March 31, 2016

AERIAL ASSESSMENT OF THE RIPARIAN AREAS OF THE VERMILION RIVER AB, AND ITS MAJOR TRIBUTARIES

North Saskatchewan Watershed Alliance

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REPORT

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Golder Associates

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1.0 INTRODUCTION

Golder Associates Ltd. (Golder) was contracted by the North Saskatchewan Watershed Alliance (NSWA) to complete an Aerial Assessment of Riparian Areas of the Vermilion River, AB and its Major Tributaries. The focus of the assessment is five-fold, including:

1) Delineation of lotic riparian areas and floodplains of the Vermilion River and riparian areas of its major tributaries.

2) Assess the condition of all riparian areas in the watershed using a rapid method or methods.

3) Identify intact areas for conservation and/or protection.

4) Identify degraded areas for restoration.

5) Prioritize degraded areas for restoration.

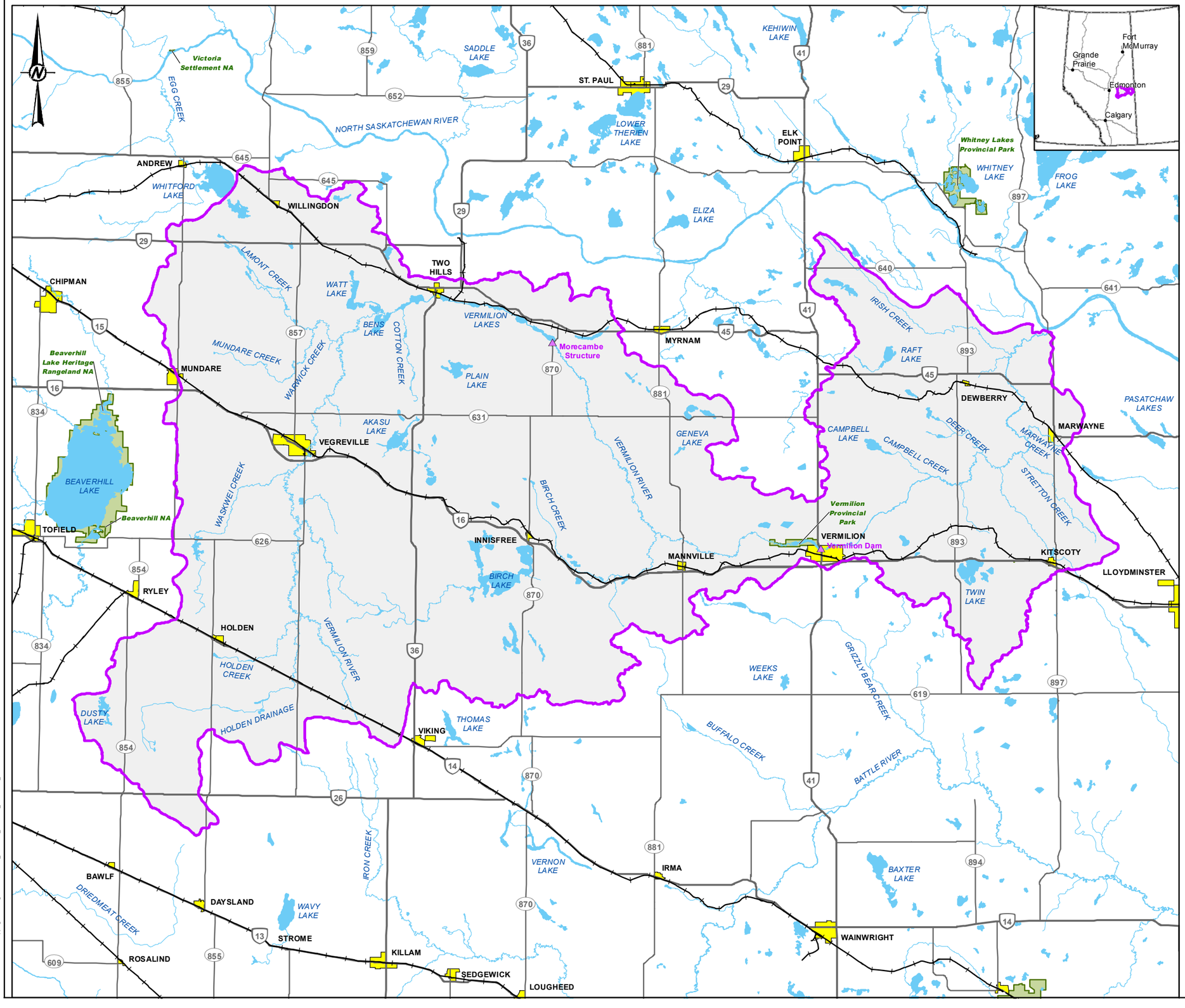
1.1 Background Information

The Vermilion River watershed is composed of fourteen major watercourses with a total stream length of 908 km and has a total gross drainage area of approximately 7,860 km^2 and an effective drainage of 2,360 km^2 (Figure 1, Table 1). It is located in the Dry Mixedwood Subregion of the Boreal Forest Natural Region, and the Central Parkland Subregion of the Parkland Natural Region (Natural Regions Committee 2006).

Table 1: Major Watercourses in Vermillion River Watershed

Stream Name	Stream Length (km)
Birch Creek	52
Campbell Creek	118
Cotton Creek	20
Deer Creek	30
Holden Creek	46
Holden Drainage	76
Irish Creek	49
Lamont	43
Marwayne Creek	15
Mundare Creek	29
Stretton Creek	36
Vermilion River	439
Warwick Creek	30
Waskwei Creek	32
Grand Total	**908**

Note: Values are rounded for presentation purposes; therefore totals may not appear to exactly equal the sum of the rows.



LEGEND

- DAM
- RAILROAD
- PRIMARY HIGHWAY
- SECONDARY HIGHWAY
- WATERCOURSE
- PARK / PROTECTED AREA
- POPULATED PLACE
- STUDY AREA
- WATERBODY

0 20 40

1:575,000 KILOMETRES

REFERENCE(S)

1. ALBERTA DIGITAL BASE DATA OBTAINED FROM ATALIS LTD © GOVERNMENT OF ALBERTA 2014. ALL RIGHTS RESERVED, CANVEC, GEOBASE IHS ENERGY INC.
2. PARKS AND PROTECTED AREAS OBTAINED FROM ALBERTA TOURISM, PARKS AND RECREATION, GOVERNMENT OF ALBERTA.

PROJECTION: UTM ZONE 12 DATUM: NAD 83

CLIENT

NORTH SASKATCHEWAN WATERSHED ALLIANCE

PROJECT

AERIAL ASSESSMENT OF THE RIPARIAN AREAS OF THE VERMILION RIVER

TITLE

VERMILION RIVER WATERSHED

CONSULTANT

Golder Associates

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DESIGNED	HR
PREPARED	PT
REVIEWED	CS
APPROVED	VC

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In the Dry Mixedwood Subregion, the mean annual temperature is 1.1°C, with mean summer and winter temperatures of 15.9°C and -16.8°C respectively, with a mean annual precipitation value of 461 mm. The Central Parkland Subregion is climatically and ecologically a transition zone between boreal forest and grassland environments. In the Central Parkland Subregion, mean annual, summer and winter temperatures are 2.3°C, 16.5°C and -14.7°C respectively. Mean annual precipitation is 441 mm (Natural Regions Committee 2006).

The Vermilion River watershed has been altered considerably over the last 100 years. There has been extensive drainage of wetlands to allow the expansion of agriculture, transportation and municipal and industrial development within the watershed.

The Vermilion River watershed has a long history of drainage programs to improve agricultural production. Some of the programs have been authorized by licenses, but other drainage projects have proceeded without proper authorization of the Vermilion River Operations Review Stakeholder Committee (VRORSC 2000). The VRORSC (2000) report states that the cumulative impact of drainage in the upper watershed may have increased the frequency and intensity of flooding in the middle reaches of the Vermilion River. Drainage may have also reduced the natural storage of water, thereby reducing the duration of water flow. The VRORSC (2000) report suggests that in late summer and fall, water levels in the lower reaches of the river have been reduced, and occasionally stop altogether.

Golder (2009) provided a formal evaluation of the hydrologic impacts of the drainage of areas in the Vermilion River Basin. The Holden Drainage District, Morecambe Structure and Vermilion Dam were evaluated and further details of the effects of drainage ditches and structures within the Vermilion River watershed are discussed in Golder (2009).

The Holden Drainage District was established in 1918 as a local authority to assist farmers in draining low-lying lands to increase agricultural production. The cumulative impacts of drainage in the upper reaches of the Vermilion River Basin may have increased the frequency and intensity of flooding in the middle reaches of the river (Golder 2009).

In 1974 the Government of Alberta responded to flooding that caused extensive damage by channelizing the Vermilion Lakes and the Vermilion River at Vegreville and by installing a water management structure at Morecambe (NSWA 2012). The Morecambe structure was constructed in 1976 as a flood management tool and it allows pre-release of water from Vermilion Lakes to reduce the impact of major summer rainfall events in the Vermilion Lakes basin (VRORSC 2000). However, the Morecambe structure has also increased the risk that areas downstream will have dry channels after dry winters (NSWA 2012). Operation of the Morecambe structure in 1983 and 1990 resulted in the flooding of downstream landowners and damage to hay crops (VRORSC 2000). In 1991 there were issues when pre-release to reduce water levels upstream was thought to increase flooding downstream (Golder 2009). The structure was not operated from 1991 to 2004 but it was in operation in spring and summer of 2005 and 2006 (Golder 2009).

The Vermilion Dam was constructed in 1980-81 to replace an existing dam that provided a recreation reservoir and a crossing of the river for Highway 41. The dam provides no flood control potential and the only controlled water releases are through a small sluice gate that provides riparian flows (Golder 2009).

2.0 METHODS

2.1 Data Acquisition and Compilation

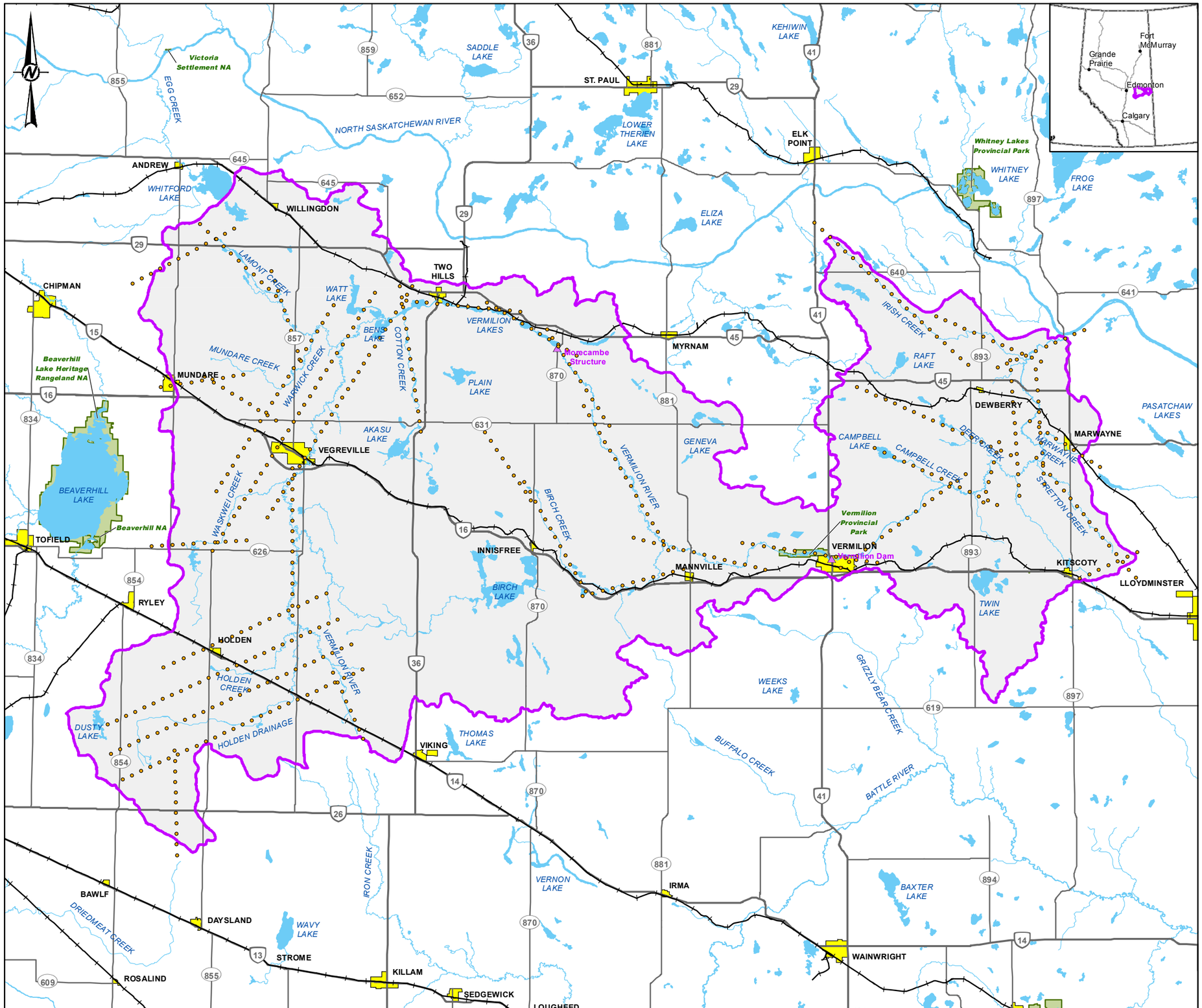
2.1.1 Digital Base Data

Golder staff collected and reviewed resource-related background data for the project, including data on hydrology, river morphology, effective drainage areas, surficial geology and bedrock geology. Where possible, provincial data distributed by AltaLIS Ltd. was used as base data. Effective drainage areas were obtained from Agriculture and Agri-Food Canada and geology data was obtained from the Alberta Geological Survey.

2.1.2 Aerial Imagery, LiDAR and Video

Golder contracted Tarin Resource Services Ltd. (Tarin) from Calgary Alberta to acquire digital stereo imagery and LiDAR data for the Vermilion River and identified tributaries. Digital multispectral (RGB) imagery was acquired on August 23rd and September 12th, 2015 within a 1 kilometre (km) wide corridor, centered on the following watercourses (Figure 2):

Vermilion River	Birch Creek	Campbell Creek	Cotton Creek
Deer Creek	Mundare Creek	Irish Creek	Marwayne Creek
Stretton Creek	Waskwei Creek	Holden Drainage	Holden Creek
Lamont North Creek	Warwick Creek		



LEGEND

- FLIGHT PATH
- DAM
- RAILROAD
- PRIMARY HIGHWAY
- SECONDARY HIGHWAY
- WATERCOURSE
- PARK / PROTECTED AREA
- POPULATED PLACE
- STUDY AREA
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2. PARKS AND PROTECTED AREAS OBTAINED FROM ALBERTA TOURISM, PARKS AND RECREATION, GOVERNMENT OF ALBERTA.

PROJECTION: UTM ZONE 12 DATUM: NAD 83

CLIENT

NORTH SASKATCHEWAN WATERSHED ALLIANCE

PROJECT

AERIAL ASSESSMENT OF THE RIPARIAN AREAS OF THE VERMILION RIVER

TITLE

FLIGHT PLAN FOR COLLECTION OF DIGITAL MULTISPECTRAL (RGB) IMAGERY

CONSULTANT

Golder Associates

YYYY-MM-DD	2016-03-23
DESIGNED	HR
PREPARED	PT
REVIEWED	CS
APPROVED	VC

PROJECT NO.	CONTROL	REV.	FIGURE
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The digital stereo imagery was rectified for use in Golder's softcopy mapping system (PurVIEW and ArcGIS). The imagery was acquired at a 30 centimetre (cm) resolution, allowing for mapping at scales of 1:5,000 and greater (e.g., 1:1,000, 1:500). This allows the mapper to define small but significant features of the landscape. The LiDAR data was obtained by Tarin from AltaLIS Ltd. at a 15 metre (m) resolution.

The orthoimagery delivered in tiles (tif format) by Tarin were merged into a single dataset and converted to a highly compressed format (ecw) that allows for efficient analysis in a GIS environment.

2.2 Riparian Mapping

2.2.1 Terrain

Riparian areas were delineated at scales ranging from 1:2,500 to 1:500. Initially the reach or floodplain was delineated at a scale of 1:2,500 and then the mapper zoomed in to scales as large as 1:500 to better delineate floodplain boundaries and significant features on the floodplain.

For the Vermilion River, the full extent of the floodplain was mapped. In some areas, the floodplain was only 140 m wide (e.g., headwaters of Vermilion River) and in others up to almost 3 km wide (e.g., near Bens Lake). Within the floodplain, the river and any waterbodies were delineated separately where possible. For example, upstream of Bens Lake the Vermilion River is too narrow to delineate separately, but downstream of the Vermilion Lakes, the river ranges from 15 to 35 m in width and can be delineated as a separate feature. The Vermilion Lakes were delineated separately, as were other water bodies such as Bens Lake, Vermilion Park Lake and the southern part of Watt Lake.

Due to issues related to scale, the creeks within the tributaries were not mapped as separate polygons and therefore the mapped floodplain contains the actual creek and any fluvial terraces adjacent to the creeks. Areas of open water or lakes, generally associated with beaver dams, were also delineated if large enough at a scale of 1:5,000. In some headwater areas, there are sections where there is currently no riparian flow and the fluvial channel is cultivated. These areas were mapped as fluvial but are considered moderately well to imperfectly drained.

The Vermilion River downstream of Vermilion Lakes meanders across the floodplain and therefore there are numerous oxbows and oxbow lakes within the Vermilion River valley. These were delineated where possible and identified by a line feature. Oxbows are also found within some of the tributaries and they were delineated where they were visible at a scale of 1:5,000.

The side slopes or valley walls of the Vermilion River and tributaries were not included in the riparian mapping, however, they can have an impact on riparian health. For example, landslides and slumping due to river bank erosion introduce sediment into the water. To acknowledge this, a point was added wherever evidence of substantial landslides or slumps adjacent to the Vermilion River or the tributary creeks was observed.

There are numerous beaver dams within the Vermilion River watershed. These were identified by a line along the length of the beaver dam to identify areas that are currently flooded or have been flooded by beaver activity. The beaver ponds were also delineated separately where they are of significant size at a scale of 1:5,000.

