3.5	-	0.6	None	R
24-Jul-21	Brown Bullhead	3.4	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.2	-	0.4	None	R
24-Jul-21	Brown Bullhead	3.4	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.4	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.8	-	0.8	None	R
24-Jul-21	Brown Bullhead	4.7	-	1.5	None	R
24-Jul-21	Brown Bullhead	3.6	-	0.8	None	R
24-Jul-21	Brown Bullhead	3.4	-	0.5	None	R
24-Jul-21	Brown Bullhead	4.2	-	0.9	None	R
24-Jul-21	Brown Bullhead	3.4	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.4	-	0.6	None	R
24-Jul-21	Brown Bullhead	3.6	-	0.7	None	R
24-Jul-21	Brown Bullhead	3.8	-	1.0	None	R
24-Jul-21	Brown Bullhead	3.2	-	0.5	None	R

### Table A-12: Detailed Fish Measurements for West Creek Pond, RRM – July 2021.

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
24-Jul-21	Brown Bullhead	3.2	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.3	-	0.4	None	R
24-Jul-21	Brown Bullhead	3.4	-	0.7	None	R
24-Jul-21	Brown Bullhead	3.2	-	0.3	None	R
24-Jul-21	Brown Bullhead	3.2	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.2	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.4	-	0.5	None	R
24-Jul-21	Brown Bullhead	3.5	-	0.6	None	R
24-Jul-21	Brassy Minnow	4.6	4.4	-	None	R
24-Jul-21	Brassy Minnow	4.7	4.4	0.9	None	R
24-Jul-21	Brassy Minnow	5.1	4.7	1.1	None	R
24-Jul-21	Brassy Minnow	5.7	5.4	1.8	None	R
24-Jul-21	Brassy Minnow	4.7	4.4	1.0	None	R
24-Jul-21	Brassy Minnow	8.3	7.8	4.7	None	R
24-Jul-21	Brassy Minnow	8.7	8.2	5.7	None	R
24-Jul-21	Brassy Minnow	5.1	4.7	1.2	None	R
24-Jul-21	Brassy Minnow	8.4	7.9	5.7	None	R
24-Jul-21	Brassy Minnow	5.1	4.7	1.0	None	R
24-Jul-21	Brassy Minnow	7.4	6.9	3.7	None	R
24-Jul-21	Brook Stickleback	3.7	-	0.6	None	R
24-Jul-21	Brook Stickleback	4.4	-	0.9	None	R
24-Jul-21	Brook Stickleback	4.4	-	1.1	None	R
24-Jul-21	Brook Stickleback	4.4	-	1.0	None	R
24-Jul-21	Brook Stickleback	3.7	-	0.6	None	R
24-Jul-21	Brook Stickleback	5.3	-	-	None	R
24-Jul-21	Brook Stickleback	4.5	-	-	None	R
24-Jul-21	Brook Stickleback	3.4	-	-	None	R
24-Jul-21	Brook Stickleback	4.7	-	-	None	R
24-Jul-21	Brook Stickleback	4.0	-	-	None	R
24-Jul-21	Brook Stickleback	3.0	-	-	None	R
24-Jul-21	Brook Stickleback	4.2	-	0.8	None	R
24-Jul-21	Brook Stickleback	5.2	-	1.8	None	R
24-Jul-21	Brook Stickleback	4.5	-	0.9	None	R
24-Jul-21	Brook Stickleback	4.6	-	1.2	LATERAL TUMOR	R
24-Jul-21	Brook Stickleback	4.1	-	0.7	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
24-Jul-21	Brook Stickleback	4.0	-	0.7	None	R
24-Jul-21	Brook Stickleback	5.6	-	1.0	None	R
24-Jul-21	Brook Stickleback	4.3	-	0.8	None	R
24-Jul-21	Brook Stickleback	4.3	-	0.6	None	R
24-Jul-21	Brook Stickleback	4.8	-	1.2	None	R
24-Jul-21	Brook Stickleback	4.2	-	0.8	None	R
24-Jul-21	Brook Stickleback	3.9	-	0.6	None	R
24-Jul-21	Creek Chub	7.1	6.6	3.3	None	R
24-Jul-21	Creek Chub	6.1	5.7	2.1	None	R
24-Jul-21	Creek Chub	11.9	11.2	17.2	None	R
24-Jul-21	Creek Chub	10.4	9.8	10.5	None	R
24-Jul-21	Creek Chub	3.8	3.6	0.7	None	R
24-Jul-21	Creek Chub	6.7	6.2	2.5	None	R
24-Jul-21	Creek Chub	6.3	5.8	2.0	None	R
24-Jul-21	Creek Chub	5.6	5.2	1.7	None	R
24-Jul-21	Creek Chub	5.7	5.2	-	None	R
24-Jul-21	Creek Chub	6.3	5.9	1.9	None	R
24-Jul-21	Creek Chub	5.7	5.3	1.7	None	R
24-Jul-21	Creek Chub	6.4	6.0	2.5	None	R
24-Jul-21	Creek Chub	6.5	6.1	2.4	None	R
24-Jul-21	Creek Chub	6.4	5.9	2.4	None	R
24-Jul-21	Creek Chub	6.7	6.3	2.5	None	R
24-Jul-21	Creek Chub	6.2	5.8	2.0	None	R
24-Jul-21	Creek Chub	6.4	6.0	2.3	None	R
24-Jul-21	Creek Chub	6.2	5.8	2.2	None	R
24-Jul-21	Creek Chub	6.6	6.2	2.5	None	R
24-Jul-21	Creek Chub	5.8	5.4	1.8	None	R
24-Jul-21	Creek Chub	5.4	5.9	2.3	None	R
24-Jul-21	Creek Chub	6.9	6.4	3.0	None	R
24-Jul-21	Creek Chub	6.6	6.2	2.5	None	R
24-Jul-21	Creek Chub	5.9	5.4	1.7	None	R
24-Jul-21	Creek Chub	6.0	5.6	1.9	None	R
24-Jul-21	Creek Chub	5.9	5.5	2.1	None	R
24-Jul-21	Creek Chub	5.2	4.8	1.3	None	R
24-Jul-21	Creek Chub	6.4	5.9	2.3	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
24-Jul-21	Creek Chub	6.6	6.2	2.6	None	R
24-Jul-21	Creek Chub	6.1	5.7	2.1	None	R
24-Jul-21	Creek Chub	6.3	5.9	2.3	None	R
24-Jul-21	Creek Chub	6.8	6.4	4.3	None	R
24-Jul-21	Central Mudminnow	4.5	-	1.0	None	R
24-Jul-21	Central Mudminnow	3.6	-	0.5	None	R
24-Jul-21	Central Mudminnow	8.3	-	8.5	None	R
24-Jul-21	Central Mudminnow	5.0	-	1.8	None	R
24-Jul-21	Central Mudminnow	4.5	-	1.2	None	R
24-Jul-21	Central Mudminnow	8.5	-	7.3	None	R
24-Jul-21	Central Mudminnow	4.4	-	0.9	None	R
24-Jul-21	Central Mudminnow	8.4	-	6.3	None	R
24-Jul-21	Central Mudminnow	4.7	-	1.3	None	R
24-Jul-21	Central Mudminnow	4.6	-	1.4	None	R
24-Jul-21	Central Mudminnow	4.6	-	1.3	None	R
24-Jul-21	Central Mudminnow	3.8	-	0.5	None	R
24-Jul-21	Central Mudminnow	5.1	-	1.1	None	R
24-Jul-21	Central Mudminnow	4.9	-	1.4	1	R
24-Jul-21	Central Mudminnow	8.6	-	7.8	None	R
24-Jul-21	Central Mudminnow	12.1	-	22.0	None	R
24-Jul-21	Central Mudminnow	4.5	-	1.1	None	R
24-Jul-21	Central Mudminnow	12.5	-	-	None	R
24-Jul-21	Central Mudminnow	4.7	-	1.2	None	R
24-Jul-21	Central Mudminnow	4.8	-	1.1	None	R
24-Jul-21	Central Mudminnow	4.3	-	0.8	None	R
24-Jul-21	Central Mudminnow	5.0	-	1.3	None	R
24-Jul-21	Central Mudminnow	9.6	-	10.7	None	R
24-Jul-21	Central Mudminnow	4.5	-	1.0	None	R
24-Jul-21	Central Mudminnow	9.1	-	9.4	None	R
24-Jul-21	Central Mudminnow	5.4	-	1.8	None	R
24-Jul-21	Central Mudminnow	4.8	-	1.3	None	R
24-Jul-21	Central Mudminnow	4.9	-	1.2	None	R
24-Jul-21	Central Mudminnow	4.8	-	1.0	None	R
24-Jul-21	Central Mudminnow	4.8	-	1.2	None	R
24-Jul-21	Central Mudminnow	10.4	-	13.4	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
24-Jul-21	Central Mudminnow	4.3	-	0.9	None	R
24-Jul-21	Central Mudminnow	7.6	-	5.7	None	R
24-Jul-21	Central Mudminnow	9.0	-	9.1	None	R
24-Jul-21	Central Mudminnow	9.2	-	8.4	None	R
24-Jul-21	Central Mudminnow	4.8	-	1.1	None	R
24-Jul-21	Central Mudminnow	8.2	-	6.7	None	R
24-Jul-21	Central Mudminnow	9.7	-	10.1	None	R
24-Jul-21	Central Mudminnow	8.8	-	7.5	None	R
24-Jul-21	Central Mudminnow	9.5	-	8.9	None	R
24-Jul-21	Central Mudminnow	9.2	-	9.1	None	R
24-Jul-21	Central Mudminnow	10.0	-	9.2	None	R
24-Jul-21	Central Mudminnow	4.7	-	1.0	None	R
24-Jul-21	Central Mudminnow	4.8	-	1.1	None	R
24-Jul-21	Central Mudminnow	8.4	-	7.0	None	R
24-Jul-21	Fathead Minnow	6.7	6.1	2.8	None	R
24-Jul-21	Fathead Minnow	7.6	7.1	4.2	None	R
24-Jul-21	Fathead Minnow	8.3	7.8	6.0	None	R
24-Jul-21	Fathead Minnow	7.8	7.2	5.2	None	R
24-Jul-21	Fathead Minnow	7.0	6.5	3.6	None	R
24-Jul-21	Fathead Minnow	7.0	6.6	3.8	None	R
24-Jul-21	Fathead Minnow	6.8	6.3	3.4	None	R
24-Jul-21	Fathead Minnow	6.8	6.4	3.4	None	R
24-Jul-21	Fathead Minnow	7.6	7.1	5.1	None	R
24-Jul-21	Fathead Minnow	7.5	6.9	3.7	None	R
24-Jul-21	Fathead Minnow	6.2	5.8	2.3	None	R
24-Jul-21	Finescale Dace	9.0	8.4	6.6	None	R
24-Jul-21	Finescale Dace	5.9	5.5	1.8	None	R
24-Jul-21	Finescale Dace	6.6	6.1	2.8	None	R
24-Jul-21	Finescale Dace	5.0	4.7	1.2	None	R
24-Jul-21	Finescale Dace	5.1	4.7	1.3	None	R
24-Jul-21	Finescale Dace	5.6	5.1	1.6	None	R
24-Jul-21	Finescale Dace	4.6	4.2	0.9	None	R
24-Jul-21	Finescale Dace	6.5	6.1	2.6	None	R
24-Jul-21	Finescale Dace	5.3	4.9	1.3	None	R
24-Jul-21	Finescale Dace	5.6	5.2	1.5	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
24-Jul-21	Finescale Dace	5.8	5.4	1.8	None	R
24-Jul-21	Finescale Dace	5.4	5.0	1.5	None	R
24-Jul-21	Finescale Dace	5.4	5.1	1.5	None	R
24-Jul-21	Finescale Dace	5.1	4.8	1.2	None	R
24-Jul-21	Finescale Dace	5.4	5.0	1.6	None	R
24-Jul-21	Finescale Dace	5.3	4.9	1.3	None	R
24-Jul-21	Finescale Dace	6.1	5.7	2.1	None	R
24-Jul-21	Finescale Dace	5.3	4.8	1.4	None	R
24-Jul-21	Finescale Dace	4.7	4.3	0.9	None	R
24-Jul-21	Finescale Dace	5.3	4.9	1.4	None	R
24-Jul-21	Finescale Dace	5.5	5.1	1.5	None	R
24-Jul-21	Finescale Dace	4.3	4.0	0.6	None	R
24-Jul-21	Finescale Dace	6.1	5.6	2.1	None	R
24-Jul-21	Finescale Dace	8.2	7.6	5.1	None	R
24-Jul-21	Finescale Dace	8.0	7.5	5.5	None	R
24-Jul-21	Finescale Dace	5.1	4.7	1.1	None	R
24-Jul-21	Finescale Dace	5.9	5.5	2.1	None	R
24-Jul-21	Finescale Dace	5.8	5.4	1.8	None	R
24-Jul-21	Finescale Dace	4.3	3.9	0.6	None	R
24-Jul-21	Finescale Dace	5.8	5.4	2.0	None	R
24-Jul-21	Finescale Dace	5.8	5.4	1.8	None	R
24-Jul-21	Finescale Dace	5.4	5.0	1.5	None	R
24-Jul-21	Finescale Dace	5.3	4.9	1.4	None	R
24-Jul-21	Finescale Dace	5.6	5.2	1.7	None	R
24-Jul-21	Finescale Dace	4.8	4.5	1.2	None	R
24-Jul-21	Finescale Dace	5.1	4.7	1.1	None	R
24-Jul-21	Finescale Dace	4.5	4.2	0.8	None	R
24-Jul-21	Finescale Dace	4.8	4.4	1.1	None	R
24-Jul-21	Finescale Dace	9.5	9.0	8.4	None	R
24-Jul-21	Finescale Dace	7.5	7.1	4.3	None	R
24-Jul-21	Finescale Dace	7.6	7.1	4.4	None	R
24-Jul-21	Finescale Dace	8.2	7.7	5.2	None	R
24-Jul-21	Finescale Dace	8.7	8.2	5.9	None	R
24-Jul-21	Finescale Dace	7.7	7.2	4.3	None	R
24-Jul-21	Finescale Dace	6.4	6.0	2.5	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
24-Jul-21	Finescale Dace	6.6	6.1	2.6	None	R
24-Jul-21	Johnny Darter	4.6	-	1.1	None	R
24-Jul-21	Johnny Darter	4.4	-	0.9	None	R
24-Jul-21	Johnny Darter	3.5	-	0.6	None	R
24-Jul-21	Johnny Darter	4.7	-	1.3	None	R
24-Jul-21	Johnny Darter	5.0	-	1.0	None	R
24-Jul-21	Johnny Darter	4.8	-	1.0	None	R
24-Jul-21	Johnny Darter	4.2	-	0.8	None	R
24-Jul-21	Johnny Darter	4.2	-	0.7	None	R
24-Jul-21	Johnny Darter	4.3	-	-	1	R
24-Jul-21	Johnny Darter	4.6	-	-	None	R
24-Jul-21	Johnny Darter	4.3	-	-	None	R
24-Jul-21	Johnny Darter	4.3	-	-	None	R
24-Jul-21	Johnny Darter	4.3	-	-	None	R
24-Jul-21	Johnny Darter	3.4	-	-	None	R
24-Jul-21	Johnny Darter	4.3	-	-	None	R
24-Jul-21	Johnny Darter	4.4	-	-	None	R
24-Jul-21	Johnny Darter	4.5	-	-	None	R
24-Jul-21	Johnny Darter	4.5	-	-	None	R
24-Jul-21	Johnny Darter	4.5	-	-	None	R
24-Jul-21	Johnny Darter	4.1	-	-	None	R
24-Jul-21	Johnny Darter	4.5	-	-	None	R
24-Jul-21	Johnny Darter	2.9	-	-	None	R
24-Jul-21	Johnny Darter	3.4	-	-	None	R
24-Jul-21	Johnny Darter	3.0	-	-	None	R
24-Jul-21	Johnny Darter	6.4	-	-	worm/cyst side body	R
24-Jul-21	Johnny Darter	3.6	-	-	None	R
24-Jul-21	Johnny Darter	4.5	-	1.2	None	R
24-Jul-21	Johnny Darter	4.1	-	1.1	None	R
24-Jul-21	Johnny Darter	4.1	-	1.1	None	R
24-Jul-21	Johnny Darter	3.7	-	_	1	R
24-Jul-21	Johnny Darter	4.5	-	-	None	R
24-Jul-21	Northern Redbelly Dace	5.8	5.4	1.7	None	R
24-Jul-21	Northern Redbelly Dace	5.8	5.4	1.9	None	R