2.2.2 River Reach Determination

The mapping developed as part of the terrain assessment (Section 2.2.1) identified generally homogeneous reaches (i.e., sections of river or creek with similar geomorphological characteristics). Reach breaks were identified qualitatively by considering:

- changes in channel planform geometry, including channel width and sinuosity, which often corresponded to locations of changes in channel slope or entrenchment;
- channel confluences which resulted in a substantial increase in drainage area;
- extended reaches characterized by frequent beaver dams and ponds; and
- man-made, in-stream ponds greater than 100 m long.

2.2.3 Vegetation

Vegetation mapping and classification occurred following the delineation of terrain-based polygons. Terrain-based polygons were further subdivided where different vegetation types were visible or where landuse practices resulted in different vegetated or other landcovers (i.e., cropland, pasture, roads, etc.). The Classification and Management of Riparian and Wetland Sites of Alberta's Parkland Natural Region and Dry Mixedwood Natural Subregion (Thompson and Hansen 2003) formed the basis for the native vegetation delineation and classification, while additional categories were added to capture the various anthropogenically altered landcover types, including agricultural and industrial landcovers. For the most part, classification was completed at the broader ecological type, and where possible, the habitat type. The habitat type is floristically driven, and while could be appropriate for mapping, requires a field program to determine species composition and dominant species present. Table 2 outlines the broad ecological and habitat types. The adjacent land-use for each polygon was also classified, and the categories assigned for adjacent landuse are provided in Table 3.

Table 2: Vegetation Classification Categories

Ecological Type	Habitat Type
Coniferous	White spruce
Deciduous	White birch
	Balsam poplar
	Trembling aspen
	Undifferentiated deciduous
Mixedwood	Coniferous-leading mixedwood
	Deciduous-leading mixedwood
Shrubland	Willow
	Alder
	Dogwood
	Wolf willow
	Rose
	Undifferentiated shrubland
Herbaceous	Graminoid (sedge, grass)
	Cattail
Non-vegetated	Non-vegetated/Exposed Soil
Anthropogenic	Agricultural
	Industrial
	Residential
	Road, rail, etc.

Table 3: Adjacent Land-use Categories

Classification Categories
Rural residence
Cultivated/cropland
Hayfield
Pasture
Pasture - shrubby
Pasture - treed
Road
Railway
Right-of-way
Disturbance
n/a (not applicable)

Riverine wetlands were defined according to the United States Department of Agriculture, Natural Resources Conservation Service (2008) *Hydrogeomorphic Wetland Classification System*. This classification system defines riverine wetlands as wetlands that '*occur in flood plains and riparian corridors in association with stream channels. Dominant water sources are often overbank flow from the channel or subsurface hydraulic connections between the stream channel and wetlands.*'

2.2.4 Riparian Health

The riparian health assessment followed the methodology and scorecard initially developed for aerial videography data for lakeshore assessment (Mills and Scrimgeour 2004) and later adapted for riparian assessments (Teichreb and Walker 2008; Alberta Conservation Association 2009). The scorecard follows the model developed by Cows and Fish (Fitch et al. 2001) and involves an assessment of ecological status, community structure and site stability criteria, for each bank as outlined through the questions below.

1) How much of the polygon area is covered with vegetation?

- ☐ More than 90% (2 points)
- ☐ 75-90% (1 point)
- ☐ Less than 75% (0 points)

2) a) How much of the polygon area is covered by woody plants like willow, birch, poplar, or conifers?

- ☐ More than 35% (2 points)
- ☐ 15-35% (1 point)
- ☐ Less than 15% (0 points)

If the site has no potential for woody plant species, this results in a designation of 'not applicable' (n/a) and the total potential score is adjusted accordingly.

b) Is there observable evidence of recruitment or persistence of woody species in the polygon?

- ☐ Yes (2 points)
- ☐ No (0 points)

If the site has no potential for woody plant species, this results in a designation of 'not applicable' (n/a) and the total potential score is adjusted accordingly.

3) How much of the polygon area shows visual signs of human-caused alteration of the vegetation community?

- ☐ Less than 5% (2 points)
- ☐ 5-15% (1 point)
- ☐ More than 15% (0 points)

4) How much of the polygon area shows visual signs of human-caused bare ground and physical alterations?

- ☐ Less than 5% (4 points)
- ☐ 5-15% (2 point)
- ☐ More than 15% (0 points)

5) How would you categorize the current, overall bank stability within the polygon?

- ☐ Stable (4 points)
- ☐ Moderately unstable (2 point)
- ☐ Highly unstable (0 points)

6) Which picture does most of the polygon look like?

- ☐ Picture A (4 points)
- ☐ Combination of A and B (2 point)

- Picture B (0 points)

A final score was derived by summing all criterial scores as applicable out of the total possible for a final percentage. Table 4 provides a breakdown of the final riparian health assessment scores.

Table 4: Riparian Health Status Categories used in the ACA Methodology (ACA 2009) for Riparian Lands

Percentage	Riparian Health Status
>80	Good condition
50-79	Fair condition
<49	Poor condition

The riparian health assessment feature layer is a linear coverage, with lines representing the left and right bank of each mapped river, creek and tributary. The linear segments were developed by offsetting (i.e., buffering) the watercourse centerline either to the left or right, and then subdividing by river reach. Within each reach, the linear segments were then assessed using the riparian heath scorecard through the interpretation of digital stereo imagery, within an ArcGIS and PurVIEW system. The linear segments within reaches were further subdivided when assessment of the riparian health criteria indicated a difference.

2.3 Analysis

2.3.1 Terrain Analysis and Drainage Area Updates

The LiDAR data was merged into a single dataset and was processed to allow drainage areas to be determined. This task included the identification and filling of sinks, as well as the manual update of the LiDAR surface where bridges and culverts impede the analysis of flow direction and accumulation (i.e., roads as represented in the LiDAR data will often block flow in the direction of the stream, while in reality a culvert or bridge allows for the water to flow under the road).

The alignment and flow direction of the rivers and streams provided by the client was also reviewed against the LiDAR surface for completeness and accuracy.

2.3.2 Pre-Disturbance Vegetation Cover

A historical synopsis of pre-disturbance vegetation cover was completed by conducting a literature review. The review was initially limited to reference material available within *Environment Complete*; an Elton B. Stephens Co. (EBSCO) database. Although this database provides access to over nine hundred full text journals in the environmental sciences, the literature search was later expanded to target regionally relevant references. The synopsis includes a summary of pre-disturbance (i.e., pre-European settlement) vegetation and subsequent changes that occurred following settlement.

2.3.3 Landcover Change

Landuse (landcover) data from Agriculture and Agri-Food Canada for 1990 and 2010 was obtained to conduct a landcover change analysis, within the effective drainage areas for each river reach of the Vermilion River Basin. The 1990 and 2010 landcover maps cover all areas of Canada south of 60° N at a spatial resolution of 30 metres. Landcover classes are broad, including forest, water, cropland, grassland, settlement and other categories.

Area summaries were produced for landcover types for both the 1990 and 2010 datasets and summaries were compared between snapshots. Metrics calculated for each landcover type included:

- area of each ecosystem in 1990 and 2010 within each reach and within the Vermilion River watershed as a whole;
- proportion (%) in 1990 and 2010 within each reach and within the Vermilion River watershed as a whole;
- difference in area and proportion (%) between 1990 and 2010 within each reach and within the Vermilion River watershed as a whole; and
- proportion (%) of landcover change within each reach and within the Vermilion River watershed as a whole.

The proportion (%) of landcover change, referred to as % of resource, was calculated using the following formula:

$$\frac{(2010\ \text{area}\ [\text{ha}] - 1990\ \text{area}\ [\text{ha}])}{1990\ \text{area}\ [\text{ha}]} \times 100 = \%\ of\ resource$$

Positive values of % landcover represent an increase in a landcover type between 1990 and 2010 at the scale of analysis being evaluated, whereas negative values represent a decrease in the landcover type.

3.0 RESULTS

3.1 Terrain

The results of the terrain mapping are provided as polygon data, showing classified fluvial floodplain features in an ESRI ArcGIS 10.2 geodatabase. The terrain polygons served as the basis for the vegetation classification.

Point feature files, identifying beaver dams, oxbows, and landslide/instability locations, are also provided in an ESRI ArcGIS 10.2 geodatabase.

3.2 River Reach Determination

River reaches are provided as attributed polyline features within the ArcGIS geodatabase, and are also presented in Table 5, which provides the stream name, assigned reach designation, and a brief characterization of the reach. Table 5 also indicates if flow from the indicated reach meets that from another reach at their downstream confluence, and the designation of the next downstream reach.

3.3 Vegetation

The results of the terrain mapping are provided as polygon data, showing classified fluvial floodplain features in an ESRI ArcGIS 10.2 geodatabase. The terrain polygons served as the basis for the vegetation classification. Riverine wetlands are identified within the geodatabase.

Table 5: Reach Breaks in Study Area

Stream Name	Reach	Description	Confluence with Reach	Downstream Reach	Reach Start		Reach End		Reach Length[b] (km)
					Easting	Northing	Easting	Northing	
Birch Creek	BIR01	Well defined irregularly meandering channel, beaver affected	VER10	VER09	480028	5908446	484270	5914837	18
Birch Creek	BIR02	Small defined reach, beaver affected	-	BIR01	461424	5926978	480028	5908446	34
Campbell Creek	CAM01	Irregular meandering channel	VER06	VER05	525198	5923837	525855	5923267	2
Campbell Creek	CAM02	Defined channel with a series of beaver impoundments	-	CAM01	522513	5925929	525198	5923837	5
Campbell Creek	CAM03	Poorly defined channel	-	CAM02	518237	5927483	522513	5925929	5
Cotton Creek	COT01	Small defined channel, beaver affected	VER14	VER13	448804	5934108	445722	5949056	20
Deer Creek	DEE01	Irregular meandering channel	VER05	VER04	533333	5927693	533599	5926922	2
Deer Creek	DEE02	Defined channel, beaver affected	-	DEE01	527354	5931992	533333	5927693	11
Deer Creek	DEE03	Small Lake	-	DEE02	526115	5932487	527354	5931992	1
Deer Creek	DEE04	Short defined channel connecting lakes	-	DEE03	525982	5932637	526115	5932487	<1
Deer Creek	DEE05	Small Lake	-	DEE04	525341	5933565	525982	5932637	1
Deer Creek	DEE06	Poorly defined channel	-	DEE05	516133	5936770	525341	5933565	13
Holden Creek	HOL01	Drainage ditch	VER19	VER18	429229	5901333	430142	5902522	4
Holden Creek	HOL02	Drainage ditch	HOL11	HOL01	423650	5895705	429229	5901333	15
Holden Creek	HOL03	Man-made impoundment	-	HOL02	423398	5895606	423650	5895705	<1
Holden Creek	HOL04	Drainage ditch	-	HOL03	423000	5895228	423398	5895606	1
Holden Creek	HOL05	Man-made impoundment	-	HOL04	421777	5895345	423000	5895228	1
Holden Creek	HOL06	Drainage ditch	-	HOL05	417927	5895844	421777	5895345	5
Holden Creek	HOL07	Man-made impoundment	-	HOL06	417364	5896000	417927	5895844	1
Holden Creek	HOL08	Drainage ditch	-	HOL07	415502	5895304	417364	5896000	3
Holden Creek	HOL09	Drainage ditch	HOL10	HOL08	414133	5896363	415502	5895304	2
Holden Creek	HOL10	Drainage ditch	HOL09	HOL08	409793	5891435	415502	5895304	15
Holden Drainage	HOL11	Drainage ditch	HOL02	HOL01	429344	5895584	429229	5901333	9
Holden Drainage	HOL12	Beaver affected reach	-	HOL11	429209	5894310	429344	5895584	2
Holden Drainage	HOL13	Drainage ditch	-	HOL12	429271	5891907	429209	5894310	5
Holden Drainage	HOL14	Man-made impoundment	-	HOL13	429235	5891371	429271	5891907	1
Holden Drainage	HOL15	Drainage ditch	-	HOL14	414199	5887714	429235	5891371	19
Holden Drainage	HOL16	Drainage ditch	-	HOL15	405956	5887740	414199	5887714	9
Holden Drainage	HOL17	Drainage ditch	HOL18	HOL16	405215	5887486	405956	5887740	1
Holden Drainage	HOL18	Drainage ditch	HOL17	HOL16	406414	5885147	405956	5887740	3
Holden Drainage	HOL19	Drainage ditch	HOL20	HOL18	407918	5880452	406414	5885147	6
Holden Drainage	HOL20	Drainage ditch	HOL19	HOL18	407789	5884253	406414	5885147	2
Holden Drainage	HOL21	Drainage ditch	HOL16	HOL15	412584	5871590	414199	5887714	19

Table 5: Reach Breaks in Study Area

Stream Name	Reach	Description	Confluence with Reach	Downstream Reach	Reach Start		Reach End		Reach Length[b] (km)
					Easting	Northing	Easting	Northing	
Irish Creek	IRI01	Irregular meandering channel	VER02	VER01	529443	5945735	538163	5942103	17
Irish Creek	IRI02	Small defined channel, beaver affected	-	IRI01	521787	5948706	529443	5945735	13
Irish Creek	IRI03	Small defined channel	-	IRI02	514392	5955114	521787	5948706	11
Irish Creek	IRI04	Small defined channel, beaver affected	-	IRI03	508856	5959967	514392	5955114	8
Lamont	LAM01	Small defined channel	WAR02	WAR01	429900	5946315	432029	5945761	4
Lamont	LAM02	Meandering channel; beaver affected	-	LAM01	408782	5954161	429900	5946315	38
Marwayne Creek	MAR01	Irregular meandering channel	VER03	VER02	540965	5929542	540626	5928888	1
Marwayne Creek	MAR02	Defined channel, beaver affected	-	-	544175	5928918	540965	5929542	10
Marwayne Creek	MAR03	Small defined channel	-	-	546477	5927805	544175	5928918	4
Mundare	MUN01	Defined channel	-	WAR03	427807	5938110	429383	5939489	3
Mundare	MUN02	Beaver affected reach	-	MUN01	427026	5937784	427807	5938110	1
Mundare	MUN03	Well defined meandering channel	-	VER13	422521	5935371	427026	5937784	10
Mundare	MUN04	Beaver affected reach	-	MUN03	419564	5937157	422521	5935371	4
Mundare	MUN05	Poorly defined channel	-	MUN04	412136	5938473	419564	5937157	11
Stretton Creek	STR01	Irregular meandering channel	VER04	VER03	544884	5921588	539991	5927074	15
Stretton Creek	STR02	Defined channel, beaver affected	-	STR01	550119	5915291	544884	5921588	12
Stretton Creek	STR03	Small defined channel	-	STR02	549475	5910753	550119	5915291	8
Vermilion River	VER01	Irregular meandering channel		NSR	538163	5942103	543897	5945829	13
Vermilion River	VER02	Irregular meandering channel	IRI01	VER01	540626	5928888	538163	5942103	27
Vermilion River	VER03	Irregular meandering channel	MAR01	VER02	539991	5927074	540626	5928888	5
Vermilion River	VER04	Irregular meandering channel	STR01	VER03	533599	5926922	539991	5927074	18
Vermilion River	VER05	Irregular meandering channel	DEE01	VER04	525855	5923267	533599	5926922	21
Vermilion River	VER06	Generally straight reach	CAM01	VER05	514442	5912930	525855	5923267	19
Vermilion River	VER07	Irregular meandering channel	-	VER06	509284	5912418	514442	5912930	9
Vermilion River	VER08	Man-made impoundment	-	VER07	504111	5912937	509284	5912418	8
Vermilion River	VER09	Irregular meandering channel	-	VER08	484270	5914837	504111	5912937	46
Vermilion River	VER10	Irregular meandering channel	BIR01	VER09	468529	5944164	484270	5914837	65
Vermilion River	VER11	Defined channel with a series of wetlands and pools	-	VER10	451906	5950687	468529	5944164	19
Vermilion River	VER12	Defined channel with slight bends	-	VER11	448809	5950147	451906	5950687	4
Vermilion River	VER13	Wetland	-	VER12	445722	5949056	448809	5950147	4
Vermilion River	VER14	Straight reach	COT01	VER13	443060	5948238	445722	5949056	3
Vermilion River	VER15	Irregular meandering channel	-	VER14	436453	5944667	443060	5948238	16
Vermilion River	VER16	Irregular meandering channel	WAR01	VER15	432013	5932634	436453	5944667	35

Table 5: Reach Breaks in Study Area

Stream Name	Reach	Description	Confluence with Reach	Downstream Reach	Reach Start		Reach End		Reach Length[b] (km)
					Easting	Northing	Easting	Northing	
Vermilion River	VER17	Irregular meandering channel	WAS01	VER16	428065	5923988	432013	5932634	25
Vermilion River	VER18	Irregular meandering channel	-	VER17	429980	5916136	428065	5923988	27
Vermilion River	VER19	Irregular meandering channel	HOL01	VER18	430142	5902522	429980	5916136	43
Vermilion River	VER20	Irregular meandering channel	VER20	HOL01	438350	5887867	430142	5902522	34
Warwick	WAR01	Well defined meandering channel	VER16	VER15	432029	5945761	436453	5944667	14
Warwick	WAR02	Beaver affected reach	LAM01	WAR01	431657	5943212	432029	5945761	5
Warwick	WAR03	Defined channel	-	WAR02	429383	5939489	431657	5943212	11
Waskwei Creek	WAS01	Well defined meandering channel	-	VER16	425922	5923190	428065	5923988	5
Waskwei Creek	WAS02	Beaver affected reach	-	WAS01	420394	5920455	425922	5923190	10
Waskwei Creek	WAS03	Poorly defined channel	-	WAS02	411010	5914670	420394	5920455	18

[a] Start and end coordinates are displayed Universal Transvers Mercator (UTM) coordinate system, NAD83 Projection, Zone 12U.

[b] Note: Values are rounded for presentation purposes; therefore totals may not appear to exactly equal the sum of the rows.

3.4 Riparian Health

Results from the aerial assessment and evaluation of riparian health through use of the scorecard showed that 19% of the riparian areas in the Vermilion River watershed are in good condition, 27% are in fair condition and 54% are in poor condition (Figure 3). Detailed spatial maps of riparian health for the Vermillion River watershed are available from the NSWA. Table 6 outlines the riparian health score by drainage and within the Vermilion River watershed as a whole. Appendix A presents the results of all riparian health scores by segment within each river reach. Where drainages intersected roads, the riparian line segment was broken and the road portion of the riparian health line was not assigned a health score. These road segments were excluded from the results presented in Table 6 and Appendix A. The actual riparian health maps will be provided in two standalone documents (Attachment 1, scale 1:20000 and Attachment 2, scale 1:5000).