Ecometrix Environmental

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
24-Jul-21	Northern Redbelly Dace	6.2	5.8	2.2	None	R
24-Jul-21	Northern Redbelly Dace	6.5	6.0	2.8	None	R
24-Jul-21	Northern Redbelly Dace	5.4	5.1	1.7	None	R
24-Jul-21	Northern Redbelly Dace	5.5	5.2	1.7	None	R
24-Jul-21	Northern Redbelly Dace	5.9	5.5	2.1	None	R
24-Jul-21	Northern Redbelly Dace	5.5	5.2	1.5	None	R
24-Jul-21	Northern Redbelly Dace	6.0	5.6	1.8	None	R
24-Jul-21	Northern Redbelly Dace	5.8	5.4	1.8	None	R
24-Jul-21	Northern Redbelly Dace	5.3	4.9	1.4	None	R
24-Jul-21	Northern Redbelly Dace	5.9	5.5	2.0	None	R
24-Jul-21	Northern Redbelly Dace	6.1	5.7	2.2	None	R
24-Jul-21	Northern Redbelly Dace	5.7	5.4	1.8	TUMOR ON GILL	R
24-Jul-21	Northern Redbelly Dace	6.4	6.0	2.6	None	R
24-Jul-21	Northern Redbelly Dace	6.5	6.1	2.3	None	R
24-Jul-21	Northern Redbelly Dace	6.2	5.8	2.2	None	R
24-Jul-21	Northern Redbelly Dace	6.1	5.7	2.1	None	R
24-Jul-21	Northern Redbelly Dace	6.1	5.7	2.3	None	R
24-Jul-21	Northern Redbelly Dace	4.2	4.0	0.6	None	R
24-Jul-21	Northern Redbelly Dace	5.8	5.4	1.7	None	R
24-Jul-21	Northern Redbelly Dace	6.7	6.3	2.8	None	R
24-Jul-21	Northern Redbelly Dace	5.7	5.4	1.3	None	R
24-Jul-21	Northern Redbelly Dace	5.6	5.2	1.6	None	R
24-Jul-21	Northern Redbelly Dace	6.0	5.7	2.0	None	R
24-Jul-21	Northern Redbelly Dace	5.7	5.3	1.9	None	R
24-Jul-21	Northern Redbelly Dace	5.1	4.8	1.2	None	R
24-Jul-21	Northern Redbelly Dace	5.5	5.1	1.5	None	R
24-Jul-21	Northern Redbelly Dace	5.9	5.5	1.9	None	R
24-Jul-21	Northern Redbelly Dace	5.5	5.0	1.5	None	R
24-Jul-21	Northern Redbelly Dace	6.0	5.7	1.9	None	R
24-Jul-21	Northern Redbelly Dace	5.5	5.1	1.3	None	R
24-Jul-21	Northern Redbelly Dace	5.6	5.2	1.5	None	R
24-Jul-21	Northern Redbelly Dace	6.3	5.9	2.1	None	R
24-Jul-21	Northern Redbelly Dace	6.2	5.9	2.3	BULGING EYE	R
24-Jul-21	Northern Redbelly Dace	6.1	5.7	2.1	None	R
24-Jul-21	Northern Redbelly Dace	6.4	6.0	2.4	None	R

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
24-Jul-21	Northern Redbelly Dace	5.7	5.3	1.6	None	R
24-Jul-21	Northern Redbelly Dace	5.2	4.9	1.2	None	R
24-Jul-21	Northern Redbelly Dace	5.5	5.1	1.5	None	R
24-Jul-21	Northern Redbelly Dace	5.5	5.1	1.5	None	R
24-Jul-21	Pearl Dace	12.3	11.5	17.0	рното	R
24-Jul-21	Pearl Dace	6.0	5.6	2.3	None	R
24-Jul-21	Pearl Dace	5.9	5.4	2.1	None	R
24-Jul-21	Pearl Dace	13.5	12.7	26.0	None	R
24-Jul-21	Pearl Dace	7.3	6.9	3.9	None	R
24-Jul-21	Pearl Dace	6.2	5.8	2.6	None	R
24-Jul-21	Pearl Dace	6.0	5.6	2.0	None	R
24-Jul-21	Pearl Dace	6.2	5.8	2.2	None	R
24-Jul-21	Pearl Dace	7.0	6.5	3.4	None	R
24-Jul-21	Pearl Dace	6.6	6.1	2.6	None	R
24-Jul-21	Pearl Dace	6.8	6.4	3.3	None	R
24-Jul-21	Pearl Dace	5.9	5.5	1.9	None	R
24-Jul-21	Pearl Dace	6.0	5.6	2.1	None	R
24-Jul-21	Pearl Dace	6.2	5.7	2.5	None	R
24-Jul-21	Pearl Dace	6.3	5.9	2.5	None	R
24-Jul-21	Pearl Dace	5.8	5.4	1.8	None	R
24-Jul-21	Pearl Dace	6.3	6.0	2.4	None	R
24-Jul-21	Pearl Dace	6.2	5.8	2.2	None	R
24-Jul-21	Pearl Dace	6.3	5.9	2.6	None	R
24-Jul-21	Pearl Dace	6.4	6.0	2.7	None	R
24-Jul-21	Pearl Dace	5.6	5.2	1.7	None	R
24-Jul-21	Pearl Dace	6.5	6.2	2.7	None	R
24-Jul-21	Pearl Dace	6.3	5.9	2.4	None	R
24-Jul-21	Pearl Dace	6.5	6.1	2.6	None	R
24-Jul-21	Pearl Dace	6.2	5.8	2.3	None	R
24-Jul-21	Pearl Dace	6.3	5.9	2.3	None	R
24-Jul-21	Pearl Dace	5.2	4.8	1.3	None	R
24-Jul-21	Pearl Dace	6.4	5.9	2.3	None	R
24-Jul-21	Pearl Dace	6.3	5.9	2.4	None	R
24-Jul-21	Pearl Dace	6.2	5.8	2.5	None	R
24-Jul-21	Pearl Dace	7.0	6.5	3.3	None	R



ANNUAL MONITORING OF COMPENSATION MEASURES 2021 *Appendices* 

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
24-Jul-21	Pearl Dace	6.4	6.0	2.5	None	R
24-Jul-21	Pearl Dace	5.1	4.8	1.2	None	R
24-Jul-21	Pearl Dace	5.9	5.5	1.8	None	R
24-Jul-21	Pearl Dace	6.8	6.4	3.0	None	R
24-Jul-21	Pearl Dace	6.5	6.1	2.4	None	R
24-Jul-21	Pearl Dace	6.6	6.2	2.8	None	R
24-Jul-21	Pearl Dace	6.5	6.1	2.4	None	R
24-Jul-21	Pearl Dace	6.6	6.2	2.7	None	R
24-Jul-21	Pearl Dace	6.6	6.2	2.5	None	R
24-Jul-21	Pearl Dace	6.3	5.9	2.2	None	R
24-Jul-21	Pearl Dace	6.3	5.9	2.5	None	R
24-Jul-21	Pearl Dace	6.2	5.8	2.2	None	R
24-Jul-21	Pearl Dace	6.4	6.0	2.5	None	R
24-Jul-21	Pearl Dace	6.4	6.0	2.6	None	R



# Table A-13: Detailed Fish Measurements for Clark Creek Pond, RRM – July 2021.

Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
27-Jul-21	Brassy Minnow	4.3	4.0	-	None	R
27-Jul-21	Brassy Minnow	4.9	4.4	-	None	R
27-Jul-21	Brassy Minnow	4.9	4.6	-	None	R
27-Jul-21	Brassy Minnow	4.5	4.2	-	None	R
27-Jul-21	Brassy Minnow	4.6	4.3	-	None	R
27-Jul-21	Brassy Minnow	3.5	3.3	-	None	R
27-Jul-21	Brassy Minnow	3.0	2.7	-	None	R
27-Jul-21	Brassy Minnow	3.6	3.3	-	None	R
27-Jul-21	Brassy Minnow	3.6	3.3	-	None	R
27-Jul-21	Brassy Minnow	3.5	3.3	-	None	R
27-Jul-21	Brassy Minnow	3.7	3.4	-	None	R
27-Jul-21	Brassy Minnow	3.2	2.9	-	None	R
27-Jul-21	Brassy Minnow	3.0	2.8	-	None	R
27-Jul-21	Brassy Minnow	3.4	3.2	-	None	R
27-Jul-21	Brassy Minnow	3.3	3.0	-	None	R
27-Jul-21	Brassy Minnow	4.2	3.9	-	None	R
27-Jul-21	Brassy Minnow	4.7	4.3	-	None	R
27-Jul-21	Brassy Minnow	5.2	4.9	-	None	R
27-Jul-21	Brassy Minnow	4.3	4.0	-	None	R
27-Jul-21	Brassy Minnow	5.1	4.8	-	None	R
27-Jul-21	Brassy Minnow	5.0	4.7	-	None	R
27-Jul-21	Brassy Minnow	3.8	3.5	-	None	R
27-Jul-21	Brassy Minnow	3.9	3.6	-	None	R
27-Jul-21	Brassy Minnow	4.0	3.7	-	None	R
27-Jul-21	Brassy Minnow	4.7	4.4	-	None	R
27-Jul-21	Brassy Minnow	4.8	4.5	-	None	R
27-Jul-21	Brassy Minnow	4.5	4.3	-	None	R
27-Jul-21	Brassy Minnow	4.1	3.8	-	None	R
27-Jul-21	Brassy Minnow	3.5	3.2	-	None	R
27-Jul-21	Brassy Minnow	3.8	3.5	-	None	R
27-Jul-21	Brassy Minnow	3.3	3.1	-	None	R
27-Jul-21	Brassy Minnow	4.1	3.8	-	None	R
27-Jul-21	Brassy Minnow	3.3	3.0	-	None	R



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
27-Jul-21	Brassy Minnow	4.3	4.0	-	None	R
27-Jul-21	Brassy Minnow	4.5	4.2	-	None	R
27-Jul-21	Brassy Minnow	3.5	3.2	-	None	R
27-Jul-21	Brassy Minnow	3.3	3.1	-	None	R
27-Jul-21	Brassy Minnow	5.0	4.7	-	None	R
27-Jul-21	Brassy Minnow	4.4	4.1	-	None	R
27-Jul-21	Brassy Minnow	4.5	4.2	-	None	R
27-Jul-21	Brassy Minnow	4.6	4.3	-	None	R
27-Jul-21	Brassy Minnow	5.2	4.9	-	None	R
27-Jul-21	Brassy Minnow	3.6	3.3	-	None	R
27-Jul-21	Brassy Minnow	4.4	4.1	-	None	R
27-Jul-21	Brassy Minnow	3.4	3.2	-	None	R
27-Jul-21	Brassy Minnow	3.6	3.3	-	None	R
27-Jul-21	Brassy Minnow	4.3	4.0	-	None	R
27-Jul-21	Brassy Minnow	3.7	3.3	-	None	R
27-Jul-21	Brassy Minnow	3.6	3.3	-	None	R
27-Jul-21	Brassy Minnow	4.6	4.3	-	None	R
27-Jul-21	Brassy Minnow	3.8	3.5	-	None	R
27-Jul-21	Brassy Minnow	3.4	3.1	-	None	R
27-Jul-21	Brassy Minnow	3.5	3.2	-	None	R
27-Jul-21	Brassy Minnow	3.2	2.9	-	None	R
27-Jul-21	Brassy Minnow	4.8	4.4	0.8	None	R
27-Jul-21	Brassy Minnow	4.6	4.2	-	None	R
20-Jul-21	Brook Stickleback	3.0	-	0.8	None	R
20-Jul-21	Brook Stickleback	2.3	-	2.0	None	R
20-Jul-21	Brook Stickleback	4.3	-	0.8	None	R
20-Jul-21	Brook Stickleback	3.0	-	1.0	None	R
20-Jul-21	Brook Stickleback	3.4	-	1.2	None	R
20-Jul-21	Brook Stickleback	3.0	-	1.4	None	R
20-Jul-21	Brook Stickleback	4.0	-	1.0	None	R
20-Jul-21	Brook Stickleback	3.5	-	1.2	None	R
20-Jul-21	Brook Stickleback	2.9	-	0.5	None	R
20-Jul-21	Brook Stickleback	2.8	-	0.5	None	R
20-Jul-21	Brook Stickleback	3.7	-	0.8	None	R
20-Jul-21	Brook Stickleback	2.8	-	0.3	None	R

Ecometrix Environmental



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
20-Jul-21	Brook Stickleback	2.8	-	0.4	None	R
20-Jul-21	Brook Stickleback	2.7	-	0.2	None	R
20-Jul-21	Brook Stickleback	2.6	-	0.3	None	R
20-Jul-21	Brook Stickleback	3.3	-	0.3	None	R
20-Jul-21	Brook Stickleback	3.4	-	0.4	None	R
20-Jul-21	Brook Stickleback	2.5	-	0.2	None	R
20-Jul-21	Brook Stickleback	2.6	-	0.2	None	R
20-Jul-21	Brook Stickleback	2.9	-	0.3	None	R
20-Jul-21	Brook Stickleback	2.5	-	0.2	None	R
20-Jul-21	Brook Stickleback	2.0	-	0.7	None	R
20-Jul-21	Brook Stickleback	3.1	-	0.6	None	R
20-Jul-21	Brook Stickleback	2.8	-	0.3	None	R
20-Jul-21	Brook Stickleback	4.0	-	0.8	None	R
20-Jul-21	Brook Stickleback	2.9	-	0.4	None	R
20-Jul-21	Brook Stickleback	3.4	-	0.8	None	R
20-Jul-21	Brook Stickleback	3.9	-	1.0	None	R
20-Jul-21	Brook Stickleback	4.3	-	1.6	None	R
20-Jul-21	Brook Stickleback	3.5	-	1.0	None	R
20-Jul-21	Brook Stickleback	3.0	-	0.4	None	R
20-Jul-21	Brook Stickleback	2.3	-	0.4	None	R
21-Jul-21	Brook Stickleback	2.8	-	0.5	None	R
21-Jul-21	Brook Stickleback	2.7	-	0.8	None	R
21-Jul-21	Brook Stickleback	2.3	-	0.3	None	R
21-Jul-21	Brook Stickleback	2.8	-	0.6	None	R
21-Jul-21	Brook Stickleback	2.9	-	0.7	None	R
21-Jul-21	Brook Stickleback	2.6	-	0.6	None	R
21-Jul-21	Brook Stickleback	3.2	-	1.0	None	R
21-Jul-21	Brook Stickleback	4.2	-	1.1	None	R
20-Jul-21	Central Mudminnow	10.8	-	14.6	None	R
20-Jul-21	Central Mudminnow	8.8	-	8.4	None	R
20-Jul-21	Central Mudminnow	5.5	-	2.2	None	R
20-Jul-21	Central Mudminnow	6.2	-	3.5	None	R
20-Jul-21	Central Mudminnow	6.3	_	3.6	None	R
20-Jul-21	Central Mudminnow	9.9	-	10.6	None	R
20-Jul-21	Central Mudminnow	8.3	-	6.9	None	R