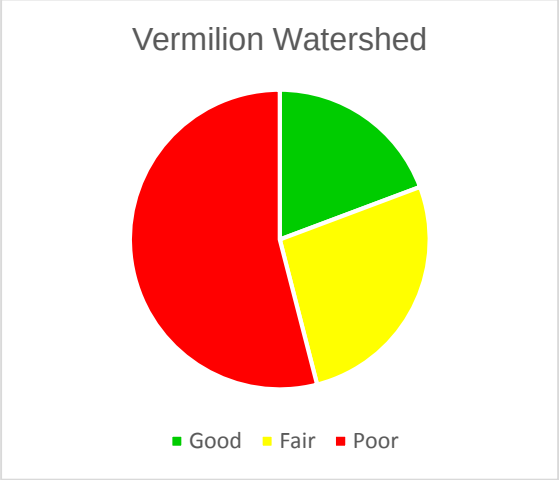

Figure 3: Vermilion River Watershed Riparian Health Summary

Overall riparian health trend varies between drainages, with the Birch Creek drainage having the highest overall proportion of riparian areas with a 'good' health score of 57%, compared to the lowest 'good' health score of 8% in both the Holden and Lamont Creek Drainages. The latter also have the highest overall proportions of riparian areas with a 'poor' health score. Figure 4 to Figure 6 depict riparian health scores by drainage.

Table 6: Riparian Health Score and Length by Drainage within the Vermilion River Watershed

Drainage	Good		Fair		Poor		Total Drainage Length (km)[a]
	% of drainage	km[a]	% of drainage	km[a]	% of drainage	km[a]	
Birch Creek	57	59	21	22	21	22	103
Campbell Creek	29	7	29	7	42	10	23
Cotton Creek	22	8	49	19	29	11	38
Deer Creek	35	21	14	8	51	30	59
Holden Creek	8	20	10	24	81	193	237
Irish Creek	43	42	25	24	33	32	97
Lamont Creek	8	7	16	13	76	65	85

Table 6: Riparian Health Score and Length by Drainage within the Vermilion River Watershed

Drainage	Good		Fair		Poor		Total Drainage Length (km)[a]
	% of drainage	km[a]	% of drainage	km[a]	% of drainage	km[a]	
Marwayne Creek	24	7	24	7	53	15	29
Mundare Creek	34	20	25	14	41	24	58
Stretton Creek	19	14	28	20	53	37	71
Vermilion River	14	121	33	287	53	468	876
Warwick Creek	17	10	29	18	54	32	60
Waskwei Creek	20	13	28	18	53	34	64
Grand Total	19	347	27	481	54	973	1801

[a] – km value represents both right and left stream bank distances.

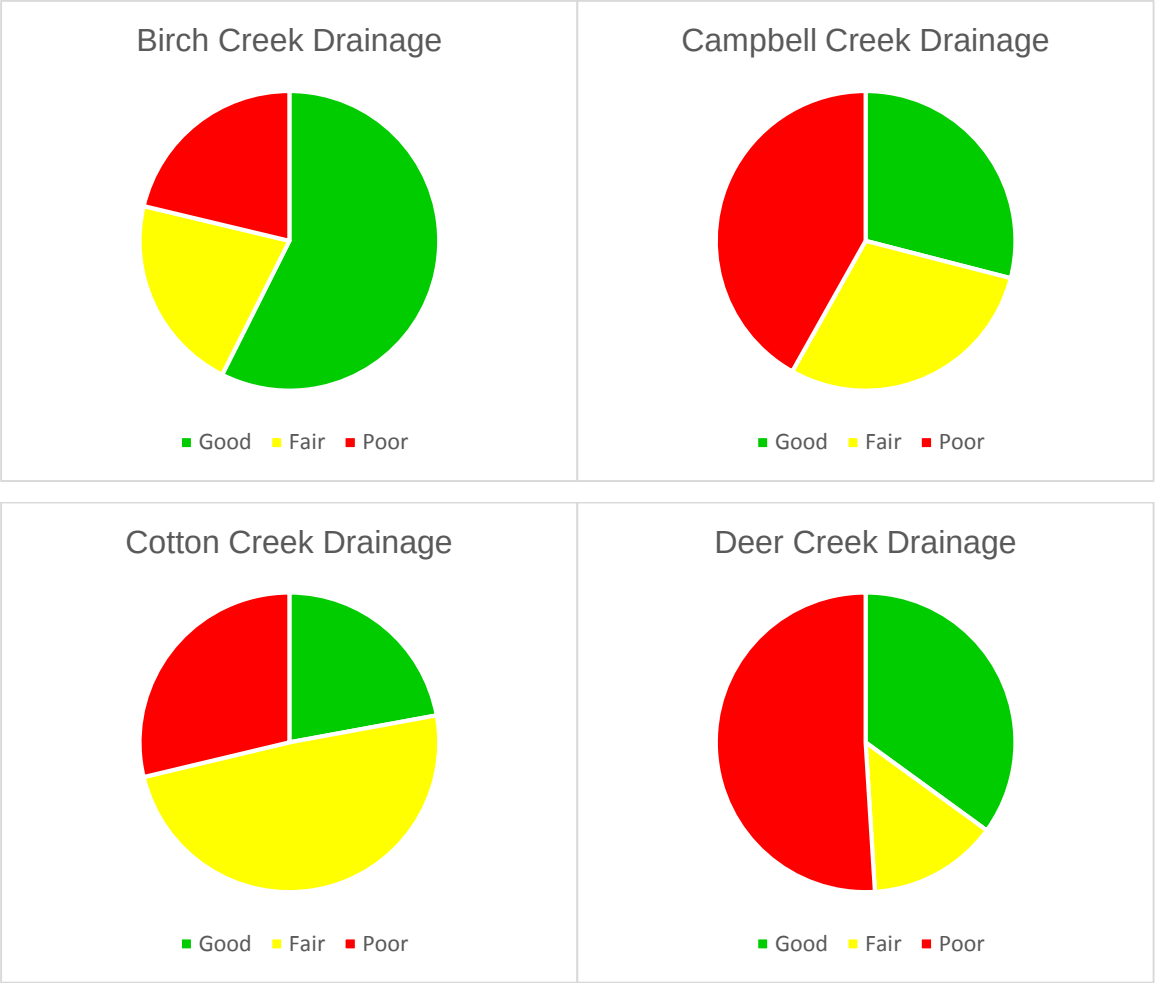

Figure 4: Riparian Health Score Summaries for Birch, Campbell, Cotton and Deer Creek Drainages

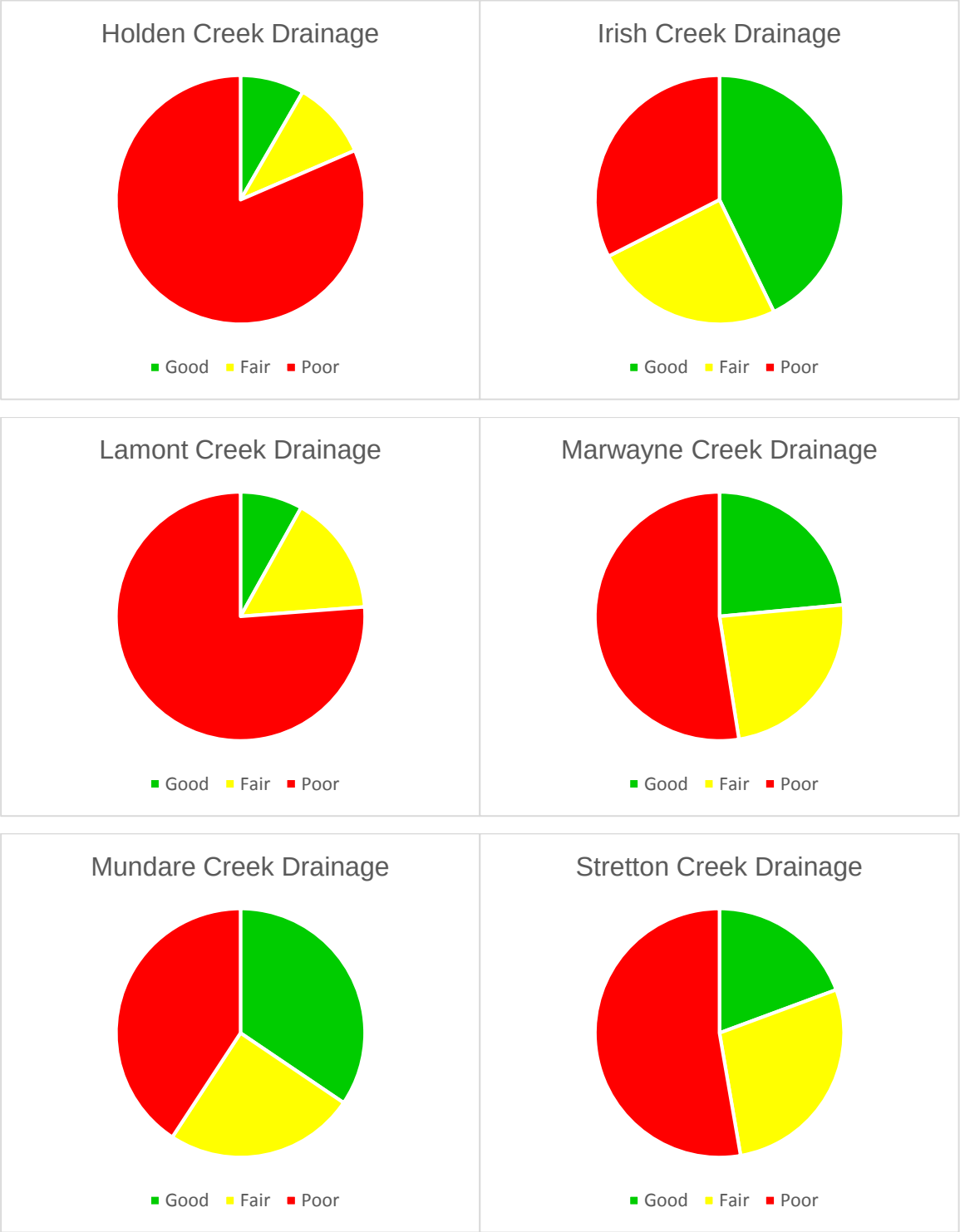

Figure 5: Riparian Health Score Summaries for Holden, Irish, Lamont, Marwayne, Mundare and Stretton Creek Drainages

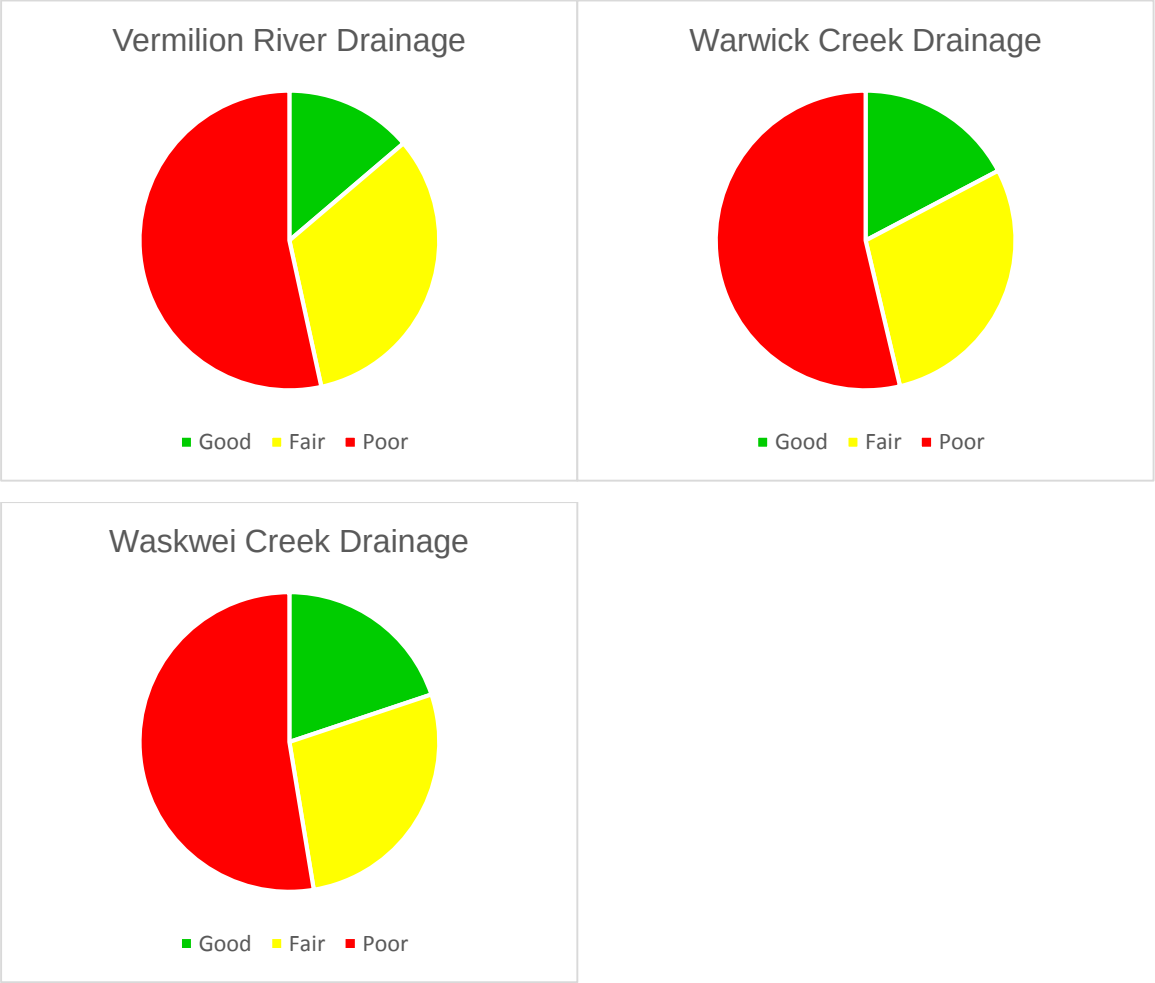

Figure 6: Riparian Health Score Summaries for Vermilion River, Warwick and Waskwei Creek Drainages

Notably, alteration of natural vegetation cover, represented by questions 1 through 3 of the assessment score-card, largely contributed to most scores in the Vermilion River watershed. For most drainages and reaches, physical alteration of the riparian areas was not evident and resulted in a high score. Exceptions to this trend were observed within the Holden Creek and the Vermilion River drainages. This result is not a surprise, given the long history of wetland and agricultural drainage activities within the Holden Drainage District, and water control structures and altered channels along the Vermilion River itself. Limited areas of physically altered riparian zones were observed within most drainages, but most notably within the Deer Creek.

3.5 Terrain Analysis and Drainage Area Updates

An effort was made to update the existing effective drainage areas (as obtained from AAFC) based on the available 15 m LiDAR data (LiDAR DEM). For this purpose, sinks in the LIDAR were filled to a threshold of 1 m. A GIS-based hydrology analysis was then run to determine the effective drainage areas (watersheds) for each river reach. The results of this analysis were not satisfactory. The low relief topography in the Vermilion River watershed makes hydrology analysis very sensitive to small elevation changes, including those created by man-made features such as road berms. For example, a road berm of only a few metres height might be enough to change drainage

direction. On the ground, many of these features include bridges and culverts that preserve natural drainage patterns. In other cases, drainage patterns are changed. Because features such as bridges and culverts are not represented in the LiDAR DEM, the GIS-based hydrology analysis will not provide accurate results without extensive ground truthing. It was therefore decided to discount the results of the GIS analysis and instead conduct all further analysis based on the published AAFC effective drainage areas datasets. However, GIS-based hydrology analysis was used to break down the AAFC effective drainage areas for the individual river reaches. In these cases, the topography was visually checked for man-made features likely to change drainage patterns. Where those exist, some manual changes were made by Golder's hydrologists to take into account their effects on drainage patterns.

3.6 Pre-Disturbance Vegetation Cover

The Vermilion River watershed is located within the Central Parkland and Dry Mixedwood Natural Subregions of Alberta (Natural Regions Committee 2006). Urbanization and agricultural practices have resulted in few remaining areas of contiguous vegetation, which generally occur on sites unsuitable for arable agriculture (or production of annual crops) (Natural Regions Committee 2006). Grasslands were the first areas used for agriculture, followed by forested areas with the advent of the bulldozer in 1945 (Bird 1961).

Historically, the Aspen Parkland was a mosaic of two major plant communities: aspen forest and grassland, with fescue prairie originally found in the transition from grassland to forest (Moss and Campbell 1947; Coupland and Brayshaw 1953). The interface between the two communities fluctuated due to weather, fire and anthropogenic factors. Early records indicate that the fluctuation between forest and grassland existed prior to the implementation of agricultural practices. In the past, the succession from grassland to forest community was prevented by grazing and browsing by elk and bison (Bird 1961).

Moss (1944) and Moss and Campbell (1947) indicated that the grasslands were dominated by rough fescue (*Festuca hallii*). Rough fescue, porcupine grass (*Stipa spartea*) and June grass (*Koeleria cristata*) were the most abundant grassland species, accounting for 53% of the basal cover. The sedges *Carex stenophylla, C.pensylvanica,* and *C.obtusata* made up an additional 25% of the cover (Coupland and Brayshaw 1953). At the landscape level, native plant populations of remnant grasslands in the Aspen Parkland contributed greatly to species diversity (Vujnovic 2002).

The forested area of the parkland varied from isolated patches to dense stands of predominantly trembling aspen (*Populus tremuloides*). Balsam poplar (*Populus balsamifera*) and willow communities were also present in areas with poorly drained soils (Bird 1961).

Historically, wetlands in the Aspen Parkland consisted of small shallow open water areas with emergent vegetation (sloughs), and wet treeless areas with abundant grasses, cattails and rushes (marshes) (Bird 1961). Many of these wetlands were likely drained or modified with increased agricultural development.

Fire played a significant role in the vegetation of Aspen Parkland prior to European settlement (Nelson and England 1971). Annual burning led to increased numbers of grass, sedge and forb species (Anderson and Bailey, 1979). With increased development, remnant native vegetation became isolated, and interspersed within cultivated fields, grazed pastures, roads, and human settlements, and difficult to burn (Archibold and Wilson 1980; Romo 2003). As the frequency of fire/burning declined, forested vegetation (aspen) advanced onto adjacent grasslands (Coupland and Maini 1959; Bailey and Wroe 1974; Scheffler 1976). Fire suppression altered the structure,

function, and composition of grasslands and fescue prairie remnants from their natural (pre-settlement) state resulting in the reduction of native plant biodiversity (Hobbs and Huenneke 1992).