Ecometrix Environmental

A.48

Ref. 20-2713 31 DECEMBER 2021



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
20-Jul-21	Central Mudminnow	11.2	-	16.5	None	R
20-Jul-21	Central Mudminnow	9.2	-	8.9	None	R
20-Jul-21	Central Mudminnow	6.5	-	3.3	None	R
20-Jul-21	Central Mudminnow	6.2	-	3.4	None	R
20-Jul-21	Central Mudminnow	6.7	-	4.0	None	R
20-Jul-21	Central Mudminnow	8.4	-	6.7	None	R
20-Jul-21	Central Mudminnow	10.2	-	13.0	None	R
20-Jul-21	Central Mudminnow	9.1	-	11.3	None	R
20-Jul-21	Central Mudminnow	8.0	-	6.5	None	R
20-Jul-21	Central Mudminnow	7.4	-	6.3	None	R
20-Jul-21	Central Mudminnow	8.4	-	7.2	None	R
20-Jul-21	Central Mudminnow	7.8	-	5.6	None	R
20-Jul-21	Central Mudminnow	9.5	-	9.7	None	R
20-Jul-21	Central Mudminnow	8.0	-	7.5	None	R
20-Jul-21	Central Mudminnow	9.4	-	10.9	None	R
20-Jul-21	Central Mudminnow	9.2	-	8.2	None	R
20-Jul-21	Central Mudminnow	4.7	-	5.7	None	R
20-Jul-21	Central Mudminnow	2.4	-	0.4	None	R
20-Jul-21	Central Mudminnow	7.0	-	5.0	None	R
20-Jul-21	Central Mudminnow	9.0	-	9.6	None	R
20-Jul-21	Central Mudminnow	5.5	-	2.4	None	R
20-Jul-21	Central Mudminnow	6.0	-	3.0	None	R
20-Jul-21	Central Mudminnow	7.0	-	5.8	None	R
20-Jul-21	Central Mudminnow	6.8	-	4.8	None	R
20-Jul-21	Central Mudminnow	6.0	-	3.3	None	R
20-Jul-21	Central Mudminnow	5.5	-	2.3	None	R
20-Jul-21	Central Mudminnow	9.6	-	9.5	None	R
20-Jul-21	Central Mudminnow	8.2	-	6.3	None	R
20-Jul-21	Central Mudminnow	13.2	-	23.9	None	R
20-Jul-21	Central Mudminnow	6.9	-	4.2	None	R
20-Jul-21	Central Mudminnow	9.8	-	10.9	None	R
20-Jul-21	Central Mudminnow	4.4	-	1.6	None	R
20-Jul-21	Central Mudminnow	11.0	-	18.2	None	R
20-Jul-21	Central Mudminnow	6.8	-	4.1	None	R
20-Jul-21	Central Mudminnow	5.8	-	2.9	None	R

Ecometrix Environmental

A.49

Ref. 20-2713 31 DECEMBER 2021



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
20-Jul-21	Central Mudminnow	6.0	-	2.5	None	R
20-Jul-21	Central Mudminnow	9.3	-	9.8	None	R
20-Jul-21	Central Mudminnow	10.5	-	1.2	None	R
20-Jul-21	Central Mudminnow	7.0	-	4.5	None	R
20-Jul-21	Central Mudminnow	10.3	-	14.2	None	R
20-Jul-21	Central Mudminnow	7.2	-	5.3	None	R
20-Jul-21	Central Mudminnow	7.3	-	4.6	None	R
20-Jul-21	Central Mudminnow	8.2	-	3.7	None	R
20-Jul-21	Central Mudminnow	6.3	-	3.1	None	R
20-Jul-21	Central Mudminnow	6.9	-	4.2	None	R
20-Jul-21	Central Mudminnow	10.8	-	15.6	None	R
20-Jul-21	Central Mudminnow	6.8	-	2.8	None	R
20-Jul-21	Central Mudminnow	7.8	-	5.9	None	R
20-Jul-21	Central Mudminnow	10.2	-	12.8	None	R
20-Jul-21	Central Mudminnow	5.5	-	3.0	None	R
20-Jul-21	Central Mudminnow	6.8	-	5.0	None	R
20-Jul-21	Central Mudminnow	6.0	-	4.5	None	R
20-Jul-21	Central Mudminnow	5.4	-	4.0	None	R
20-Jul-21	Central Mudminnow	5.0	-	2.7	None	R
20-Jul-21	Central Mudminnow	6.0	-	4.0	None	R
20-Jul-21	Central Mudminnow	9.9	-	13.1	None	R
20-Jul-21	Central Mudminnow	5.3	-	3.0	None	R
20-Jul-21	Central Mudminnow	7.8	-	7.6	None	R
20-Jul-21	Central Mudminnow	8.5	-	8.8	None	R
20-Jul-21	Central Mudminnow	7.0	-	5.4	None	R
20-Jul-21	Central Mudminnow	8.3	-	8.0	None	R
20-Jul-21	Central Mudminnow	6.7	-	5.0	None	R
20-Jul-21	Central Mudminnow	5.8	-	3.8	None	R
20-Jul-21	Central Mudminnow	8.4	-	8.7	None	R
20-Jul-21	Central Mudminnow	6.0	-	4.4	None	R
20-Jul-21	Central Mudminnow	6.7	-	4.8	None	R
20-Jul-21	Central Mudminnow	5.1	-	3.0	None	R
20-Jul-21	Central Mudminnow	4.4	-	0.5	None	R
21-Jul-21	Cyprinid	1.8	1.5	0.1	None	R
20-Jul-21	Cyprinid YOY	2.8	2.6	0.7	None	R



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
20-Jul-21	Cyprinid YOY	3.1	3.2	0.5	None	R
20-Jul-21	Cyprinid YOY	3.1	3.0	3.3	None	R
20-Jul-21	Cyprinid YOY	2.1	2.0	-	None	R
21-Jul-21	Cyprinid YOY	2.4	2.2	0.2	None	R
20-Jul-21	Fathead Minnow	7.0	6.5	4.2	None	R
20-Jul-21	Fathead Minnow	7.5	6.5	4.0	dead	М
20-Jul-21	Fathead Minnow	6.7	6.2	3.5	dead	М
21-Jul-21	Fathead Minnow	7.0	6.6	4.1	None	R
21-Jul-21	Fathead Minnow	7.2	6.6	4.9	None	R
21-Jul-21	Fathead Minnow	6.5	5.5	2.9	None	R
21-Jul-21	Fathead Minnow	7.2	6.8	5.7	Growth on lateral line left	R
21-Jul-21	Fathead Minnow	3.1	2.8	0.3	None	R
21-Jul-21	Fathead Minnow	7.4	7.0	5.2	None	R
21-Jul-21	Fathead Minnow	3.4	3.2	0.5	None	R
21-Jul-21	Fathead Minnow	7.0	6.5	5.0	None	R
21-Jul-21	Fathead Minnow	6.8	6.3	4.6	None	R
21-Jul-21	Fathead Minnow	5.9	5.6	3.0	None	R
21-Jul-21	Fathead Minnow	6.2	5.7	1.7	None	R
21-Jul-21	Fathead Minnow	3.6	3.3	0.4	None	R
21-Jul-21	Fathead Minnow	7.4	7.0	5.6	None	R
21-Jul-21	Fathead Minnow	3.4	3.0	0.6	M - dead	М
21-Jul-21	Fathead Minnow	3.1	2.8	0.3	None	R
21-Jul-21	Fathead Minnow	6.4	5.9	3.5	None	R
21-Jul-21	Fathead Minnow	6.8	6.3	0.4	None	R
21-Jul-21	Fathead Minnow	6.9	6.4	4.1	None	R
21-Jul-21	Fathead Minnow	4.0	3.6	0.8	M - dead	М
21-Jul-21	Fathead Minnow	4.3	4.1	0.8	None	R
21-Jul-21	Fathead Minnow	3.6	3.4	0.5	None	R
21-Jul-21	Fathead Minnow	3.9	3.6	0.6	None	R
21-Jul-21	Fathead Minnow	4.1	3.8	0.6	None	R
21-Jul-21	Fathead Minnow	4.1	3.7	0.8	None	R
21-Jul-21	Fathead Minnow	3.1	2.9	0.3	None	R
21-Jul-21	Fathead Minnow	4.1	3.8	0.7	None	R
21-Jul-21	Fathead Minnow	7.1	6.7	3.9	None	R



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
21-Jul-21	Fathead Minnow	7.5	7.1	4.4	None	R
21-Jul-21	Fathead Minnow	6.2	5.8	2.8	None	R
20-Jul-21	Finescale Dace	7.8	7.3	4.7	None	R
20-Jul-21	Finescale Dace	8.4	8.0	7.1	None	R
20-Jul-21	Finescale Dace	9.5	9.2	11.1	None	R
20-Jul-21	Finescale Dace	9.6	9.2	8.7	None	R
20-Jul-21	Finescale Dace	7.4	7.0	5.9	None	R
20-Jul-21	Finescale Dace	8.1	7.7	6.3	None	R
20-Jul-21	Finescale Dace	8.7	8.2	7.2	None	R
20-Jul-21	Finescale Dace	7.0	6.7	4.5	None	R
20-Jul-21	Finescale Dace	3.1	3.0	7.0	None	R
20-Jul-21	Finescale Dace	3.3	3.1	1.1	None	R
20-Jul-21	Finescale Dace	10.4	9.8	1.3	None	R
20-Jul-21	Finescale Dace	8.6	8.2	9.3	None	R
20-Jul-21	Finescale Dace	7.5	7.2	5.6	None	R
20-Jul-21	Finescale Dace	8.5	8.1	5.0	None	R
20-Jul-21	Finescale Dace	7.2	6.7	7.6	None	R
20-Jul-21	Finescale Dace	4.3	4.1	5.0	None	R
20-Jul-21	Finescale Dace	8.5	8.0	6.3	None	R
20-Jul-21	Finescale Dace	7.6	7.4	7.0	None	R
20-Jul-21	Finescale Dace	7.4	7.2	5.2	None	R
20-Jul-21	Finescale Dace	7.8	7.3	5.7	None	R
20-Jul-21	Finescale Dace	4.3	4.0	1.1	None	R
20-Jul-21	Finescale Dace	6.7	6.3	4.2	RED BELLY HYBRID	R
20-Jul-21	Finescale Dace	6.7	6.2	3.9	None	R
20-Jul-21	Finescale Dace	6.9	6.5	3.8	RED BELLY HYBRID	R
20-Jul-21	Finescale Dace	8.0	7.7	4.5	None	R
20-Jul-21	Finescale Dace	9.6	9.2	10.6	None	R
20-Jul-21	Finescale Dace	8.8	8.3	8.1	RED BELLY HYBRID	R
21-Jul-21	Finescale Dace	9.1	8.6	8.2	86	R
21-Jul-21	Finescale Dace	7.1	6.5	4.7	None	R
21-Jul-21	Finescale Dace	7.3	6.9	4.5	None	R
21-Jul-21	Finescale Dace	9.3	8.8	7.8	None	R
21-Jul-21	Finescale Dace	8.7	8.2	6.6	None	R
21-Jul-21	Finescale Dace	9.1	8.4	9.6	None	R