As development continued, and the demand for roads increased, road allowances altered or removed remnants of native vegetation and led to the introduction of weeds and exotic species (Bird 1961). The remaining native vegetation was restricted to patches of aspen-grassland mosaic within cultivated lands. Furthermore, extensive agricultural activities have resulted in wetland drainage and modification. Following settlement in the Vermilion watershed, wetland drainage activities in the headwaters were extensive. The Holden Drainage District was established in 1918 as a local authority to assist farmers in draining low-lying lands to increase agricultural production. This resulted in the drainage and alteration of numerous wetlands, and associated wetland vegetation, and the development of drainage infrastructure typically dominated by non-native, agronomic species.

3.7 Landcover Change

The amount of different landcover types present in the Vermilion River watershed changed between 1990 and 2010 (Table 7), driven primarily by an increase in anthropogenic footprint between 1990 and 2010. Landcover type change in this analysis is primarily associated with agricultural cropland, settlement areas and roads. For each drainage reach, each landcover type area from the 1990 and 2010 datasets is summarized in Appendix B.

Table 7: Landcover Change Analysis within the Vermilion River Watershed between 1990 and 2010.

Landcover Type	Landcover Class	1990 Landcover		2010 Landcover		Difference	
		Area (ha)	% of Landbase	Area (ha)	% of Landbase	Area Change (ha)	% Resource Change
Upland	Forest	22043	9	17458	7	-4586	-21
	Trees	2262	1	1751	<1	-511	-23
Wetland and Open Water	Treed Wetland	296	<1	296	<1	<1	<1
	Water	6653	2	6653	3	0	<1
	Wetland	1082	<1	934	<1	-149	-14
	Wetland Herb	25	<1	16	<1	-9	-35
	Wetland Shrub	321	<1	317	<1	-5	-2
	Forest Wetland	696	<1	610	<1	-86	-12
Anthropogenic	Cropland	193924	82	198920	84	4996	3
	Grassland Managed	18	<1	18	<1	<1	<1
	Other Land	11	<1	10	<1	-1	-11
	Roads	6336	3	6402	3	66	1
	Settlement	2468	1	2753	1	285	12
	Grand Total	**236136**	**100**	**236136**	**100**	**n/a**	**n/a**

Note: Some numbers are rounded for presentation purposes. Therefore, it may appear that the totals do not equal the sum of the individual values.

n/a = not applicable.

Forest landcover decreased by 4,586 ha (21%), and treed landcover decreased by 511 ha, (23%) between 1990 and 2010 (Table 7), as anthropogenic landcover types increased in the study area. Cropland landcover was the largest anthropogenic landcover change in area, increasing by 4,496 ha (3%) between 1990 and 2010, followed by settlement landcover type which increased by 285 ha (12%) (Table 7). The low percent of resource change for the cropland landcover type, 3%, is due to the Vermilion River watershed being in a highly agricultural landscape, representing 82% of the watershed in 1990 and 84% in 2010. Road landcover also increased in area 66 ha (1%)

between 1990 and 2010. The greatest decreases in forest and treed landcover types, with corresponding increases in cropland and settlement landcover types, occurred within the Vermilion River and Deer Creek drainages (Appendix B).

All wetland landcover types decreased between 1990 and 2010, with a 149 ha (14%) decrease in wetland landcover and an 86 ha (12%) decrease in forest wetland landcover. The open water landcover type remained the same between 1990 and 2010, at 6,653 ha. The Vermilion River drainage had the greatest decrease in wetland landcover types, with lesser decreases in the Birch Creek, Lamont Creek, Deer Creek and Irish Creek drainages (Appendix B). No change in wetland areas were observed in the Holden Creek, Mundare Creek, Stretton Creek, Warwick Creek and Waskwei Creek drainages between 1990 and 2010, though no detectable wetland landcover types were mapped in either the 1990 or 2010 datasets (Appendix B). The actual landcover change maps will be provided in a standalone document (Attachment 3).

4.0 DISCUSSION AND RECOMMENDATIONS

4.1 Riparian Health

This project has shown that the use of stereo digital aerial imagery interpreted through a GIS system, can be effective in providing a broad scale riparian assessment at a watershed-level scale. The use of stereo digital imagery is a deviation from past aerial riparian health assessment methods, which used aerial videography in conjunction with a lotic riparian assessment scorecard. The use of stereo digital imagery had several advantages over the use of georeferenced low-level videography, as well as some disadvantages, summarized in Table 8.

Table 8: Advantages and Disadvantages of Using Stereo Digital Imagery Compared to Aerial Videography

Advantages	Disadvantages
High resolution of stereo imagery allowing for interpretation and assessment at a fine scale Additional uses beyond aerial health assessment (i.e., vegetation mapping, terrain feature identification, future change analysis)	Higher cost of stereo digital imagery More stringent condition requirements for acquiring the imagery (i.e., cloud cover) limiting timeline for obtaining data Unless video imagery is collected at the same time, lack of accessible graphic representation of riparian areas for stakeholders and landowners

Both assessment methods would benefit from the addition of a ground-based field survey. Further details around this recommendation are provided in section 4.2.

Results from the aerial assessment and evaluation of riparian health showed that 19% of the riparian areas within the Vermilion River watershed are in good condition, 27% are in fair condition and 54% are in poor condition. The Vermilion River watershed results are similar to those found in the Battle River watershed, where the majority of the riparian areas assessed were scored as being in ‘poor’ health (Teichreb and Walker 2008). These results are likely not surprising, given the level of anthropogenic modification of riparian zones, in a largely agricultural setting. It should be noted that riparian health may have been under estimated for areas that were historically grasslands, as the riparian health assessment methodology was initially developed for lakeshore assessments (Mills and Scrimgeour 2004) and modified for riparian assessments (Teichreb and Walker 2008; Alberta Conservation Association 2009)

4.2 Field Surveys

Ground-based field assessments are recommended to enhance the aerial assessment product and achieve several objectives, including:

- ground-truthing of terrain and vegetation mapping, and vegetation community characterization; and
- establishing riparian health baseline conditions.

As noted in section 2.2.3, vegetation classification occurred primarily at the habitat level, following Thompson and Hanson (2003). Where possible, tree species were identified and used to classify the community type, but identification of shrub, herbaceous and graminoid vegetation types, based on the dominant species, was not possible. A ground-truthing field program, where site-specific basic terrain and ecological data collection occurs, would assist in refining the vegetation classification to a finer, community level. The ground-truthing and collection of ecological data would also assist in the confirmation and extent of riverine wetlands. Given the late summer date of aerial imagery collection, particularly in a drier than normal year that was 2015, there is potential that some wetlands within the floodplain were not captured or the mapped extents may not fully reflect the ground conditions. A ground-based field assessment program, stratified over various landcover or vegetation types, including wetlands, across the Vermilion River watershed would greatly enhance the final product and level of accuracy.

An aerial riparian health assessment cannot replace ground-based field assessments, as a number of key metrics that are evaluated during ground-based assessments cannot be evaluated remotely. The aerial assessment methodology, however, provides a record of the current status of the riparian areas within an area, and can serve as a coarse filter to evaluate large areas such as the Vermilion River watershed, to identify priority areas for further survey. A well-designed ground-based assessment would provide greater precision and measurement of riparian health being able to assess a more complete set of criteria, but only over relatively small areas. A survey program for the ground-based collection of riparian health data is recommended in priority areas, either for conservation or restoration purposes, as well as for verification of aerial assessment criteria. For example, with leaf-on imagery, the vegetation in tree and woody dominated areas can obscure accurate observations of ground level conditions. Confirmation of key criteria such as bare soil or physical alterations or evidence of woody species recruitment can be used to appropriately identify areas for conservation or restoration priority.

The recommended methods for ground-based field assessments would be the Alberta Riparian Habitat Management Society, Riparian Health Assessment. This methodology has been used in Alberta for over 20 years and over 5,000 sites have been evaluated using these methods (Clare and Sass 2012). The methodology involves an assessment of ecological status, community structure, site stability and flood control and water use where applicable (i.e., large rivers). Similar to the remote assessment, for each criterion, a score is assigned based on points assigned to designated relative classes. A final score is derived by summing all criterial scores as applicable out of the total possible for a final percentage. The collection of this data would serve as a baseline against which future re-measurement could occur. This would allow for an evaluation of conservation and restoration practices, to determine if current practices are effective, and identify areas where improvements could be made.

4.3 Prioritization of Areas for Restoration and Conservation

Using the final health scores, riparian segments within drainages and reaches can be identified and prioritized for either restoration or conservation management practices. The scores of ‘fair’ and ‘poor’ riparian health condition can certainly identify areas for restoration opportunities, while areas of ‘good’ riparian health condition can be prioritized for conservation.

Based on the results of the aerial riparian health assessment, the following drainages have reach segments with a predominantly poor riparian health status:

- Deer Creek;
- Holden Creek;
- Lamont Creek;
- Marwayne Creek;
- Stretton Creek;
- Vermilion River;
- Warwick Creek; and
- Waskwei Creek.

Areas of poor riparian health status could be a priority for restoration, however the associated investment could be large, particularly in areas where the riparian channels have been extensively physically altered or with structures on the watercourses, such as the Holden Creek and Vermilion River drainages. Focusing efforts on areas of 'fair' riparian health within these drainages may provide an initial area of focus for restoration purposes. Of course, consultation, cooperation and buy-in from the landowners on a restoration program would be a key requirement in order for such a program to be a success. When appropriate, individual reach segments to be prioritized for restoration can be identified through review of the riparian health figures (Figure 4 to Figure 6) or through review of the ArcGIS riparian health geodatabase.

Opportunities for conservation appear to primarily be situated within the Birch Creek and Irish Creek drainages. These drainages have the highest proportions of riparian areas with a 'good' health rating. Other drainages that may have potential for conservation opportunities include the Cotton Creek and Mundare Creek drainages. The Cotton Creek drainage has 22% of riparian areas with a 'good' health rating and 49% with a 'fair' health rating, while the Mundare Creek drainage has 34% of riparian areas with a 'good' health rating and 25% with a 'fair' health rating. Additionally, prioritization of the conservation of areas of 'good' riparian health status within overall degraded drainages, such as the Holden Creek and Vermilion River drainages, should also be considered. Given the highly degraded nature of the riparian zones within these drainages, conservation of areas currently in good health against additional degradation would be beneficial. Reaches within the Holden Creek drainage currently with a 'good' riparian health rating are predominantly located within HOL2, HOL10, HOL11 and HOL17. Reaches within the Vermilion River drainage currently with a 'good' riparian health rating are distributed throughout the drainage, with some larger segments located within VER1, VER2, VER4, VER8 and VER11. Again, identifying landowners who are open and amenable to riparian conservation opportunities will be a key step in implementing conservation management practices. When appropriate, individual reach segments to be prioritized for conservation can be identified through review of the riparian health figures (Figure 4 to Figure 6) or through review of the ArcGIS riparian health geodatabase.

4.4 Additional Tributaries to be Mapped

The mapping completed for this project includes the Vermilion River and many of its major tributaries. There are a number of additional tributaries that were not included in this project but may be considered in the future.

5.0 CONCLUSION

This report, in conjunction with the delivery of ArcGIS spatial geodatabases delivered separately, presents the results of an aerial assessment of riparian areas of the Vermilion River, and a number of its major tributaries. In particular, this study delineated the lotic riparian areas and floodplains of the Vermilion River and its major tributaries, assessed the condition the mapped riparian areas in the watershed using a rapid method, identified intact areas for conservation and/or protection and identified and prioritized degraded areas for restoration.

The Vermilion River watershed has been extensively altered over the last 100 years. There has been extensive drainage of wetlands to allow the expansion of agriculture, transportation and municipal and industrial development within the watershed. Some of the programs have been authorized by licenses, but other drainage projects have proceeded without proper authorization. The cumulative impact of drainage in the upper watershed may have increased the frequency and intensity of flooding in the middle reaches of the Vermilion River. Drainage may have also reduced the natural storage of water, thereby reducing the duration of water flow. Physical alteration of the Vermilion Lakes and the Vermilion River at Vegreville, and various water management structures, were constructed as flood management tools to reduce the impact of major summer rainfall events in the Vermilion Lakes basin. Substantial change in the vegetation types and extent from pre-European settlement were also summarized. The results of a landcover change analysis between 1990 and 2010 indicate that land-use change is still ongoing, and is driven primarily by an increase in anthropogenic footprint and a corresponding decrease in forested and wetland landcover types.

This project has shown that the use of stereo digital aerial imagery, interpreted through a GIS system, can be effective in providing a broad scale riparian assessment at a watershed-level scale. The use of stereo digital imagery is a variation from past aerial riparian health assessment methods, which used aerial videography in conjunction with a lotic riparian assessment scorecard. Results from the aerial assessment and evaluation of riparian health showed that only 19% of the riparian areas within the Vermilion River watershed are in good condition, while 27% are in fair condition and 54% are in poor condition. The Vermilion River watershed results are similar to those found in the Battle River watershed, where the majority of the riparian areas assessed were scored as being in ‘poor’ health (Teichreb and Walker 2008). These results are likely not surprising, given the level of anthropogenic modification of riparian zones, in a largely agricultural setting.

The results of this aerial riparian health assessment cannot replace ground-based field assessments. The aerial assessment methodology, however, provides a record of the current status of the riparian areas within an area, and can serve as a coarse-filter to evaluate large areas such as the Vermilion River watershed, to identify priority areas for further survey. A field survey program for the ground-based collection of riparian health data is recommended in priority areas, either for conservation or restoration purposes, as well as for verification of aerial assessment criteria and vegetation classification. The recommended methods for ground-based assessments would follow the Alberta Riparian Habitat Management Society, Riparian Health Assessment which has been extensively used in Alberta over 20 years.

Using the final health scores, preliminary drainages and reaches were identified and prioritized for either restoration or conservation management practices. Scores of ‘fair’ and ‘poor’ riparian health condition can identify areas for restoration opportunities, while areas of ‘good’ riparian health condition can be prioritized for conservation. Identifying landowners who are open and amenable to riparian conservation opportunities will be a key step in the process of implementing restoration and conservation practices. When appropriate, individual reach segments to be prioritized for conservation or restoration can be identified through review of the ArcGIS riparian health geodatabase.

LITERATURE CITED

Alberta Conservation Association. 2009. *Aerial videography assessment for selected reaches of the South Heart and West Prairie Rivers, Alberta*. 26 pp.

Anderson, H.G., and A.W. Bailey. 1979. *Effects of annual burning on grassland in the Aspen Parkland of east-central Alberta.* Can. J. Bot. 58: 985-996.

Archibold, O. W. and M.R. Wilson. 1980. *The natural vegetation of Saskatchewan prior to agricultural settlement.* Can. J. Bot. 58:2031-2042.

Bailey, A.W. and R.A. Wroe. 1974. *Aspen invasion in a portion of the Alberta Parklands.* J. Range Manage. 27:263-266.

Bird, R.D. 1961. *Ecology of the Aspen Parkland of Western Canada in Relation to Land Use.* Canada Department of Agriculture – Research Branch, Ottawa.

Clare, S. and G. Sass. 2012. *Riparian Lands in Alberta: Current State, conservation tools, and management approaches.* Edmonton: Report prepared for Riparian Land Conservation & Management Team, Alberta Water Council.

Coupland, R. T., and T. C. Brayshaw. 1953. *The fescue grassland in Saskatchewan.* Ecology 34: 386-405.

Coupland, R. T., and J. S. Maini. 1959. *Woodland invasion of western Canadian grasslands.* IX Int. Bot. Congr. Proc. 11, IIA, Montreal, P.Q.

Fitch, L., B.W. Adams, and G. Hale, Eds. 2001. *Riparian health assessment for streams and small rivers – field workbook.* Lethbridge, AB: Cows and Fish program. 86 pp.

Golder Associates Ltd. (Golder). 2009. *Vermilion River Water Supply and Demand Study*. Report submitted to Edmonton: North Saskatchewan Watershed Alliance.

Hobbs, R.J. and L.F. Huenneke. 1992. *Disturbance, diversity and invasion: Implications for conservation.* Conserv. Biol. 6:324-337.

Mills, B. and G. Scrimgeour. 2004. *The Effectiveness of Aerial Videography to Characterize Lakeshore Condition. Data Report* (D-2005-017) produced by Alberta Conservation Association, Edmonton, Canada. 52 pp + App.

Moss, E. H. 1944. *The prairie and associated vegetation of southwestern Alberta.* Canadian J. Res., C, 22:11-31.

Moss, E. H., and J. A. Campbell. 1947. *The fescue grassland of Alberta.* Canadian J. Res., C, 25:209-227.

NSWA (North Saskatchewan Watershed Alliance). 2012. *Vermilion River Watershed Management Plan.* The North Saskatchewan Watershed Alliance Society, Edmonton, Alberta. Available at: http://nswa.ab.ca

NRC (Natural Regions Committee). 2006. *Natural Regions and Subregions of Alberta.* Compiled by D.J. Downing and W.W. Pettapiece. Government of Alberta. Pub. No. T/852.

USDA NRCS (United States Department of Agriculture, Natural Resources Conservation Service). 2008. *Hydrogeomorphic Wetland Classification System: An Overview and Modification to Better Meet the Needs of the Natural Resources Conservation Service.* Technical Note No. 190-8-76, February 2008.

Nelson, J.G. and R.E. England. 1971. *Some comments on the causes and effects of fire in the northern grasslands area of Canada and the nearby United States*, ca.1750-1900. Can. Geogr. 15:295-306.

Romo, J.T. 2003. *Reintroducing fire for conservation of Fescue Prairie Association remnants in the northern Great Plains.* Can. Field-Natur. 117:89-99.

Scheffler, E.J. 1976. *Aspen forest vegetation in a portion of the east-central Alberta parklands.* M.Sc. thesis, University of Alberta. Edmonton, AB.

Teichreb, C. and G. Walker. 2008. *Aerial videographic health and integrity assessment of the riparian management area for selected reaches of the Battle River.* Alberta Environment Technical Report. 23pp.

Thompson, William H. and Paul L. Hansen. 2003. *Classification and management of riparian and wetland sites of Alberta's Parkland Natural Region and Dry Mixedwood Natural Subregion. Bitterroot Restoration, Inc.* Prepared for the Alberta Riparian Habitat Management Program- Cows and Fish, Lethbridge, Alberta. 340 pages.

VRORSC (Vermilion River Operations Review Stakeholder Committee). 2000. R*ecommendation Report on the Future Operation of the Vermilion River Water System. December 2000*. Available at: https://www.nswa.ab.ca/sites/default/files/documents/VROAC%20Recommendations%20Report%20-%20Dec2000.pdf

Vujnovic, K., R. Wein and M. Dale. 2002. *Predicting plant species diversity in response to disturbance magnitude in grassland remnants of central Alberta.* Canadian Journal of Botany [serial online]. May 2002; 80(5):504-511.

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https://capws.golder.com/sites/p1534932vermillionriparianproject/multiuser report/1534932_vermilion_final_20160331.docx

APPENDIX A

Riparian Health Information by River Reach

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Birch Creek	BIR02	461719	5926031	462122	5923354	2,765.10	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Birch Creek	BIR02	461731	5926038	462136	5923361	2,765.88	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	484279	5914538	484267	5914828	581.36	>90%	<15%	No	<5%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Birch Creek	BIR01	484050	5914477	484256	5914841	1,004.62	>90%	<15%	No	<5%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Birch Creek	BIR01	484267	5914136	484050	5914477	507.06	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR01	484094	5914463	484279	5914538	371.73	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Birch Creek	BIR01	484196	5913966	484267	5914136	274.84	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Birch Creek	BIR01	484303	5913714	484094	5914463	1,199.93	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	483727	5913388	484303	5913714	850.97	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR01	483895	5913219	483727	5913388	346.19	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Birch Creek	BIR01	483661	5913021	483895	5913219	365.67	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR01	483780	5913443	484185	5913586	593.63	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Birch Creek	BIR01	483647	5913022	483780	5913443	793.29	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR01	484185	5913586	484196	5913966	559.60	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR01	483843	5910652	483174	5911095	1,221.70	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Birch Creek	BIR01	483028	5911681	483660	5913014	2,712.80	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Birch Creek	BIR01	483685	5909695	483540	5910103	855.89	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	483542	5909665	483685	5909695	189.11	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR01	483528	5909665	483658	5909944	714.80	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Birch Creek	BIR01	483658	5909944	483480	5910017	212.74	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Birch Creek	BIR01	483540	5910103	483869	5910692	1,067.51	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Birch Creek	BIR01	483869	5910692	483028	5911681	2,385.83	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	483358	5912723	483645	5913012	549.63	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	483397	5912449	483358	5912723	301.07	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Birch Creek	BIR01	483132	5912316	483397	5912449	647.00	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	483263	5912145	483132	5912316	280.13	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR01	482883	5911596	483263	5912145	1,182.59	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	483248	5911333	482883	5911596	652.17	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR01	483174	5911095	483248	5911333	314.15	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	483480	5910017	483843	5910652	1,145.12	>90%	15-35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	19	22	86.36	Good
Birch Creek	BIR01	483472	5909474	483526	5909657	200.33	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR01	483473	5909460	483540	5909657	221.99	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR01	482565	5909374	483467	5909474	1,682.57	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	481846	5908796	483467	5909460	3,150.31	>90%	15-35%	Yes	<5%	<5%	Stable	Diverse/Complex	21	22	95.45	Good
Birch Creek	BIR01	482053	5908974	482158	5909239	431.90	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	482158	5909239	482565	5909374	621.43	>90%	<15%	No	<5%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Birch Creek	BIR01	481847	5908810	482053	5908974	406.03	>90%	15-35%	No	<5%	<5%	Stable	Diverse/Complex	19	22	86.36	Good
Birch Creek	BIR01	480855	5908125	481838	5908809	1,518.51	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Birch Creek	BIR01	480643	5908065	481838	5908795	1,808.09	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Birch Creek	BIR01	480225	5908313	480643	5908065	809.47	>90%	<15%	No	<5%	>15%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	480224	5908327	480855	5908125	1,091.80	>90%	<15%	No	5-15%	5-15%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR02	479631	5908348	480024	5908440	429.36	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR02	479637	5908365	480032	5908452	430.69	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR02	477965	5908358	479637	5908365	1,829.21	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR02	478971	5908232	479631	5908348	683.23	>90%	<15%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Birch Creek	BIR02	476172	5907523	476991	5907756	1,113.00	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Birch Creek	BIR02	476171	5907509	477103	5907850	1,295.05	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Birch Creek	BIR02	477103	5907850	477854	5908266	872.69	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Birch Creek	BIR02	476991	5907756	477965	5908358	1,206.30	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Birch Creek	BIR02	477854	5908266	478539	5908392	795.06	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR02	478539	5908392	478971	5908232	493.23	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Birch Creek	BIR02	475356	5908111	476167	5907537	1,434.66	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Birch Creek	BIR02	475355	5908097	476167	5907510	1,446.02	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Birch Creek	BIR02	471929	5909290	474092	5908779	2,454.79	>90%	15-35%	Yes	<5%	<5%	Stable	Diverse/Complex	21	22	95.45	Good
Birch Creek	BIR02	471924	5909277	474200	5908677	2,655.01	>90%	15-35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	19	22	86.36	Good
Birch Creek	BIR02	471373	5909725	471495	5909566	203.06	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR02	471495	5909566	471661	5909444	211.42	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR02	471387	5909725	471682	5909445	417.75	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR02	471682	5909445	471929	5909290	293.20	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR02	471661	5909444	471924	5909277	313.27	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR02	474092	5908779	475346	5908110	1,993.31	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR02	474200	5908677	475347	5908096	1,829.92	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Birch Creek	BIR02	470344	5910752	471387	5909732	1,487.31	>90%	15-35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	19	22	86.36	Good
Birch Creek	BIR02	470335	5910741	471373	5909733	1,474.50	>90%	15-35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	19	22	86.36	Good
Birch Creek	BIR02	467974	5916430	470338	5910758	6,804.53	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR02	467959	5916431	470329	5910747	6,820.83	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR02	466312	5918390	467972	5916438	2,677.22	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR02	466144	5918972	467958	5916439	3,284.51	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR02	465620	5922227	466065	5919441	3,030.74	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Birch Creek	BIR02	465974	5921053	466079	5919442	1,704.43	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Birch Creek	BIR02	463426	5923238	465067	5922818	1,740.47	>90%	15-35%	Yes	<5%	<5%	Stable	Diverse/Complex	21	22	95.45	Good
Birch Creek	BIR02	463426	5923223	465076	5922804	1,749.50	>90%	15-35%	Yes	<5%	<5%	Stable	Diverse/Complex	21	22	95.45	Good
Birch Creek	BIR02	462136	5923361	463417	5923237	1,436.67	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Birch Creek	BIR02	461431	5926980	461728	5926045	1,021.40	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Birch Creek	BIR02	461417	5926976	461716	5926037	1,025.71	>90%	>35%	Yes	>15%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Birch Creek	BIR02	462646	5923126	463417	5923223	784.10	>90%	<15%	No	<5%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Birch Creek	BIR02	462122	5923354	462646	5923126	668.70	>90%	<15%	No	<5%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Birch Creek	BIR02	465076	5922804	465620	5922227	829.64	>90%	>35%	No	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Birch Creek	BIR02	465076	5922818	465637	5922179	899.98	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Birch Creek	BIR02	465637	5922179	465974	5921053	1,275.61	>90%	15-35%	Yes	<5%	<5%	Stable	Diverse/Complex	21	22	95.45	Good
Birch Creek	BIR02	466065	5919436	466144	5918972	479.61	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Birch Creek	BIR02	466079	5919436	466312	5918390	1,088.48	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	480032	5908452	480217	5908325	257.72	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Birch Creek	BIR01	480024	5908440	480217	5908309	264.45	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM01	525209	5923829	525866	5923477	1,303.64	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Campbell Creek	CAM01	525210	5923844	525869	5923463	1,344.31	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Campbell Creek	CAM01	525869	5923463	525859	5923275	523.99	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM01	525866	5923477	525843	5923271	548.55	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM03	518230	5927481	518642	5927256	505.11	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM03	518244	5927485	518646	5927270	491.13	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Campbell Creek	CAM03	518663	5927253	520280	5926773	1,728.72	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM03	518661	5927268	520281	5926787	1,731.52	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM03	520287	5926787	521050	5927094	886.56	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM03	520287	5926773	521119	5927064	957.82	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM03	521119	5927064	521586	5926606	681.25	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Campbell Creek	CAM03	521050	5927094	521604	5926608	775.45	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Campbell Creek	CAM03	521604	5926608	521912	5926269	473.03	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM03	521586	5926606	521911	5926255	495.05	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM03	521923	5926269	522363	5926006	528.86	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM03	521922	5926255	522349	5926006	507.73	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM02	522505	5925926	523555	5924532	2,086.72	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Campbell Creek	CAM02	522515	5925935	522926	5925329	755.71	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Campbell Creek	CAM02	522926	5925329	523555	5924546	1,317.72	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Campbell Creek	CAM02	523978	5924238	524538	5923972	863.21	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Campbell Creek	CAM02	523956	5924249	524521	5923955	894.05	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Campbell Creek	CAM02	523563	5924532	523956	5924249	554.70	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Campbell Creek	CAM02	523564	5924546	523978	5924238	588.41	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Campbell Creek	CAM02	524538	5923972	525200	5923844	1,270.91	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Campbell Creek	CAM02	524521	5923955	525201	5923830	1,280.47	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Campbell Creek	CAM03	522349	5925997	522505	5925926	185.25	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Campbell Creek	CAM03	522363	5925997	522515	5925935	173.54	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Cotton Creek	COT01	446916	5936868	447422	5939270	2,649.10	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Cotton Creek	COT01	446972	5937645	447439	5939270	1813.70	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Cotton Creek	COT01	445870	5948175	445831	5948830	714.29	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Cotton Creek	COT01	445884	5948175	445845	5948823	707.49	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Cotton Creek	COT01	445831	5948830	445718	5949049	273.19	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Cotton Creek	COT01	445845	5948823	445732	5949053	283.39	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Cotton Creek	COT01	446043	5947011	445869	5948168	1,616.24	>90%	>35%	No	5-15%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Cotton Creek	COT01	446125	5946739	445883	5948168	1,905.77	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Cotton Creek	COT01	445997	5943798	446271	5945744	2,305.78	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Cotton Creek	COT01	446442	5943294	446286	5945743	3,107.08	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Cotton Creek	COT01	446871	5940528	446426	5941599	1,507.40	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Cotton Creek	COT01	446996	5940465	446448	5941606	1,658.39	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Cotton Creek	COT01	447964	5935688	447149	5936037	1,059.77	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Cotton Creek	COT01	448836	5935188	447163	5936037	2,423.58	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Cotton Creek	COT01	448771	5934861	448822	5935182	328.94	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Cotton Creek	COT01	448783	5934855	448836	5935188	341.92	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Cotton Creek	COT01	448822	5935182	448702	5935620	477.24	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Cotton Creek	COT01	448702	5935620	447964	5935688	892.33	>90%	>35%	No	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Cotton Creek	COT01	447148	5936044	446916	5936868	900.74	>90%	15-35%	Yes	5-15%	5-15%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Cotton Creek	COT01	447162	5936044	446972	5937645	1,734.48	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Cotton Creek	COT01	447417	5939277	446871	5940528	1,777.20	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Cotton Creek	COT01	446426	5941599	446658	5942108	579.01	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Cotton Creek	COT01	447435	5939276	446996	5940465	1,636.11	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Cotton Creek	COT01	446448	5941606	446672	5942089	550.23	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Cotton Creek	COT01	446672	5942089	446656	5942500	412.91	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Cotton Creek	COT01	446658	5942108	446642	5942500	392.87	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Cotton Creek	COT01	446643	5942509	446577	5942822	350.83	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Cotton Creek	COT01	446577	5942822	445997	5943798	1,584.89	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Cotton Creek	COT01	446657	5942509	446442	5943294	1,134.09	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Cotton Creek	COT01	446269	5945751	446043	5947011	1,559.45	>90%	<15%	Yes	>15%	5-15%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Cotton Creek	COT01	446284	5945751	446125	5946739	1,268.62	>90%	>35%	No	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Deer Creek	DEE06	516129	5936764	516983	5935931	1,369.22	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	516137	5936776	516982	5935945	1,360.39	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE01	533874	5927137	533593	5926929	675.73	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE01	533333	5927700	533609	5926932	2,050.94	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE01	533332	5927686	533874	5927137	1,359.15	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE02	533072	5928237	533010	5928095	174.74	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Deer Creek	DEE02	532514	5928560	533154	5927752	1,434.66	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Deer Creek	DEE02	532517	5928575	533072	5928237	753.35	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE02	532169	5929294	532514	5928560	942.25	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE02	532184	5929295	532517	5928575	922.52	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE02	531817	5930139	532007	5929734	723.47	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE02	531831	5930142	532029	5929740	715.16	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE02	531772	5930392	531817	5930139	290.02	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE02	531771	5930406	531831	5930142	310.92	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE02	532007	5929734	532164	5929303	536.69	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE02	532029	5929740	532180	5929303	548.34	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Deer Creek	DEE02	531496	5930386	531763	5930407	310.92	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Deer Creek	DEE02	531338	5930074	531763	5930393	784.41	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE02	530546	5929660	531496	5930386	1,678.35	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE02	530079	5929696	531338	5930074	1,944.61	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE02	530078	5929710	530546	5929660	739.63	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Deer Creek	DEE02	527351	5931985	530063	5929696	4,230.09	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE02	528853	5930814	530064	5929710	2,049.03	>90%	15-35%	Yes	<5%	<5%	Stable	Diverse/Complex	21	22	95.45	Good
Deer Creek	DEE02	527358	5931998	528853	5930814	2,173.38	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE05	525816	5933049	525989	5932639	449.93	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Deer Creek	DEE05	525616	5933555	525816	5933049	546.91	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE05	525348	5933566	525976	5932632	1,332.02	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Deer Creek	DEE05	525334	5933563	525616	5933555	375.22	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Deer Creek	DEE06	524640	5932955	525134	5933168	735.15	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	523522	5933380	525167	5933379	2,457.13	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	523523	5933366	524334	5933096	1,097.28	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	524334	5933096	524640	5932955	386.43	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Deer Creek	DEE06	522344	5933650	523514	5933365	1,546.38	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	522344	5933665	523515	5933379	1,546.37	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	521245	5933877	522338	5933651	1,175.12	>90%	<15%	No	>15%	>15%	Stable	Moderately Diverse/Complex	8	22	36.36	Poor