Ecometrix Environmental

Ref. 20-2713



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
21-Jul-21	Finescale Dace	9.0	8.5	8.2	None	R
21-Jul-21	Finescale Dace	4.5	3.6	0.5	None	R
21-Jul-21	Finescale Dace	9.4	8.9	9.0	None	R
21-Jul-21	Finescale Dace	7.1	6.6	4.8	None	R
21-Jul-21	Finescale Dace	9.7	9.1	9.9	None	R
21-Jul-21	Finescale Dace	9.5	9.1	10.6	None	R
21-Jul-21	Finescale Dace	8.9	8.3	9.2	None	R
21-Jul-21	Finescale Dace	8.0	7.5	6.5	None	R
21-Jul-21	Finescale Dace	8.4	8.0	7.6	None	R
21-Jul-21	Finescale Dace	3.0	3.7	0.7	None	R
21-Jul-21	Finescale Dace	4.0	3.7	0.7	None	R
21-Jul-21	Northern Redbelly Dace	3.2	2.9	0.3	None	R
21-Jul-21	Northern Redbelly Dace	3.8	3.6	0.8	M - dead	М
21-Jul-21	Northern Redbelly Dace	3.1	2.9	0.4	None	R
21-Jul-21	Northern Redbelly Dace	2.4	2.1	0.2	None	R
21-Jul-21	Northern Redbelly Dace	3.7	3.4	0.8	None	R
21-Jul-21	Northern Redbelly Dace	4.1	3.7	0.7	None	R
21-Jul-21	Northern Redbelly Dace	4.1	3.8	0.7	None	R
21-Jul-21	Northern Redbelly Dace	3.5	3.3	0.5	None	R
21-Jul-21	Northern Redbelly Dace	5.6	5.3	2.0	None	R
21-Jul-21	Northern Redbelly Dace	5.9	5.5	2.1	None	R
21-Jul-21	Northern Redbelly Dace	5.9	5.6	2.0	None	R
21-Jul-21	Northern Redbelly Dace	4.1	3.8	0.8	None	R
21-Jul-21	Northern Redbelly Dace	4.2	3.9	0.8	None	R
21-Jul-21	Northern Redbelly Dace	6.3	5.9	2.2	None	R
21-Jul-21	Northern Redbelly Dace	4.5	4.2	0.9	FSD HYBRID	R
21-Jul-21	Northern Redbelly Dace	6.1	5.6	2.0	None	R
21-Jul-21	Northern Redbelly Dace	4.1	3.8	0.6	None	R
21-Jul-21	Northern Redbelly Dace	5.6	5.3	1.8	None	R
21-Jul-21	Northern Redbelly Dace	5.8	5.4	1.9	None	R
21-Jul-21	Northern Redbelly Dace	6.3	5.8	2.3	None	R
21-Jul-21	Northern Redbelly Dace	6.1	5.7	2.6	None	R
21-Jul-21	Northern Redbelly Dace	6.1	5.6	2.6	None	R
21-Jul-21	Northern Redbelly Dace	6.2	5.9	2.2	None	R
21-Jul-21	Northern Redbelly Dace	5.6	5.3	1.3	None	R

Ecometrix Environmental

Ref. 20-2713 **31 DECEMBER 2021** 

A.53



Processing Date	Fish Species	Total Length (cm)	Fork Length (cm)	Body Weight (g)	Abnormalities	Fate
21-Jul-21	Northern Redbelly Dace	5.9	5.5	1.9	None	R
21-Jul-21	Northern Redbelly Dace	6.2	5.8	2.5	None	R
21-Jul-21	Northern Redbelly Dace	5.6	5.4	2.2	None	R
21-Jul-21	Northern Redbelly Dace	5.8	5.4	1.9	None	R
21-Jul-21	Northern Redbelly Dace	5.8	5.4	1.7	None	R
21-Jul-21	Northern Redbelly Dace	5.9	5.6	2.1	None	R
21-Jul-21	Northern Redbelly Dace	5.1	4.8	1.1	None	R
21-Jul-21	Northern Redbelly Dace	6.1	5.9	2.2	None	R
21-Jul-21	Northern Redbelly Dace	5.6	5.3	1.8	None	R
21-Jul-21	Northern Redbelly Dace	5.7	5.4	1.9	None	R
21-Jul-21	Northern Redbelly Dace	5.7	5.4	2.2	None	R
21-Jul-21	Northern Redbelly Dace	6.6	6.2	2.5	None	R
21-Jul-21	Northern Redbelly Dace	5.7	5.3	1.8	None	R
21-Jul-21	Northern Redbelly Dace	6.8	6.5	2.5	None	R
21-Jul-21	Northern Redbelly Dace	5.9	5.5	1.8	None	R
21-Jul-21	Northern Redbelly Dace	5.5	5.2	1.7	None	R

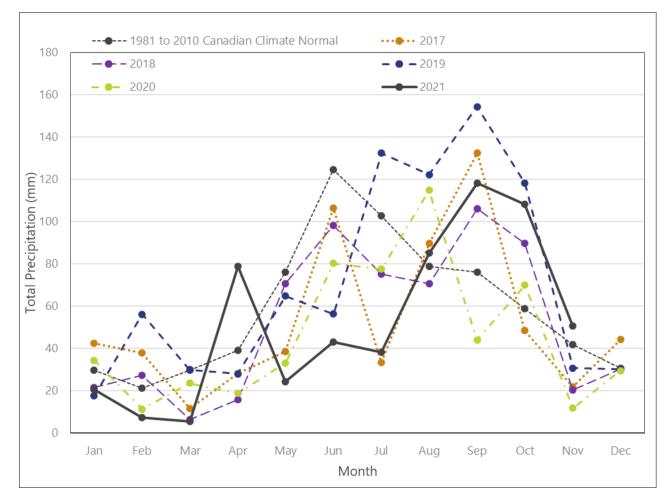
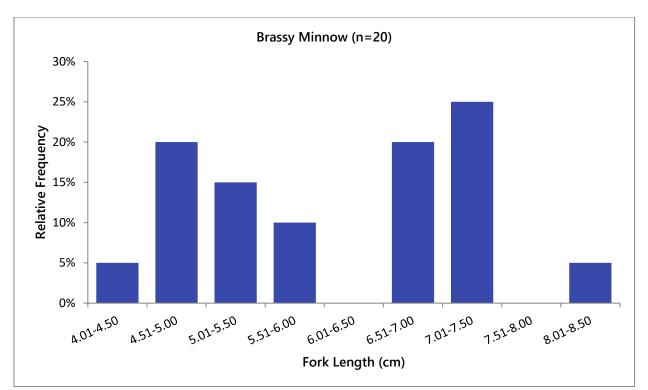
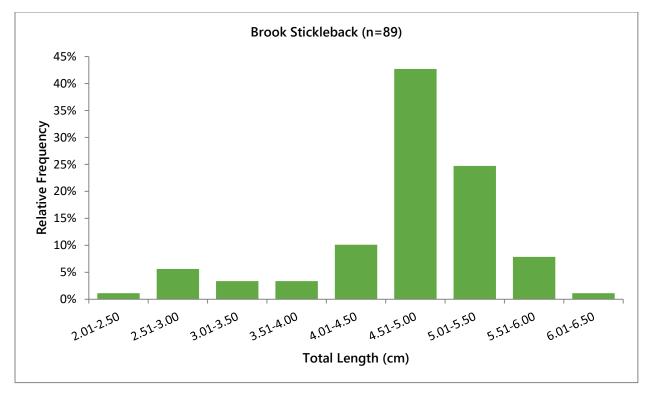


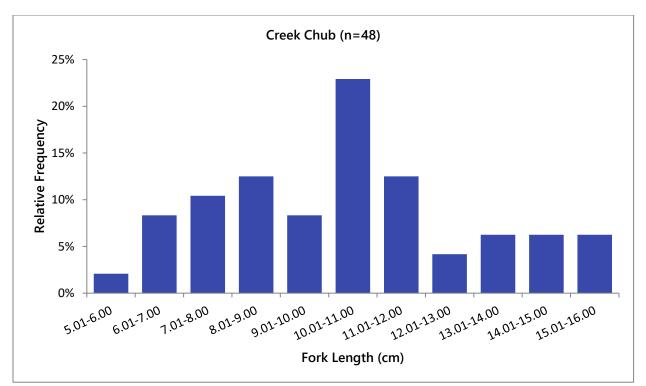
Figure A-1: Precipitation Values Measured in the Vicinity of Rainy River Mine

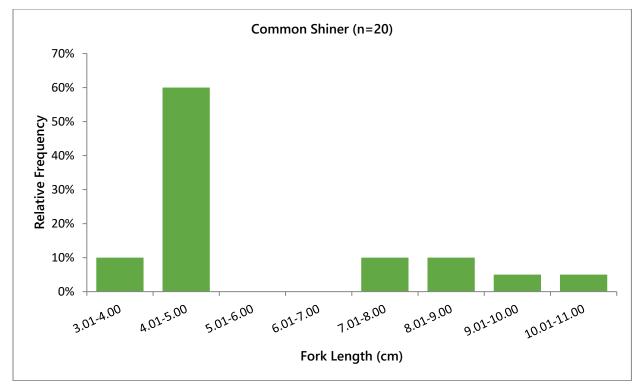




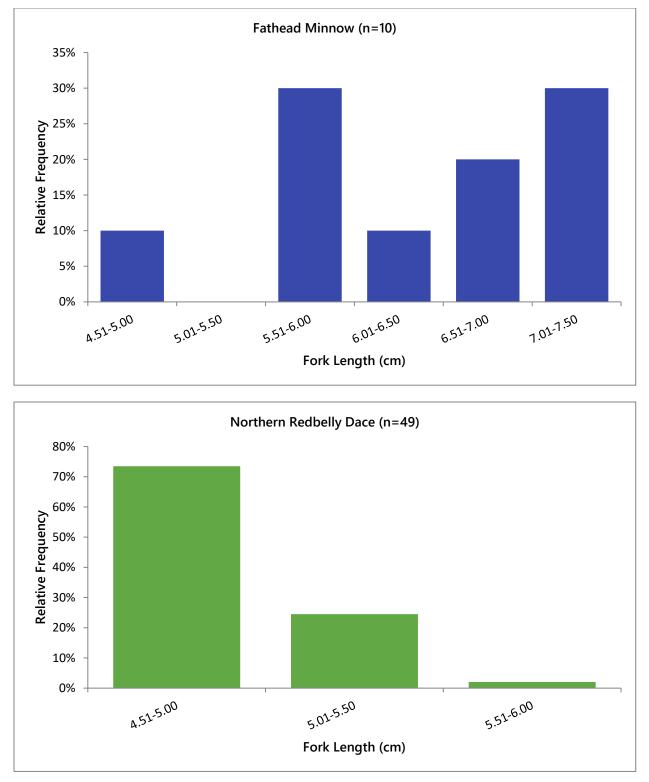
### Figure A-2: Length-frequency Distributions for Fish Collected at West Creek Diversion Channel, Rainy River Mine 2021