Deer Creek	DEE06	521247	5933905	522337	5933666	1,157.64	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Deer Creek	DEE06	520264	5933763	521245	5933877	1,204.88	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	520262	5933789	521247	5933905	1,229.63	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Deer Creek	DEE06	519928	5933781	520253	5933772	440.58	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Deer Creek	DEE06	519070	5934151	519928	5933781	1,304.13	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Deer Creek	DEE06	519078	5934163	520253	5933786	1,734.77	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Deer Creek	DEE06	518690	5934606	519078	5934163	964.36	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	518679	5934618	519070	5934151	990.29	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	518630	5935020	518679	5934618	440.84	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE06	518631	5935034	518690	5934606	475.00	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE06	518317	5935078	518616	5935021	335.61	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Deer Creek	DEE06	518324	5935090	518616	5935035	328.20	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Deer Creek	DEE06	517817	5935380	518317	5935078	658.57	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	517817	5935394	518324	5935090	665.83	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	517192	5935682	517812	5935381	733.86	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Deer Creek	DEE06	517206	5935682	517812	5935396	711.23	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Deer Creek	DEE06	516988	5935929	517190	5935693	315.82	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE06	516990	5935943	517203	5935695	333.33	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE02	533010	5928095	533333	5927700	699.46	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE02	533154	5927752	533332	5927686	193.94	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE03	526587	5932255	527358	5931998	834.62	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Deer Creek	DEE03	526115	5932480	527351	5931985	1,359.89	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE03	526117	5932494	526587	5932255	529.08	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Deer Creek	DEE04	525985	5932621	526115	5932480	215.52	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Deer Creek	DEE04	525976	5932632	525985	5932621	14.40	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Deer Creek	DEE04	525989	5932639	526117	5932494	217.38	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Deer Creek	DEE06	525167	5933379	525334	5933563	279.05	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Deer Creek	DEE06	525134	5933168	525348	5933566	538.21	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Holden Creek	HOL08	415981	5895387	416798	5896214	1,602.66	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	410262	5891041	411531	5889852	1,763.32	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Creek	HOL08	415981	5895401	416801	5896229	1,606.10	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Creek	HOL10	410253	5891031	411535	5889837	1,777.77	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Creek	HOL09	415167	5895327	415506	5895298	380.76	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL01	429916	5901573	430113	5902071	1,164.32	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL01	430149	5902025	430135	5902520	1,165.07	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Holden Creek	HOL01	429223	5901338	429902	5901585	1,314.75	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	428278	5901036	428765	5901364	932.21	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Holden Creek	HOL02	428279	5901022	428814	5901308	997.79	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Holden Creek	HOL02	427784	5900705	427987	5900974	533.14	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Holden Creek	HOL02	427798	5900704	427985	5900959	508.78	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Holden Creek	HOL02	427987	5900974	428274	5901035	328.75	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	427985	5900959	428275	5901021	331.03	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	427987	5899575	428163	5900112	979.28	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Holden Creek	HOL02	428002	5899590	428167	5900093	949.96	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Holden Creek	HOL02	426643	5898512	428002	5899590	3,397.83	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	426627	5898455	427987	5899575	3,475.90	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	426600	5897832	426601	5897978	147.42	<75%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	4	22	18.18	Poor
Holden Creek	HOL02	427888	5900297	427784	5900697	519.55	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Holden Creek	HOL02	427902	5900300	427798	5900696	516.97	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Holden Creek	HOL02	428168	5900215	427888	5900297	380.07	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	428182	5900224	427902	5900300	375.13	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	428163	5900112	428168	5900215	161.26	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Holden Creek	HOL02	428167	5900093	428182	5900224	193.21	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Holden Creek	HOL02	426601	5897978	426627	5898455	662.23	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Holden Creek	HOL02	426612	5897919	426643	5898512	796.54	>90%	15-35%	No	>15%	5-15%	Stable	Moderately Diverse/Complex	11	22	50	Fair
Holden Creek	HOL02	426584	5897483	426600	5897832	604.30	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Holden Creek	HOL02	426599	5897482	426612	5897915	688.00	>90%	<15%	No	>15%	5-15%	Stable	Moderately Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	426566	5896238	426580	5897476	1,693.26	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	426571	5896210	426596	5897476	1,701.89	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	424949	5896071	426561	5896224	2,338.03	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	424951	5896085	426560	5896238	2,347.18	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	424660	5895892	424937	5896089	382.70	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	424615	5895855	424660	5895892	58.74	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Holden Creek	HOL02	424684	5895892	424937	5896074	355.00	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	424624	5895844	424684	5895892	77.46	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Holden Creek	HOL02	423648	5895712	424615	5895855	1,109.52	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	423657	5895700	424624	5895844	1,110.32	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL03	423380	5895606	423648	5895712	288.16	<75%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	4	22	18.18	Poor
Holden Creek	HOL04	423343	5895547	423354	5895569	24.64	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Creek	HOL04	423359	5895577	423380	5895606	35.90	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Creek	HOL03	423390	5895595	423657	5895700	286.65	<75%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	4	22	18.18	Poor
Holden Creek	HOL04	423356	5895542	423367	5895561	22.47	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Creek	HOL04	423372	5895572	423390	5895595	29.72	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Creek	HOL04	423311	5895473	423336	5895535	68.09	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Creek	HOL04	423311	5895455	423348	5895527	83.89	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Creek	HOL04	423007	5895233	423302	5895468	421.15	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Creek	HOL04	423000	5895221	423302	5895454	427.97	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Creek	HOL05	421776	5895338	423000	5895221	1,385.28	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL05	421779	5895352	423007	5895233	1,390.13	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL06	421246	5895396	421675	5895354	468.90	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL06	421248	5895382	421675	5895340	467.14	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL06	420742	5895436	421246	5895396	584.83	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Creek	HOL06	420734	5895424	421248	5895382	594.40	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Creek	HOL06	420062	5895967	420742	5895436	1,162.71	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL06	420063	5895953	420734	5895424	1,154.27	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL06	418423	5895854	420055	5895953	1,722.90	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Holden Creek	HOL06	418423	5895869	420056	5895967	1,723.49	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Holden Creek	HOL06	417927	5895837	418416	5895852	530.29	>90%	<15%	No	5-15%	5-15%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL06	417928	5895851	418416	5895867	529.34	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL07	417359	5895994	417836	5895852	506.03	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL07	417368	5896005	417898	5895853	560.01	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL08	416814	5896230	417368	5896005	725.01	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL08	416814	5896216	417349	5896004	701.53	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Holden Creek	HOL08	415489	5895375	415981	5895387	517.33	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Holden Creek	HOL08	415482	5895395	415981	5895401	518.28	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Holden Creek	HOL08	415490	5895299	415482	5895395	107.87	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL08	415501	5895311	415489	5895375	75.51	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL09	415167	5895341	415490	5895299	358.62	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	415391	5894431	415506	5895298	1,685.50	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Holden Creek	HOL10	415405	5894429	415501	5895311	1,713.36	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Holden Creek	HOL10	415147	5894259	415389	5894422	303.06	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	415145	5894242	415404	5894422	327.58	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	414389	5894381	415139	5894254	972.30	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	414376	5894367	415138	5894238	982.66	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	414807	5893255	414310	5893941	1,063.51	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Holden Creek	HOL10	414836	5893367	414316	5893961	962.34	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Holden Creek	HOL10	414316	5893961	414376	5894367	741.22	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Holden Creek	HOL10	414310	5893941	414389	5894381	789.31	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Holden Creek	HOL10	413788	5891223	414807	5893255	3,217.29	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	413802	5891224	414836	5893367	3,331.68	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	413621	5890411	413788	5891214	1,421.89	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	413639	5890427	413802	5891214	1,405.33	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	413443	5890092	413621	5890411	581.37	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Holden Creek	HOL10	413443	5890072	413639	5890427	624.71	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Holden Creek	HOL10	413324	5890046	413436	5890084	119.22	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Holden Creek	HOL10	413305	5890013	413437	5890070	146.10	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Holden Creek	HOL10	413236	5889959	413324	5890046	125.06	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	413229	5889939	413305	5890013	107.87	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Holden Creek	HOL10	411801	5889541	413236	5889959	1,633.16	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	411802	5889524	413229	5889939	1,622.78	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	411651	5889695	411794	5889545	214.06	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Holden Creek	HOL10	411643	5889677	411794	5889529	217.27	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL10	411535	5889837	411643	5889677	200.19	>90%	15-35%	No	<5%	<5%	Stable	Not Diverse/Complex	15	22	68.18	Fair
Holden Creek	HOL10	411531	5889852	411651	5889695	206.69	>90%	15-35%	No	<5%	<5%	Stable	Not Diverse/Complex	15	22	68.18	Fair
Holden Creek	HOL01	429917	5901587	430149	5902025	1,054.21	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL01	430113	5902071	430151	5902518	1,072.96	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Holden Creek	HOL09	415127	5895328	415159	5895327	31.59	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL09	415128	5895342	415159	5895341	30.89	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	428765	5901364	429223	5901338	915.51	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL01	429243	5901335	429902	5901571	1,299.82	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL02	428814	5901308	429233	5901324	861.37	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL06	421683	5895355	421779	5895352	96.41	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL06	421683	5895341	421776	5895338	94.52	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL07	417836	5895852	417927	5895837	92.81	>90%	<15%	No	5-15%	5-15%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL07	417898	5895853	417928	5895851	30.28	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Creek	HOL08	417349	5896004	417359	5895994	13.69	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL18	406423	5885147	405963	5887740	2,787.20	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL19	406761	5882084	406072	5884878	2,989.09	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Holden Drainage	HOL19	406762	5882107	406089	5884878	2,963.39	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	424846	5889485	426488	5890686	2,467.37	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	424847	5889500	426488	5890700	2,466.94	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL11	429837	5900673	429243	5901335	1,437.53	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	428133	5891353	428583	5891217	511.13	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	428403	5891279	428567	5891222	189.84	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	428583	5891217	428891	5891089	442.61	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	428567	5891222	428890	5891075	468.33	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	428890	5891075	429147	5891326	531.67	>90%	15-35%	Yes	>15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Holden Drainage	HOL15	428891	5891089	429133	5891332	514.51	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Holden Drainage	HOL14	429240	5891366	429279	5891916	595.71	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Drainage	HOL14	429231	5891377	429265	5891916	582.79	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL13	429279	5891916	429284	5891971	54.97	<75%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	4	22	18.18	Poor
Holden Drainage	HOL13	429265	5891916	429270	5891963	47.13	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL21	412584	5871583	412370	5871592	213.81	>90%	>35%	No	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Holden Drainage	HOL21	412584	5871597	412371	5871606	214.04	>90%	>35%	Yes	>15%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Holden Drainage	HOL21	412371	5871606	412085	5871850	394.56	>90%	>35%	Yes	5-15%	5-15%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Holden Drainage	HOL21	412370	5871592	412072	5871842	407.64	>90%	15-35%	No	>15%	>15%	Stable	Not Diverse/Complex	7	22	31.82	Poor
Holden Drainage	HOL21	412072	5871842	412253	5872647	925.65	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL21	412085	5871850	412266	5872652	921.91	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL21	412266	5872652	411833	5875061	2,659.00	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL21	412253	5872647	411819	5875061	2,663.37	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL21	411835	5875072	411610	5878298	3,341.08	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL21	411821	5875072	411596	5878298	3,341.00	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL21	411610	5878305	412470	5881521	3,640.32	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL21	411596	5878306	412456	5881520	3,639.59	>90%	15-35%	No	>15%	>15%	Stable	Not Diverse/Complex	7	22	31.82	Poor
Holden Drainage	HOL21	412470	5881527	411737	5884774	3,465.94	>90%	<15%	No	5-15%	>15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Drainage	HOL21	412456	5881528	411721	5884773	3,465.13	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL21	411732	5884782	413372	5886751	3,005.24	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL21	411714	5884784	413372	5886767	3,025.88	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL21	413381	5886756	414206	5887710	1,399.04	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL21	413382	5886773	414191	5887703	1,369.61	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	413401	5887821	414191	5887703	847.97	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL17	405263	5887489	405678	5887631	585.90	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Holden Drainage	HOL16	412757	5887996	413396	5887836	667.34	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	412740	5887995	413396	5887822	689.53	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	411777	5888201	412752	5888004	1,029.81	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	411776	5888187	412735	5888005	1,006.72	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	411175	5888416	411768	5888188	635.97	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	411184	5888427	411769	5888202	626.94	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	411028	5888550	411175	5888416	202.54	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	411039	5888559	411184	5888427	199.74	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Holden Drainage	HOL16	410766	5888844	411028	5888550	394.12	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	410779	5888852	411039	5888559	392.13	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	410163	5888976	410779	5888852	682.70	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Holden Drainage	HOL16	410163	5888962	410766	5888844	668.30	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL16	409455	5888892	409998	5888984	567.08	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Holden Drainage	HOL16	409454	5888878	409996	5888970	565.65	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Holden Drainage	HOL16	409996	5888970	410153	5888962	157.20	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL16	409998	5888984	410154	5888976	157.01	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL16	408529	5888744	409454	5888878	938.40	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	408530	5888758	409455	5888892	937.41	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	406895	5888484	408522	5888744	1,702.75	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	406894	5888498	408523	5888758	1,704.89	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	405937	5888125	406887	5888497	1,112.38	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	405951	5888125	406886	5888483	1,090.04	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	405948	5887744	405936	5888120	375.65	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL17	405259	5887476	405665	5887624	574.67	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Holden Drainage	HOL18	406408	5885149	405949	5887728	2,773.52	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL20	407785	5884248	407406	5884852	754.47	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL20	407793	5884259	407421	5884852	740.98	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL20	406815	5884941	406418	5885128	548.20	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL20	407405	5884860	406823	5884945	632.30	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL20	407419	5884859	406822	5884961	654.85	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL17	405774	5887581	405892	5887707	188.10	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Holden Drainage	HOL17	405785	5887570	405903	5887698	188.64	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Holden Drainage	HOL17	405678	5887631	405774	5887581	126.54	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL17	405665	5887624	405785	5887570	153.01	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL17	405236	5887477	405259	5887476	23.35	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL17	405236	5887492	405263	5887489	27.67	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL17	405216	5887493	405229	5887492	13.17	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL17	405215	5887479	405229	5887478	14.15	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL19	407568	5880418	407468	5880845	463.83	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Holden Drainage	HOL19	407556	5880410	407461	5880832	456.14	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Holden Drainage	HOL19	407023	5881631	406769	5882071	508.97	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL19	407039	5881630	406770	5882095	537.54	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL19	407135	5881456	407045	5881620	187.83	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL19	407121	5881453	407030	5881619	189.39	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL19	407301	5880924	407121	5881453	592.97	>90%	<15%	N/A	>15%	>15%	Stable	Not Diverse/Complex	6	20	30	Poor
Holden Drainage	HOL19	407315	5880929	407135	5881456	591.18	>90%	<15%	N/A	>15%	>15%	Stable	Not Diverse/Complex	6	20	30	Poor
Holden Drainage	HOL19	407917	5880459	407568	5880418	387.74	>90%	N/A	N/A	>15%	>15%	Stable	Not Diverse/Complex	6	18	33.33	Poor
Holden Drainage	HOL19	407919	5880445	407556	5880410	404.80	>90%	N/A	N/A	>15%	>15%	Stable	Not Diverse/Complex	6	18	33.33	Poor
Holden Drainage	HOL19	407468	5880845	407315	5880929	176.53	>90%	N/A	N/A	>15%	>15%	Stable	Not Diverse/Complex	6	18	33.33	Poor
Holden Drainage	HOL19	407461	5880832	407301	5880924	187.66	>90%	N/A	N/A	>15%	>15%	Stable	Not Diverse/Complex	6	18	33.33	Poor
Holden Drainage	HOL15	414199	5887723	415021	5887905	859.21	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	414206	5887710	415021	5887891	851.97	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	415030	5887906	416669	5888550	1,895.25	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	415030	5887892	416669	5888533	1,893.37	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	416669	5888550	418297	5888299	1,762.73	>90%	<15%	No	>15%	>15%	Stable	Moderately Diverse/Complex	8	22	36.36	Poor
Holden Drainage	HOL15	416669	5888533	418296	5888285	1,764.14	>90%	<15%	No	>15%	>15%	Stable	Moderately Diverse/Complex	8	22	36.36	Poor

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		Easting	Northing	Easting	Northing												
Holden Drainage	HOL15	418304	5888286	419111	5888162	828.02	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	418304	5888300	419112	5888176	828.75	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	419112	5888176	419738	5887878	721.83	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	419111	5888162	419721	5887879	698.96	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	419743	5887871	419917	5887811	189.01	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	419725	5887872	419917	5887797	212.62	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	419925	5887811	420997	5887851	1,143.41	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Drainage	HOL15	419924	5887797	421013	5887849	1,165.26	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Drainage	HOL15	421002	5887857	421359	5887852	400.20	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	421019	5887857	421341	5887852	352.56	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	421347	5887845	421545	5887621	302.06	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	421366	5887844	421546	5887640	273.26	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	421552	5887633	423177	5887615	1,684.77	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	421551	5887616	423175	5887601	1,682.05	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	423186	5887616	423376	5887810	288.99	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	423186	5887602	423391	5887809	310.89	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	423377	5887817	424841	5889498	2,755.22	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	423392	5887818	424841	5889484	2,732.70	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	427394	5891180	428014	5891321	712.85	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	427261	5891135	428015	5891335	857.34	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	426495	5890700	427004	5890989	600.51	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	426495	5890686	427018	5890990	623.77	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	427019	5890998	427263	5891120	332.11	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	427005	5890999	427261	5891135	350.85	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	427263	5891120	427394	5891180	144.74	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Holden Drainage	HOL15	428015	5891335	428130	5891353	117.71	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	428014	5891321	428129	5891339	117.63	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL15	428129	5891339	428134	5891339	4.86	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	428130	5891353	428133	5891353	3.78	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	428134	5891339	428246	5891330	112.02	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	428246	5891330	428403	5891279	181.84	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL13	429284	5891971	428975	5892303	616.03	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Holden Drainage	HOL13	429270	5891963	428972	5892289	605.26	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Holden Drainage	HOL13	428972	5892289	428978	5892610	610.98	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL13	428975	5892303	428994	5892601	578.29	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL13	428977	5892626	428980	5892657	30.44	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL13	428991	5892619	428993	5892649	29.65	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL13	428982	5892663	429213	5892984	841.70	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Holden Drainage	HOL13	428994	5892656	429244	5892986	839.03	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Holden Drainage	HOL13	429213	5892984	429050	5893321	581.23	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Holden Drainage	HOL13	429244	5892986	428996	5893462	821.97	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Holden Drainage	HOL13	429050	5893321	429461	5893755	1,406.13	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Holden Drainage	HOL13	428996	5893462	429474	5893761	1,182.51	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Holden Drainage	HOL13	429461	5893755	429256	5894190	777.25	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Holden Drainage	HOL13	429474	5893761	429270	5894191	774.32	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Holden Drainage	HOL12	429204	5894315	429089	5894639	413.66	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL12	429218	5894310	429098	5894625	402.39	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL12	429098	5894625	429451	5895079	787.51	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Holden Drainage	HOL12	429089	5894639	429447	5895066	754.88	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Holden Drainage	HOL11	429505	5895959	429494	5897432	1,979.72	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Drainage	HOL11	429510	5895946	429508	5897430	1,993.79	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Drainage	HOL11	429351	5895575	429510	5895946	789.02	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Holden Drainage	HOL11	429345	5895591	429505	5895959	789.02	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Holden Drainage	HOL11	429492	5897442	429360	5897916	506.68	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL11	429507	5897439	429326	5897931	565.47	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL11	429360	5897916	429185	5898051	322.66	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Holden Drainage	HOL11	429326	5897931	429196	5898043	257.95	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Holden Drainage	HOL11	429196	5898043	429274	5898095	101.01	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL11	429185	5898051	429282	5898130	135.07	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL11	429282	5898130	429330	5898146	52.95	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Holden Drainage	HOL11	429274	5898095	429332	5898131	75.48	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Holden Drainage	HOL11	429330	5898146	429849	5899486	1,885.28	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL11	429332	5898131	429863	5899485	1,904.14	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL11	429849	5899490	429848	5899839	349.28	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL11	429863	5899490	429861	5899846	356.06	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL11	429848	5899839	429825	5900666	1,370.03	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL11	429861	5899846	429839	5900666	1,363.95	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL11	429823	5900673	429233	5901324	1,424.83	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL12	429451	5895079	429351	5895575	730.91	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Holden Drainage	HOL12	429447	5895066	429345	5895591	766.24	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Holden Drainage	HOL13	429254	5894200	429204	5894315	150.17	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL13	429268	5894200	429218	5894310	145.88	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL15	429147	5891326	429240	5891366	102.03	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Holden Drainage	HOL15	429133	5891332	429231	5891377	109.35	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL16	413402	5887835	414199	5887723	856.75	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL17	405892	5887707	405948	5887744	67.55	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Holden Drainage	HOL17	405903	5887698	405949	5887728	54.74	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL19	406077	5884886	406408	5885149	496.37	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL20	406815	5884957	406423	5885147	545.25	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL16	405963	5887740	405950	5888119	378.64	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Holden Drainage	HOL19	406094	5884885	406418	5885128	474.03	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Irish Creek	IRI05	510118	5959569	511399	5958322	1,863.58	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI05	510699	5959104	511413	5958322	1,085.85	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI01	537758	5942151	538159	5942096	865.52	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI01	536497	5942864	537554	5942271	1,865.23	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI01	537606	5942340	538154	5942111	1,377.32	>90%	<15%	No	>15%	5-15%	Moderately Unstable	Not Diverse/Complex	6	22	27.27	Poor
Irish Creek	IRI01	537554	5942271	537758	5942151	686.14	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI01	536496	5942879	537033	5942735	686.81	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Irish Creek	IRI01	537033	5942735	537606	5942340	1,263.81	>90%	<15%	Yes	>15%	<5%	Moderately Unstable	Not Diverse/Complex	10	22	45.45	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Irish Creek	IRI01	535729	5942869	536480	5942866	908.16	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI01	534860	5943494	535729	5942869	2,143.93	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI01	534861	5943508	535627	5943024	1,821.88	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Irish Creek	IRI01	535938	5942900	536485	5942880	692.28	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Irish Creek	IRI01	535627	5943024	535938	5942900	543.89	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Irish Creek	IRI01	534417	5943905	534854	5943495	788.69	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Irish Creek	IRI01	533306	5945502	534417	5943905	3,074.81	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI01	534037	5944304	534853	5943509	1,588.08	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI01	533223	5945589	533319	5945509	131.74	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Irish Creek	IRI01	533222	5945575	533305	5945509	109.49	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI01	533321	5945502	533486	5944997	1,106.71	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Irish Creek	IRI01	533486	5944997	534037	5944304	1,155.98	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Irish Creek	IRI01	532581	5945797	533215	5945589	982.42	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI01	531990	5946111	533216	5945575	1,804.88	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI01	531595	5945949	531834	5946025	260.16	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Irish Creek	IRI01	532248	5946121	532581	5945797	540.39	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Irish Creek	IRI01	531595	5945963	531832	5946040	259.15	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Irish Creek	IRI01	531834	5946025	531990	5946111	180.31	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI01	531832	5946040	532248	5946121	463.24	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Irish Creek	IRI01	530763	5946164	531584	5945963	1,001.10	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Irish Creek	IRI01	530759	5946151	531584	5945949	1,004.96	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Irish Creek	IRI01	529966	5946157	530759	5946151	951.63	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Irish Creek	IRI01	529968	5946171	530763	5946164	953.31	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Irish Creek	IRI01	529196	5946116	529956	5946171	1,451.88	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI02	528541	5945653	529449	5945733	1,944.32	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Irish Creek	IRI02	528098	5945464	529571	5945480	2,229.32	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI02	527527	5945219	528098	5945457	1,141.29	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI02	527525	5945204	528112	5945457	1,164.49	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Irish Creek	IRI02	526729	5945205	527527	5945219	1,187.87	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI02	526729	5945191	527525	5945204	1,187.05	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Irish Creek	IRI02	525515	5945157	526722	5945190	1,684.74	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI02	525426	5945232	526720	5945204	1,842.55	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI01	529291	5946063	529956	5946157	1,597.19	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI01	529436	5945738	529196	5946116	922.54	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI02	528112	5945465	528541	5945653	683.66	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Irish Creek	IRI02	525036	5945440	525426	5945232	573.34	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Irish Creek	IRI02	525021	5945440	525515	5945157	750.40	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Irish Creek	IRI02	524131	5946269	525034	5945448	1,473.69	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Irish Creek	IRI02	524112	5946204	525020	5945448	1,402.27	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Irish Creek	IRI02	523463	5946774	524131	5946269	950.44	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI02	523463	5946760	524112	5946204	999.27	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI02	521837	5948652	523455	5946775	2,875.00	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI02	521828	5948641	523457	5946761	2,886.97	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Irish Creek	IRI03	520839	5949286	521470	5948978	793.75	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Irish Creek	IRI03	520833	5949274	521422	5948954	733.55	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Irish Creek	IRI03	520191	5949421	520839	5949286	797.18	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Irish Creek	IRI03	520189	5949407	520833	5949274	793.71	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Irish Creek	IRI03	521470	5948978	521794	5948707	453.19	>90%	>35%	No	<5%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Irish Creek	IRI03	521422	5948954	521781	5948701	502.75	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI03	519501	5950270	520181	5949407	1,264.00	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI03	519516	5950268	520183	5949421	1,242.45	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI03	518554	5951345	519516	5950268	1,598.72	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Irish Creek	IRI03	518554	5951331	519501	5950270	1,574.85	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Irish Creek	IRI03	517949	5951861	518539	5951345	963.05	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI03	517934	5951863	518538	5951331	985.71	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI03	517768	5952145	517946	5951872	331.94	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI03	517760	5952133	517932	5951871	319.40	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI03	517007	5952915	517768	5952145	1,129.03	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Irish Creek	IRI03	516997	5952904	517760	5952133	1,130.93	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Irish Creek	IRI03	516668	5953220	516997	5952904	480.67	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Irish Creek	IRI03	516667	5953234	517007	5952915	493.17	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI03	516552	5953474	516655	5953236	274.48	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI03	516541	5953463	516655	5953221	285.35	>90%	>35%	Yes	<5%	5-15%	Stable	Diverse/Complex	20	22	90.91	Good
Irish Creek	IRI03	515026	5954906	515890	5954153	1,214.03	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI03	515027	5954892	515886	5954137	1,211.11	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI03	516191	5953785	516552	5953474	506.16	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI03	515886	5954137	516312	5953707	647.72	>90%	>35%	No	<5%	<5%	Stable	Not Diverse/Complex	16	22	72.73	Fair
Irish Creek	IRI03	515890	5954153	516191	5953785	503.92	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Irish Creek	IRI03	516312	5953707	516541	5953463	353.73	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI03	514423	5955078	515017	5954906	795.95	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Irish Creek	IRI03	514405	5955080	515017	5954892	821.75	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI05	513394	5956337	514398	5955118	1,599.46	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Irish Creek	IRI05	513395	5956322	514387	5955110	1,585.61	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI05	513076	5956609	513383	5956338	411.13	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Irish Creek	IRI05	512280	5957478	513076	5956609	1,204.60	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI05	511755	5957796	513383	5956324	2,269.14	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI05	511755	5957811	512280	5957478	653.44	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Irish Creek	IRI05	511414	5958312	511741	5957815	609.20	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Irish Creek	IRI05	511400	5958311	511743	5957800	633.48	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI05	509335	5959798	510103	5959569	918.86	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI05	509342	5959811	509735	5959734	491.12	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI05	510116	5959583	510699	5959104	802.01	>90%	>35%	No	5-15%	<5%	Stable	Diverse/Complex	18	22	81.82	Good
Irish Creek	IRI05	508850	5959965	509335	5959798	588.05	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Irish Creek	IRI05	508863	5959971	509342	5959811	579.05	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Irish Creek	IRI05	509735	5959734	510103	5959583	421.16	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Irish Creek	IRI02	529571	5945480	529436	5945738	403.83	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI01	529449	5945733	529291	5946063	769.95	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Irish Creek	IRI03	514398	5955118	514413	5955094	28.96	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Irish Creek	IRI03	514387	5955110	514397	5955093	19.39	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Irish Creek	IRI01	538154	5942111	538176	5942160	57.20	>90%	<15%	No	>15%	5-15%	Moderately Unstable	Not Diverse/Complex	6	22	27.27	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Irish River	IRI02	521794	5948707	521813	5948679	33.49	>90%	>35%	No	<5%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Irish River	IRI02	521803	5948669	521781	5948701	38.65	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Lamont Creek	LAM03	411096	5955931	412185	5957540	2,530.36	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	411081	5955932	412187	5957555	2,553.69	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM01	431564	5945949	432025	5945754	1,043.09	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM01	431581	5945949	432024	5945768	1,021.92	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM01	431182	5946016	431569	5945958	722.77	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Lamont Creek	LAM01	431184	5946030	431583	5945956	745.63	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM01	429903	5946310	431174	5946016	2,533.88	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM01	429898	5946323	431174	5946030	2,537.32	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	428636	5947837	429543	5946502	1,883.49	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	427956	5948127	429546	5946516	2,855.00	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	427955	5948113	428636	5947837	968.90	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Lamont Creek	LAM03	427958	5948889	427947	5948127	988.58	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Lamont Creek	LAM03	427958	5948903	427946	5948113	1,032.32	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	428124	5949231	427967	5948906	451.38	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	428138	5949231	427966	5948891	474.42	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	427979	5949630	428125	5949239	566.23	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Lamont Creek	LAM03	427977	5949645	428139	5949238	591.43	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Lamont Creek	LAM03	427416	5950848	427970	5949632	1,878.54	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	427426	5950859	427969	5949648	1,866.24	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	427191	5951333	427416	5950848	785.68	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Lamont Creek	LAM03	427199	5951346	427426	5950859	788.66	>90%	>35%	No	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Lamont Creek	LAM03	426393	5952045	426900	5952068	622.87	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Lamont Creek	LAM03	426392	5952059	426907	5952082	632.68	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	427204	5951725	427199	5951346	512.26	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Lamont Creek	LAM03	427204	5951739	427191	5951333	548.71	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	427215	5952085	427204	5951739	716.56	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Lamont Creek	LAM03	427210	5952099	427204	5951725	765.60	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Lamont Creek	LAM03	426900	5952068	427007	5952047	351.79	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Lamont Creek	LAM03	426907	5952082	426991	5952054	326.94	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Lamont Creek	LAM03	427007	5952047	427215	5952085	231.92	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	426991	5952054	427210	5952099	245.76	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	424774	5952305	426385	5952045	1,898.28	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	424774	5952319	426386	5952059	1,899.23	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	424651	5952478	424767	5952320	212.54	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Lamont Creek	LAM03	424637	5952478	424765	5952306	233.69	>90%	15-35%	No	>15%	5-15%	Stable	Not Diverse/Complex	9	22	40.91	Poor
Lamont Creek	LAM03	423575	5953722	424636	5952487	1,976.36	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	423575	5953736	424650	5952487	1,996.80	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	423089	5954507	423567	5953721	984.54	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	422883	5954880	423567	5953735	1,416.10	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	422636	5955285	422866	5954881	475.42	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	422653	5955286	422883	5954880	476.41	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	422490	5955701	422636	5955285	450.23	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Lamont Creek	LAM03	422505	5955701	422653	5955286	451.42	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Lamont Creek	LAM03	422866	5954881	423089	5954507	454.89	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Lamont Creek	LAM03	421980	5956239	422490	5955710	879.33	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Lamont Creek	LAM03	421979	5956253	422504	5955711	901.79	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Lamont Creek	LAM03	420382	5958229	421449	5957012	1,711.56	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	420381	5958243	421450	5957030	1,711.92	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	421659	5956706	421971	5956239	628.16	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	421677	5956725	421972	5956253	625.62	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	421449	5957012	421659	5956706	412.62	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Lamont Creek	LAM03	421450	5957030	421677	5956725	416.28	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Lamont Creek	LAM03	419540	5958641	420083	5958386	663.27	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	419559	5958643	420087	5958400	643.60	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	420083	5958386	420373	5958229	469.39	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Lamont Creek	LAM03	420087	5958400	420373	5958243	465.88	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Lamont Creek	LAM03	419311	5958971	419540	5958641	421.74	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Lamont Creek	LAM03	419325	5958982	419559	5958643	433.26	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Lamont Creek	LAM03	418764	5959119	419312	5959008	601.07	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	418766	5959133	419326	5959006	624.39	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	417157	5960214	418325	5959828	1,620.70	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	417155	5960200	418210	5959860	1,495.52	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	418680	5959415	418755	5959136	298.09	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Lamont Creek	LAM03	418660	5959420	418755	5959121	327.76	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Lamont Creek	LAM03	418210	5959860	418660	5959420	646.55	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Lamont Creek	LAM03	418325	5959828	418680	5959415	549.26	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Lamont Creek	LAM03	416832	5959864	417149	5960213	498.20	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	416850	5959864	417148	5960199	473.02	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	416334	5959385	416832	5959864	789.29	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Lamont Creek	LAM03	416334	5959370	416850	5959864	813.86	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Lamont Creek	LAM03	415503	5959191	416334	5959385	899.93	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	415502	5959176	416334	5959370	899.98	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	415003	5959092	415495	5959179	531.16	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	414989	5959091	415496	5959194	554.41	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	413856	5958450	414988	5959070	1,359.65	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	413856	5958436	415002	5959066	1,378.14	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	413041	5958148	413845	5958449	865.40	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	413041	5958132	413846	5958435	866.43	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	412789	5958041	413041	5958148	276.87	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Lamont Creek	LAM03	412765	5958020	413041	5958132	302.64	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Lamont Creek	LAM03	412205	5957558	412789	5958041	853.73	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	412212	5957545	412765	5958020	820.74	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	408880	5955077	409691	5954922	1,047.33	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Lamont Creek	LAM03	408878	5955063	409691	5954905	1,048.13	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Lamont Creek	LAM03	410750	5955045	411077	5955917	1,006.62	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	410756	5955032	411091	5955915	1,020.84	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	410515	5954959	410750	5955045	255.22	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Lamont Creek	LAM03	410514	5954945	410756	5955032	262.16	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Lamont Creek	LAM03	409999	5955085	410505	5954959	537.30	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	410005	5955072	410505	5954945	531.84	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	409691	5954922	409999	5955085	355.40	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Lamont Creek	LAM03	409691	5954905	410005	5955072	362.10	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Lamont Creek	LAM03	408668	5954532	408871	5955077	592.25	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	408684	5954545	408872	5955063	558.52	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	408777	5954156	408668	5954532	423.17	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Lamont Creek	LAM03	408786	5954167	408684	5954545	424.66	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Lamont Creek	LAM03	429556	5946515	429898	5946323	490.09	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Lamont Creek	LAM03	429558	5946501	429903	5946310	493.02	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR03	545459	5927931	544765	5928284	990.06	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR03	546174	5928154	544768	5928298	1,993.61	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR01	540614	5929164	540631	5928898	440.65	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Marwayne Creek	MAR01	540628	5929163	540636	5928882	458.86	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Marwayne Creek	MAR02	541158	5929869	540972	5929542	467.97	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Marwayne Creek	MAR02	541459	5930050	540958	5929541	1,113.31	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR02	541473	5930048	541158	5929869	642.99	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Marwayne Creek	MAR01	540821	5929208	540628	5929173	355.58	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Marwayne Creek	MAR02	542414	5930655	541268	5930978	1,790.23	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR02	541461	5930843	541473	5930055	2,734.17	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Marwayne Creek	MAR02	543743	5929669	543117	5929645	967.99	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR02	543779	5929607	543118	5929631	1,033.80	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Marwayne Creek	MAR03	544544	5928590	544174	5928911	743.93	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Marwayne Creek	MAR03	544527	5928587	544176	5928925	768.97	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Marwayne Creek	MAR03	546483	5927809	546180	5928157	633.56	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR03	546471	5927802	546190	5928144	607.73	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR03	546183	5928142	545968	5928253	340.21	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Marwayne Creek	MAR03	545968	5928253	545459	5927931	675.52	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Marwayne Creek	MAR03	544754	5928299	544562	5928585	410.95	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR03	544755	5928285	544530	5928583	447.78	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR02	544199	5929405	543962	5929626	559.94	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR02	544185	5929405	543779	5929607	816.15	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Marwayne Creek	MAR02	543962	5929626	543743	5929669	345.01	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Marwayne Creek	MAR02	543110	5929631	542626	5930203	1,016.32	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR02	543110	5929645	542640	5930205	995.21	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR02	542640	5930205	542414	5930655	692.73	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Marwayne Creek	MAR02	542626	5930203	542357	5930528	513.99	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Marwayne Creek	MAR02	542357	5930528	541461	5930843	1,685.85	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR02	540914	5930815	541444	5930052	1,477.30	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Marwayne Creek	MAR02	541268	5930978	540914	5930815	996.77	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Marwayne Creek	MAR01	540958	5929541	540614	5929175	783.29	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Marwayne Creek	MAR01	540972	5929542	540821	5929208	430.01	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Marwayne Creek	MAR02	544176	5928925	544185	5929398	659.34	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Marwayne Creek	MAR02	544174	5928911	544199	5929398	682.95	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Mundare Creek	MUN05	413176	5938669	414796	5938858	1,724.72	>90%	>35%	Yes	<5%	<5%	Stable	Not Diverse/Complex	18	22	81.82	Good