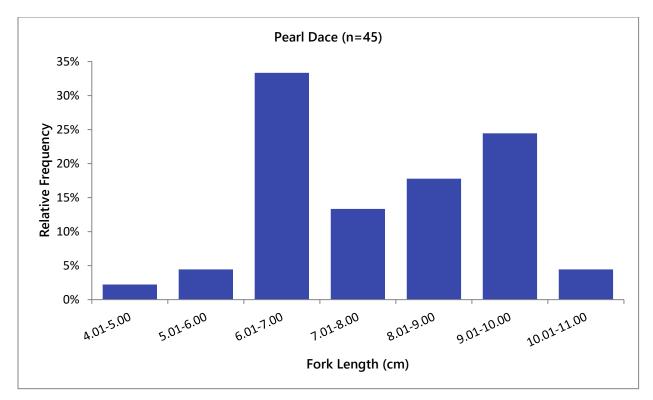


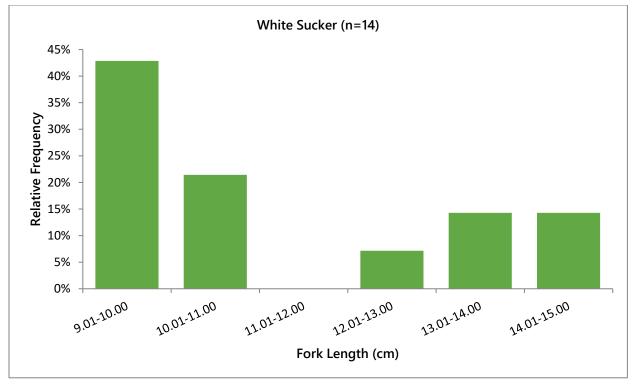


### Figure A-3: Length-frequency Distributions for Fish Collected at West Creek Diversion Channel, Rainy River Mine 2021



## Figure A-4: Length-frequency Distributions for Fish Collected at West Creek Diversion Channel, Rainy River Mine 2021





## Figure A-5: Length-frequency Distributions for Fish Collected at West Creek Diversion Channel, Rainy River Mine 2021



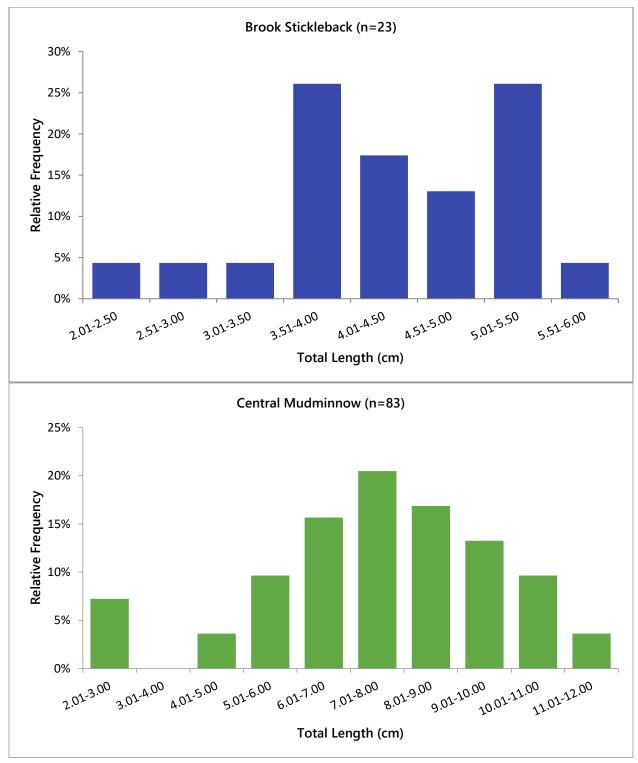
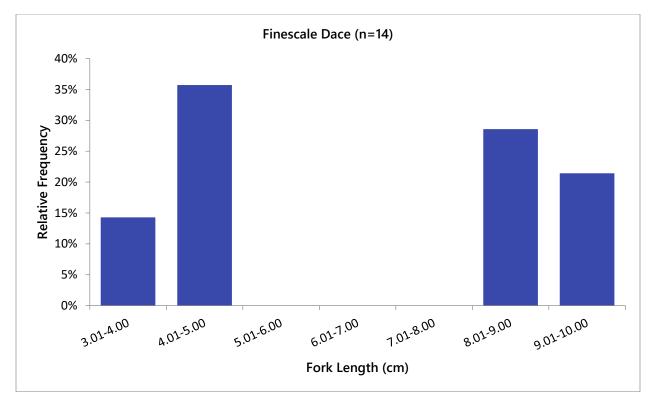


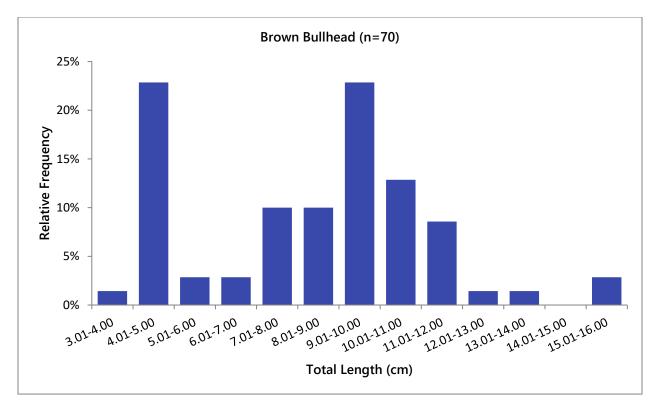
Figure A-3: Length-frequency Distributions for Fish Collected at Clark Creek Diversion Channel, Rainy River Mine 2021

Note: Brassy Minnow (n=1) and Northern Redbelly Dace (n=1) not plotted due to low capture.



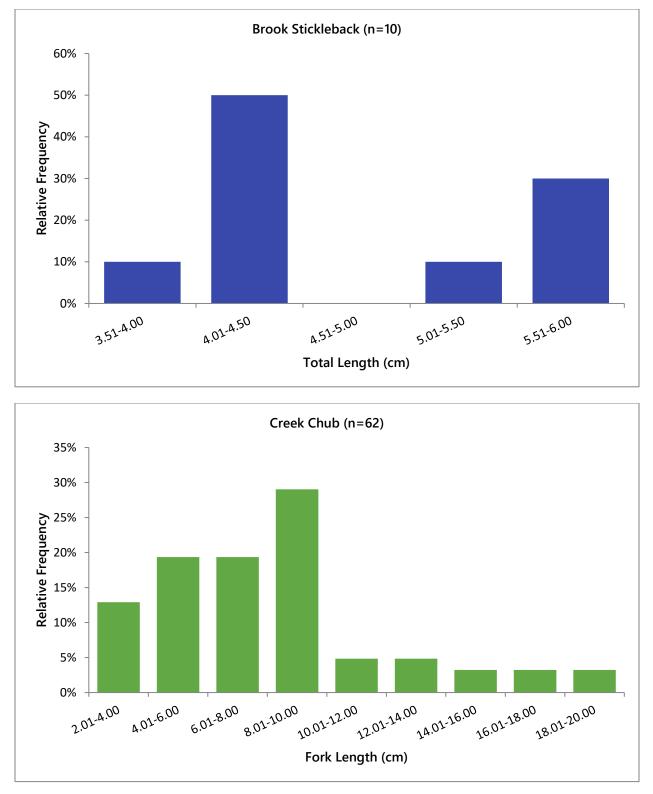
# Figure A-3: Length-frequency Distributions for Fish Collected at Clark Creek Diversion Channel, Rainy River Mine 2021

Note: Brassy Minnow (n=1) and Northern Redbelly Dace (n=1) not plotted due to low capture.

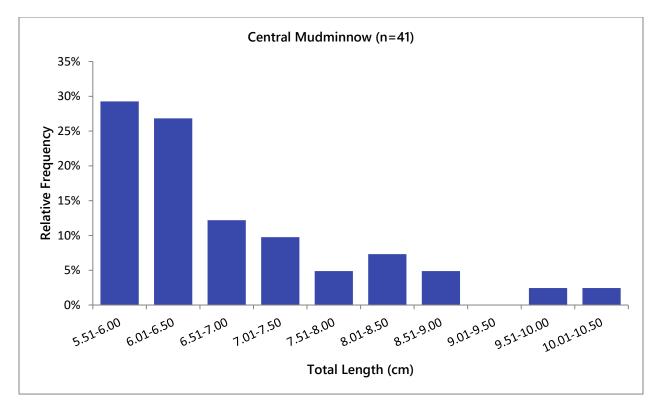




### Figure A-4: Length-frequency Distributions for Fish Collected at Stockpile Pond, Rainy River Mine 2021



## Figure A-4: Length-frequency Distributions for Fish Collected at Stockpile Pond, Rainy River Mine 2021



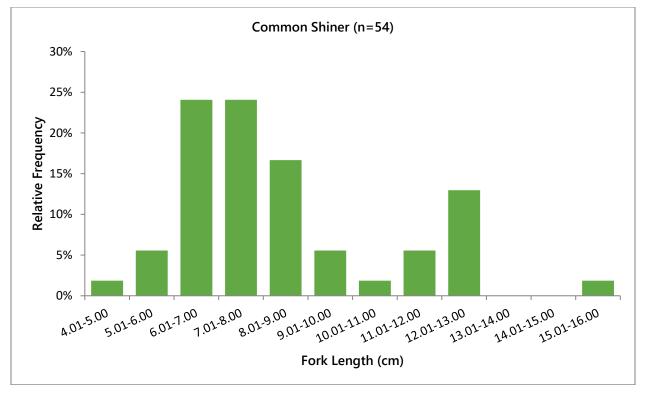
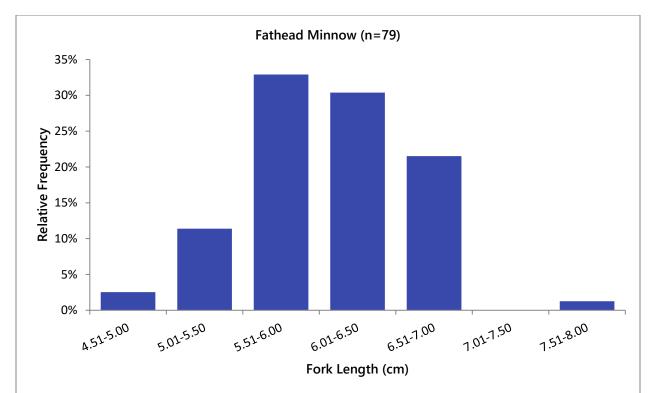


Figure A-4: Length-frequency Distributions for Fish Collected at Stockpile Pond, Rainy River Mine 2021





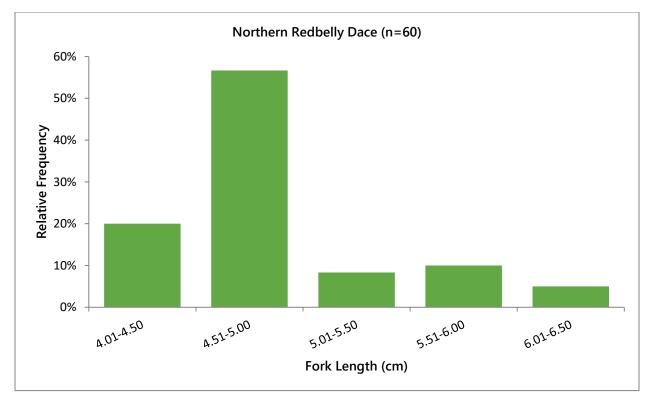
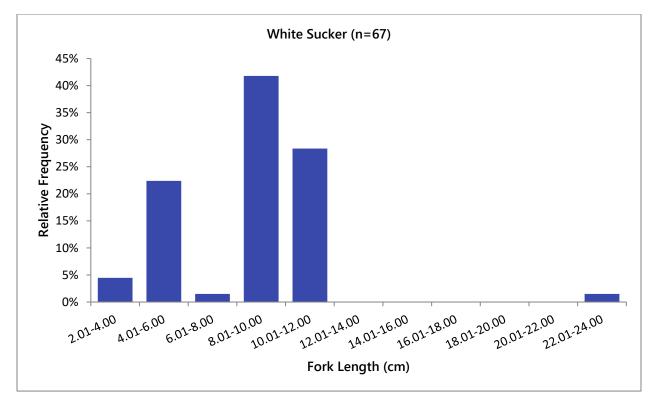
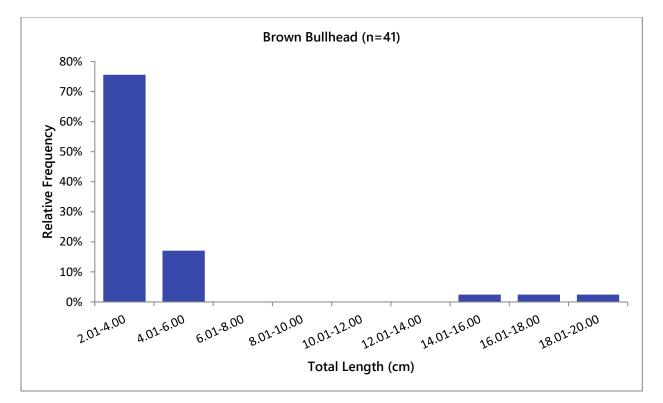


Figure A-4: Length-frequency Distributions for Fish Collected at Stockpile Pond, Rainy River Mine 2021





## Figure A-4: Length-frequency Distributions for Fish Collected at Stockpile Pond, Rainy River Mine 2021



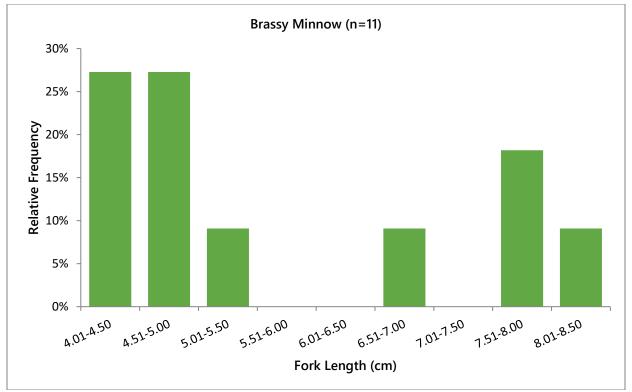
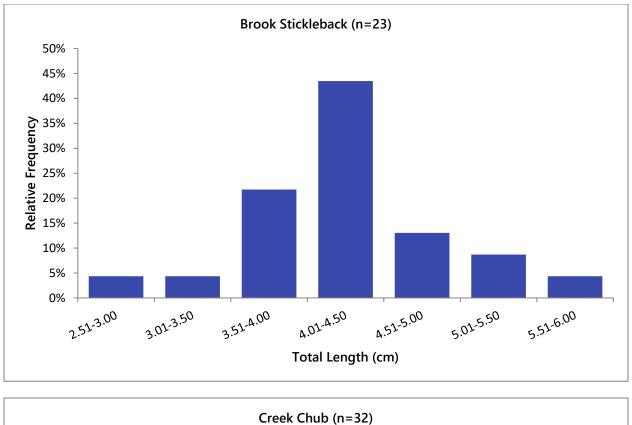


Figure A-5: Length-frequency Distributions for Fish Collected at West Creek Pond, Rainy River Mine 2021



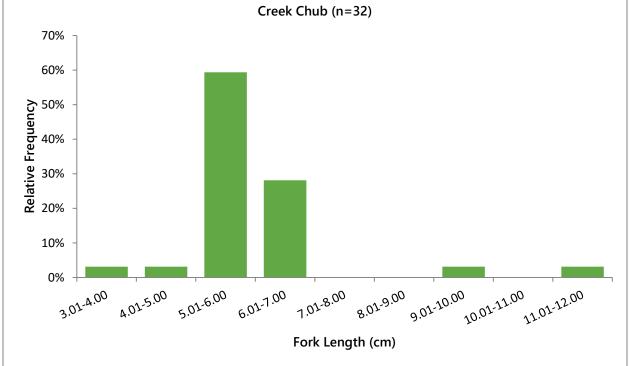
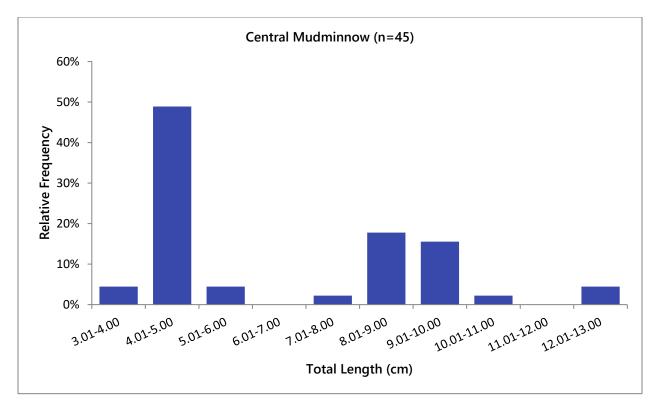


Figure A-5: Length-frequency Distributions for Fish Collected at West Creek Pond, Rainy River Mine 2021



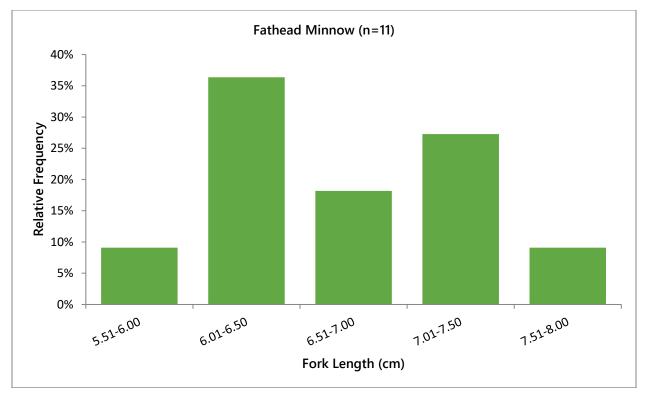
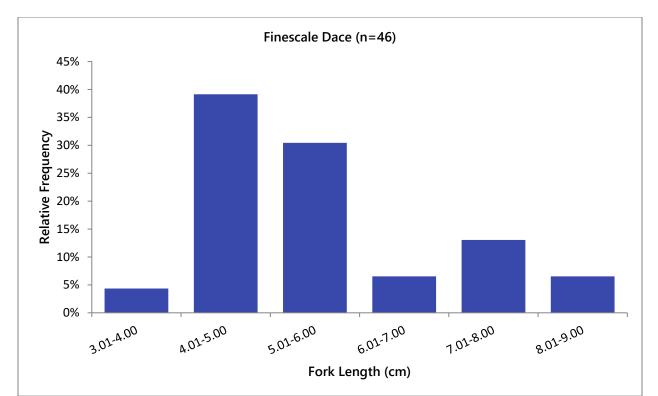


Figure A-5: Length-frequency Distributions for Fish Collected at West Creek Pond, Rainy River Mine 2021



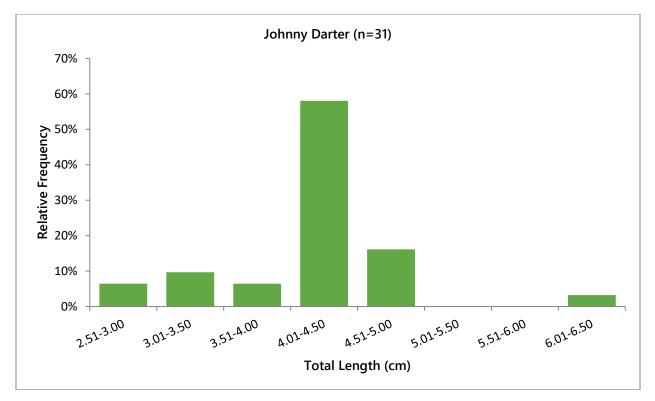


Figure A-5: Length-frequency Distributions for Fish Collected at West Creek Pond, Rainy River Mine 2021

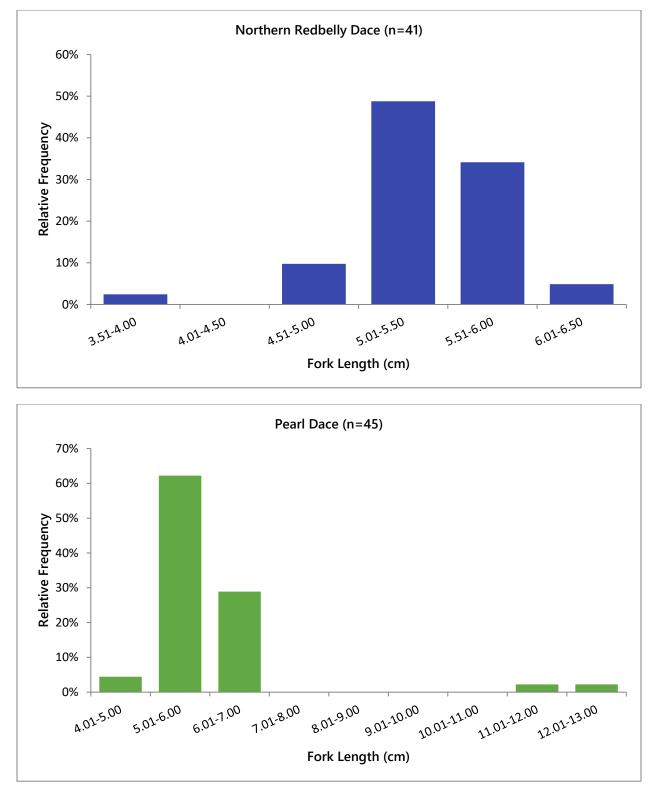


Figure A-5: Length-frequency Distributions for Fish Collected at West Creek Pond, Rainy River Mine 2021

A.71

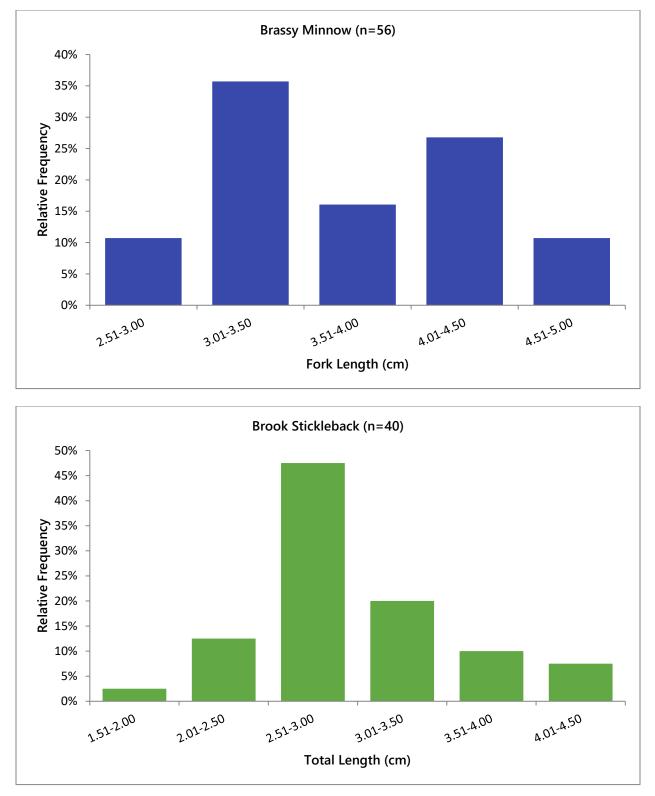
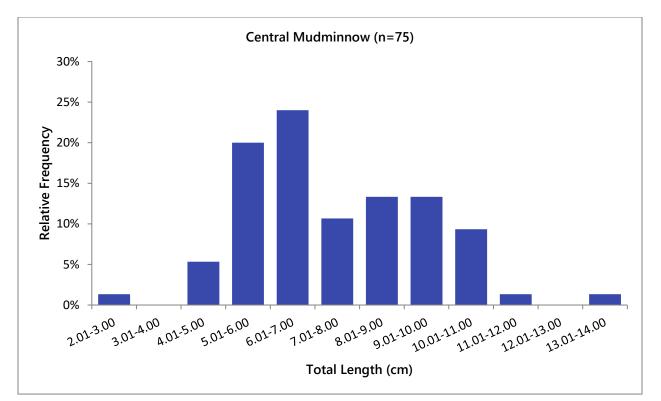


Figure A-6: Length-frequency Distributions for Fish Collected at Clark Creek Pond, Rainy River Mine 2021



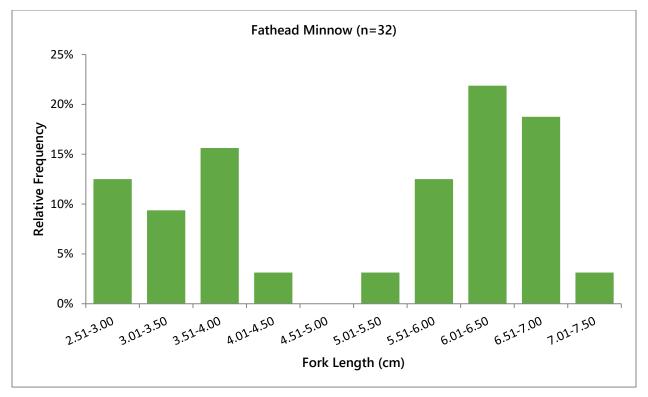
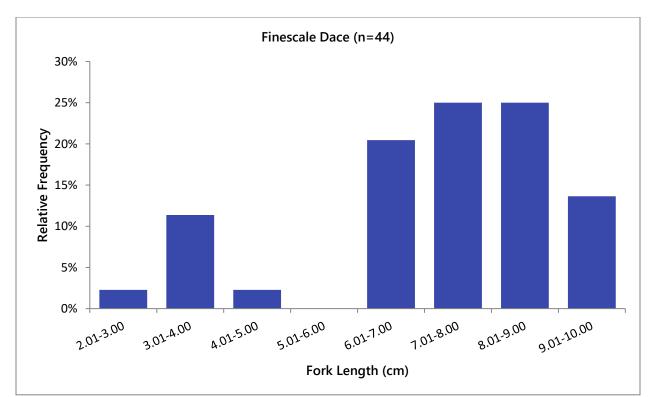


Figure A-6: Length-frequency Distributions for Fish Collected at Clark Creek Pond, Rainy River Mine 2021



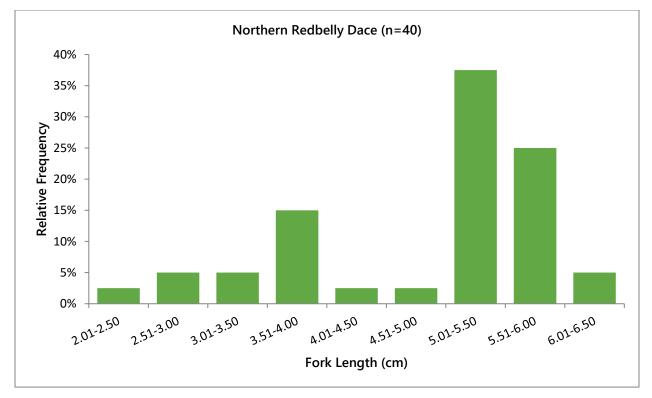


Figure A-6: Length-frequency Distributions for Fish Collected at Clark Creek Pond, Rainy River Mine 2021



ANNUAL MONITORING OF COMPENSATION MEASURES 2021 *Appendices* 

# Appendix B Photos

# ANNUAL MONITORING OF COMPENSATION MEASURES 2021 *Appendices*



#### Photo B-1: Stockpile Pond Diversion Channel Habitat, May 2021

Ecometrix Environmental



### Photo B-2: Stockpile Pond Diversion Channel Habitat, July 2021







Photo B-4: West Creek Diversion Channel (upstream of haul road), May 2021





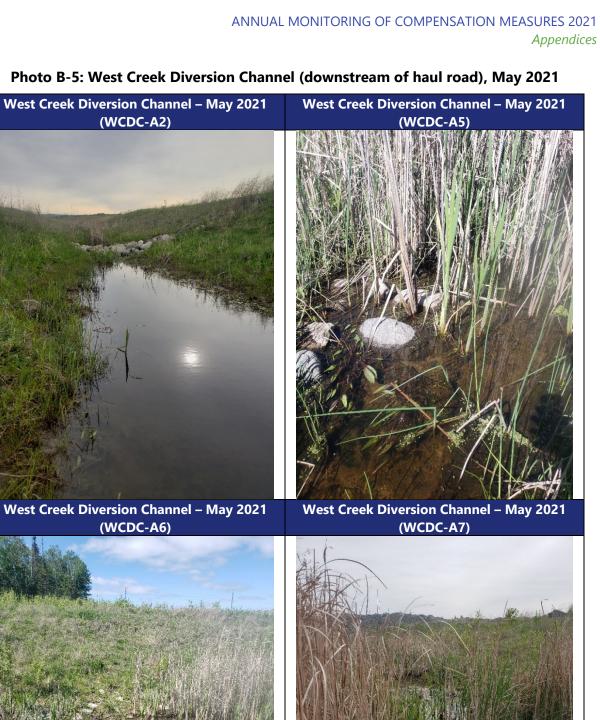


Photo B-5: West Creek Diversion Channel (downstream of haul road), May 2021





Photo B-6: West Creek Diversion Channel (upstream of haul road), July 2021

West Creek Diversion Channel – May 2021 (WCDC-6)

West Creek Diversion Channel – May 2021 (WCDC-8)



Ecometrix Environmental



Photo B-7: West Creek Diversion Channel (downstream of haul road), July 2021





Photo B-8: West Creek Diversion Channel Low Water Fish Refuge Habitat, July 2021



Photo B-9: Clark Creek Diversion Channel Habitat, May 2021



Photo B-10: Clark Creek Diversion Channel Habitat, July 2021

# ANNUAL MONITORING OF COMPENSATION MEASURES 2021 *Appendices*



### Photo B-11: Stockpile Pond Habitat, July 2021



# ANNUAL MONITORING OF COMPENSATION MEASURES 2021 *Appendices*



### Photo B-12: West Creek Pond Habitat, July 2021





### Photo B-13: Clark Creek Pond Habitat, July 2021