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Mundare Creek	MUN05	413175	5938655	414795	5938844	1,724.22	>90%	>35%	Yes	<5%	<5%	Stable	Not Diverse/Complex	18	22	81.82	Good
Mundare Creek	MUN01	429065	5938958	429377	5939492	870.31	>90%	15-35%	Yes	5-15%	<5%	Stable	Diverse/Complex	19	22	86.36	Good
Mundare Creek	MUN01	429389	5939485	429126	5938970	798.03	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Mundare Creek	MUN01	427802	5938116	428943	5938868	2,275.81	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Mundare Creek	MUN01	427800	5938102	428970	5938863	2,304.51	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Mundare Creek	MUN01	428970	5938863	429126	5938970	216.54	>90%	<15%	No	>15%	5-15%	Stable	Moderately Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN01	428943	5938868	429065	5938958	158.79	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Mundare Creek	MUN03	426815	5936321	427023	5937791	2,166.10	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN02	427032	5937781	427793	5938101	1,310.23	>90%	15-35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	19	22	86.36	Good
Mundare Creek	MUN03	426829	5936321	426660	5937514	1,567.51	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN03	426694	5935846	426815	5936313	872.25	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN03	426707	5935838	426829	5936313	880.42	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN03	426143	5935989	426694	5935846	761.99	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Mundare Creek	MUN03	426141	5935975	426707	5935838	775.64	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Mundare Creek	MUN03	425055	5935526	426136	5935989	1,463.37	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN03	425069	5935528	426136	5935975	1,438.85	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN03	424958	5935055	425055	5935526	563.76	>90%	>35%	No	<5%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Mundare Creek	MUN03	425027	5935210	425069	5935528	362.94	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Mundare Creek	MUN03	424490	5934438	424958	5935055	1,252.94	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN03	424490	5934423	425027	5935210	1,477.71	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN03	422870	5935023	423802	5934607	1,306.85	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN03	423771	5934648	424483	5934420	845.41	>90%	>35%	Yes	>15%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Mundare Creek	MUN03	422869	5935009	423501	5934922	741.16	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Mundare Creek	MUN03	423501	5934922	423771	5934648	500.64	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN03	423802	5934607	424482	5934435	778.66	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Mundare Creek	MUN04	421268	5936481	422514	5935370	1,841.65	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Mundare Creek	MUN04	421268	5936495	422510	5935597	1,620.97	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN04	419975	5936941	421261	5936495	1,402.95	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Mundare Creek	MUN04	419646	5937041	421261	5936480	1,768.63	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Mundare Creek	MUN04	419647	5937055	419975	5936941	366.59	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Mundare Creek	MUN03	422573	5935297	422861	5935024	484.37	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN04	422510	5935597	422527	5935374	239.07	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Mundare Creek	MUN05	419040	5937417	419570	5937161	642.84	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Mundare Creek	MUN05	419036	5937404	419558	5937153	635.59	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Mundare Creek	MUN05	418058	5939230	419245	5938954	2,120.34	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Mundare Creek	MUN05	419272	5939180	419153	5938378	848.98	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Mundare Creek	MUN05	418057	5939216	419091	5939461	1,237.72	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN05	419091	5939461	419272	5939180	609.98	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Mundare Creek	MUN05	419245	5938954	419166	5938372	607.95	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Mundare Creek	MUN05	418907	5937944	419036	5937404	638.62	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN05	418906	5937924	419040	5937417	595.95	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN05	419153	5938378	418907	5937944	528.82	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Mundare Creek	MUN05	419166	5938372	418906	5937924	547.67	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Mundare Creek	MUN05	416817	5939440	418051	5939229	1,280.64	>90%	>35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Mundare Creek	MUN05	416841	5939430	418051	5939215	1,256.46	>90%	>35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Mundare Creek	MUN05	416430	5939334	416817	5939440	403.69	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN05	416429	5939320	416841	5939430	428.12	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN05	414803	5938857	416422	5939334	1,922.51	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN05	414804	5938843	416422	5939320	1,921.38	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN05	412135	5938480	413168	5938669	1,081.99	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Mundare Creek	MUN05	412137	5938466	413169	5938655	1,080.17	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Mundare Creek	MUN02	427023	5937791	427792	5938115	1,319.31	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Mundare Creek	MUN03	426660	5937514	427032	5937781	586.06	>90%	15-35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	19	22	86.36	Good
Mundare Creek	MUN03	422527	5935374	422573	5935297	97.40	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Mundare Creek	MUN03	422514	5935370	422861	5935010	598.65	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Mundare Creek	MUN04	419570	5937161	419641	5937055	132.24	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Mundare Creek	MUN04	419558	5937153	419640	5937041	144.44	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Mundare Creek	MUN01	429377	5939492	429380	5939507	15.81	>90%	15-35%	Yes	5-15%	<5%	Stable	Diverse/Complex	19	22	86.36	Good
Mundare Creek	MUN01	429389	5939485	429394	5939506	22.21	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Stretton Creek	STR03	549468	5910756	550805	5911534	1,734.50	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR03	549481	5910751	550819	5911529	1,736.08	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Stretton Creek	STR01	539919	5926950	539978	5927079	184.36	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR01	539943	5926829	539990	5927064	308.91	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR01	539884	5926467	539943	5926829	524.66	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Stretton Creek	STR01	539881	5926482	539919	5926950	634.61	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Stretton Creek	STR01	540750	5925459	539877	5926480	2,206.35	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Stretton Creek	STR01	541014	5925198	539880	5926466	3,163.90	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Stretton Creek	STR01	541602	5924829	540750	5925459	2,071.26	>90%	>35%	No	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Stretton Creek	STR01	543160	5924014	541014	5925198	5,291.24	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Stretton Creek	STR01	543160	5924000	542597	5924371	2,039.79	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Stretton Creek	STR01	542597	5924371	542161	5924534	648.90	>90%	15-35%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	9	22	40.91	Poor
Stretton Creek	STR01	542161	5924534	541602	5924829	1,544.11	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Stretton Creek	STR01	544564	5923544	543169	5924001	2,542.20	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR01	544730	5922935	543169	5924015	3,454.47	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR01	544716	5922935	544713	5923261	339.84	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR01	544713	5923261	544564	5923544	550.65	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Stretton Creek	STR01	544738	5922465	544731	5922926	517.39	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR01	544634	5922330	544738	5922465	207.80	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Stretton Creek	STR01	544471	5922048	544717	5922926	1,165.03	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR01	544820	5921705	544634	5922330	1,017.78	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR01	544821	5921688	544471	5922048	601.97	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Stretton Creek	STR02	545832	5920072	544932	5920806	2,063.95	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Stretton Creek	STR02	544976	5920783	545036	5921193	584.13	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	546475	5919541	546392	5919701	236.40	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	546476	5919555	546406	5919701	214.97	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	546406	5919710	546287	5920102	464.73	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Stretton Creek	STR02	546287	5920102	545205	5920061	1,495.48	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	545205	5920061	544976	5920783	1,009.04	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Stretton Creek	STR02	545052	5921460	544892	5921593	252.04	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Stretton Creek	STR02	545036	5921193	545052	5921460	284.27	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Stretton Creek	STR02	544932	5920806	544881	5921582	1,067.14	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	546392	5919711	545832	5920072	947.03	>90%	<15%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Stretton Creek	STR02	548136	5917152	547777	5917279	923.99	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	547072	5918976	546724	5919369	592.06	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Stretton Creek	STR02	548135	5917167	547786	5917102	555.80	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	547786	5917102	547816	5917257	313.68	>90%	<15%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Stretton Creek	STR02	547816	5917257	547612	5917425	308.37	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Stretton Creek	STR02	547612	5917425	547525	5917924	711.84	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Stretton Creek	STR02	547525	5917924	547542	5918455	802.28	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Stretton Creek	STR02	547542	5918455	547072	5918976	830.35	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	546724	5919369	546482	5919554	314.84	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	546695	5919372	546481	5919539	281.66	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Stretton Creek	STR02	547183	5918713	546695	5919372	915.05	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Stretton Creek	STR02	547512	5917725	547183	5918713	1,584.16	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	547777	5917279	547512	5917725	723.10	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Stretton Creek	STR02	548842	5916503	548322	5917007	794.45	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Stretton Creek	STR02	548491	5916885	548141	5917170	598.84	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	548861	5916504	548491	5916885	575.79	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Stretton Creek	STR02	548322	5917007	548141	5917155	356.42	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Stretton Creek	STR02	549786	5915571	548857	5916489	1,943.23	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Stretton Creek	STR02	549786	5915585	548875	5916490	1,918.56	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Stretton Creek	STR03	550680	5914993	550112	5915287	879.60	>90%	>35%	No	5-15%	<5%	Stable	Diverse/Complex	18	22	81.82	Good
Stretton Creek	STR03	550737	5914891	550122	5915297	1,007.42	>90%	>35%	No	5-15%	5-15%	Stable	Diverse/Complex	16	22	72.73	Fair
Stretton Creek	STR03	551581	5913253	551449	5913740	535.79	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Stretton Creek	STR03	551595	5913252	551448	5913757	560.28	>90%	15-35%	No	>15%	5-15%	Stable	Moderately Diverse/Complex	11	22	50	Fair
Stretton Creek	STR03	551734	5912402	551582	5913234	918.97	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR03	551749	5912403	551596	5913237	922.00	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR03	551596	5911572	551752	5912390	1,204.20	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR03	551594	5911587	551738	5912389	1,182.26	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR03	551005	5911529	551586	5911569	840.28	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR03	551019	5911529	551585	5911584	817.01	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR03	550819	5911529	551005	5911529	249.73	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Stretton Creek	STR03	550805	5911534	551019	5911529	290.32	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Stretton Creek	STR03	551439	5913759	551195	5914261	633.99	>90%	>35%	No	5-15%	5-15%	Stable	Diverse/Complex	16	22	72.73	Fair
Stretton Creek	STR03	551437	5913745	551195	5914247	632.04	>90%	>35%	No	5-15%	<5%	Stable	Diverse/Complex	18	22	81.82	Good
Stretton Creek	STR03	551195	5914261	550737	5914891	1,113.89	>90%	>35%	Yes	>15%	<5%	Stable	Diverse/Complex	18	22	81.82	Good
Stretton Creek	STR03	551195	5914247	550680	5914993	1,252.37	>90%	>35%	Yes	5-15%	5-15%	Stable	Diverse/Complex	18	22	81.82	Good
Stretton Creek	STR01	544892	5921593	544832	5921698	128.25	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Stretton Creek	STR01	544881	5921582	544832	5921681	115.99	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Stretton Creek	STR02	550122	5915297	549794	5915585	565.78	>90%	>35%	No	5-15%	5-15%	Stable	Diverse/Complex	16	22	72.73	Fair
Stretton Creek	STR02	550112	5915287	549794	5915571	555.08	>90%	>35%	No	5-15%	<5%	Stable	Diverse/Complex	18	22	81.82	Good
Vermilion River	VER20	431334	5901905	430892	5902001	1,758.57	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER20	431436	5901944	430882	5902012	1,675.62	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER08	504117	5912933	509287	5912411	7,660.34	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER09	497431	5914026	503337	5913114	11,459.71	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	523115	5921952	523444	5922175	499.43	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER05	532022	5923802	532922	5926061	5,001.61	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER17	431818	5926892	431021	5927123	2,454.19	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	472029	5939056	472669	5938253	1,818.62	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER09	484901	5914841	488396	5913740	8,028.97	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER01	543298	5944921	543903	5945832	1,656.62	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER20	438355	5887873	438207	5888215	378.99	>90%	<15%	N/A	>15%	>15%	Stable	Not Diverse/Complex	6	20	30	Poor
Vermilion River	VER20	438345	5887862	438200	5888202	376.01	>90%	<15%	N/A	>15%	<5%	Stable	Not Diverse/Complex	10	20	50	Fair
Vermilion River	VER20	437963	5888403	437773	5889140	788.18	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	437956	5888382	437772	5889125	788.61	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	437535	5889687	437203	5890491	886.85	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	437522	5889682	437191	5890485	885.55	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	438207	5888215	437963	5888403	316.25	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER20	438200	5888202	437956	5888382	309.18	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER20	437773	5889140	437535	5889687	669.02	>90%	<15%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER20	437772	5889125	437522	5889682	685.56	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	437203	5890491	437196	5890506	17.17	<75%	N/A	N/A	>15%	>15%	Stable	Not Diverse/Complex	4	18	22.22	Poor
Vermilion River	VER20	437191	5890485	437182	5890504	20.65	<75%	N/A	N/A	>15%	>15%	Stable	Not Diverse/Complex	4	18	22.22	Poor
Vermilion River	VER20	437196	5890506	437105	5890676	197.44	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	437182	5890504	437090	5890677	201.65	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	437103	5890683	436515	5891951	1,530.68	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	436515	5891951	436499	5892000	60.55	75-90%	N/A	N/A	>15%	>15%	Stable	Not Diverse/Complex	5	18	27.78	Poor
Vermilion River	VER20	437088	5890683	436623	5892399	2,030.68	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	436623	5892399	436656	5892420	39.69	<75%	<15%	N/A	>15%	>15%	Stable	Not Diverse/Complex	4	20	20	Poor
Vermilion River	VER20	436656	5892420	437179	5893114	1,110.97	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER20	437179	5893114	437207	5893292	215.47	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER20	436499	5892000	436471	5893937	3,553.00	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER20	437207	5893292	436453	5893939	1,749.60	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER20	436451	5893949	436378	5894786	1,355.65	>90%	<15%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER20	436466	5893948	436392	5894793	1,363.68	>90%	<15%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER20	436392	5894793	436242	5895147	812.99	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	436378	5894786	436243	5895132	797.95	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	436237	5895133	436177	5895266	154.90	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	436238	5895147	436193	5895263	131.13	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	436193	5895263	436205	5895414	163.86	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	436177	5895266	436188	5895410	156.62	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	436188	5895410	435486	5896133	1,763.12	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	436205	5895414	435484	5896148	1,780.09	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER20	435484	5896148	435216	5896249	758.45	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	435486	5896133	435206	5896237	770.01	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	435206	5896237	435090	5896381	321.10	>90%	<15%	No	<5%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER20	435216	5896249	435102	5896389	317.08	>90%	<15%	No	<5%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER20	435090	5896381	434868	5896894	703.87	>90%	<15%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER20	435102	5896389	434907	5896870	656.42	>90%	<15%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER20	434868	5896894	434724	5897250	444.14	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	434907	5896870	434738	5897250	482.98	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	434482	5897464	433921	5897701	1,421.81	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER20	434497	5897460	433870	5897774	1,545.47	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER20	434739	5897256	434482	5897464	525.67	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER20	434725	5897257	434497	5897460	484.30	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Vermilion River	VER20	433921	5897701	433545	5898107	912.21	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433870	5897774	433543	5898133	859.09	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER20	433543	5898133	433386	5898283	593.55	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER20	433545	5898107	433400	5898278	618.33	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER20	433249	5898825	433244	5899120	645.29	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433284	5898816	433231	5899130	665.24	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433165	5899118	433088	5899123	77.16	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER20	433165	5899104	433087	5899109	78.18	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433231	5899130	433165	5899118	67.62	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433244	5899120	433165	5899104	80.42	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433401	5898284	433373	5898566	428.61	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433387	5898290	433385	5898555	388.37	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433328	5898686	433253	5898695	76.54	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433384	5898687	433255	5898710	132.19	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER20	433341	5898612	433328	5898686	181.05	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433385	5898555	433341	5898612	128.88	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433363	5898601	433384	5898687	145.19	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER20	433373	5898566	433363	5898601	95.22	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433253	5898695	433249	5898825	365.06	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER20	433255	5898710	433284	5898816	360.44	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER20	433081	5899110	433098	5900358	2,786.65	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER20	433082	5899124	432862	5900345	2,480.15	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER20	433104	5900357	433373	5900528	670.53	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433104	5900342	433363	5900514	660.36	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433373	5900528	433411	5900537	42.62	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433363	5900514	433425	5900537	74.37	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	432862	5900345	433098	5900344	261.99	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER20	433425	5900544	433113	5901020	1,420.28	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER20	433410	5900544	433113	5901006	1,397.91	>90%	<15%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER20	433011	5901055	432441	5901325	979.09	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	432985	5901058	432455	5901325	928.64	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433107	5901006	433011	5901055	158.56	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	433107	5901020	432985	5901058	187.21	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	432441	5901325	431516	5901595	2,911.23	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER20	432455	5901325	431516	5901609	2,931.22	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER20	430882	5902012	430145	5902531	1,894.19	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER20	430892	5902001	430151	5902518	1,898.54	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER20	431508	5901597	431334	5901905	480.52	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER20	431510	5901610	431436	5901944	582.28	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	430135	5902520	429930	5902671	287.33	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	430145	5902531	429930	5902685	297.12	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429917	5902671	429518	5902585	456.58	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	429518	5902585	429004	5902753	2,591.66	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER19	429004	5902753	428932	5902861	158.00	75-90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	7	22	31.82	Poor
Vermilion River	VER19	428932	5902861	428544	5903548	1,757.36	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429350	5903110	428519	5903609	3,476.21	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER19	428544	5903548	428709	5903921	1,073.24	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	428519	5903609	428723	5903920	1,091.42	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER19	429918	5902685	429350	5903110	1,449.52	>90%	15-35%	Yes	>15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	428723	5903930	428728	5904243	917.66	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	428728	5904243	428803	5904388	177.23	>90%	>35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER19	428709	5903931	428490	5904522	1,447.52	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	428490	5904522	428236	5904538	370.82	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER19	428236	5904538	428347	5904795	339.53	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER19	428803	5904388	428213	5904953	1,495.85	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	428213	5904953	428434	5905406	1,069.41	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	428347	5905447	428642	5905702	1,039.98	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER19	429190	5906642	429401	5907016	569.04	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER19	429401	5907016	429168	5907151	343.09	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429009	5906467	429190	5906642	697.95	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	428969	5906347	429009	5906467	135.13	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER19	428742	5906374	429153	5907152	2,053.48	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	428695	5906221	428742	5906374	200.32	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER19	428682	5906295	428969	5906347	421.98	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER19	428728	5905971	428828	5906181	352.70	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	428465	5905778	428695	5906221	1,217.26	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER19	428642	5905702	428465	5905778	198.85	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER19	429107	5907952	429517	5908895	4,206.74	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429318	5907368	429246	5907719	1,271.85	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER19	429260	5910032	428974	5910427	1,290.16	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER19	429210	5910084	428991	5910434	1,406.44	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER19	429337	5908908	429323	5909578	1,196.34	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	429031	5907687	429107	5907952	1,090.99	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429602	5908429	429882	5908772	854.89	>90%	15-35%	Yes	>15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	429267	5907972	429602	5908429	2,166.12	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429246	5907719	429267	5907972	624.56	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER19	429316	5907180	429318	5907368	216.52	75-90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	5	22	22.73	Poor
Vermilion River	VER19	429171	5907163	429316	5907180	166.47	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER19	429305	5907361	429031	5907687	644.91	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	429156	5907163	429305	5907361	376.77	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	428828	5906181	428682	5906295	212.12	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	428626	5905546	428728	5905971	1,435.80	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	428434	5905406	428626	5905546	471.85	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER19	428347	5904795	428283	5905286	1,099.41	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER19	428283	5905286	428347	5905447	333.05	>90%	<15%	No	5-15%	5-15%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429882	5908772	429817	5908828	98.31	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429817	5908828	429811	5909010	233.99	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	429811	5909010	429337	5908908	980.92	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429320	5909839	429210	5910084	488.74	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429323	5909578	429270	5909584	54.39	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429270	5909584	429320	5909839	322.40	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	429283	5909464	429260	5910032	1,126.65	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429441	5909102	429283	5909464	508.00	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	429311	5908860	429441	5909102	585.93	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429517	5908895	429311	5908860	243.77	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	428977	5910438	428975	5910588	249.62	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	428992	5910444	429233	5910883	809.90	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER19	428975	5910588	428930	5910747	239.52	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER19	428930	5910747	429232	5911100	849.14	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429232	5911100	429229	5911233	375.43	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	429233	5910883	429202	5911331	1,008.34	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429202	5911331	429194	5911488	431.92	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER19	429229	5911233	429073	5911461	719.23	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429073	5911461	428699	5911648	545.98	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER19	429194	5911488	428810	5911581	566.20	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER19	428810	5911581	429262	5911761	1,056.04	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER19	428699	5911648	429949	5911996	2,670.71	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429262	5911761	429868	5912756	4,133.50	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429928	5912841	429903	5913062	1,023.07	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429868	5912756	429928	5912841	112.45	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER19	429949	5911996	429760	5912043	425.21	>90%	>35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER19	429760	5912043	429857	5912781	1,962.48	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429857	5912781	429591	5913063	714.16	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	429591	5913063	429781	5912986	235.42	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER19	429781	5912986	429719	5913405	1,048.40	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER19	429903	5913062	429691	5913466	963.88	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER19	429691	5913466	429627	5913611	164.74	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429719	5913405	429613	5913609	238.10	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429613	5913621	429097	5915097	4,021.63	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429950	5913875	429809	5915276	4,569.15	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER18	429868	5916419	429766	5916833	1,595.08	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER18	429854	5916417	429751	5916833	1,596.70	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER18	429979	5916143	429868	5916419	631.46	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER18	429984	5916129	429854	5916417	655.56	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER19	429683	5915571	430069	5915684	1,227.20	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429699	5915440	429683	5915571	349.93	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER19	430069	5915684	430122	5916163	887.83	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER19	430035	5915421	430074	5915990	1,089.56	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER19	429809	5915276	430035	5915421	1,249.03	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER19	429418	5915331	429699	5915440	1,074.80	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429097	5915097	429418	5915331	650.36	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER19	429627	5913622	429824	5913765	761.32	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER19	429824	5913765	429950	5913875	204.94	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER18	429593	5917095	428799	5918621	5,231.71	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	429768	5917327	428650	5917861	3,085.36	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428447	5919940	428405	5920093	679.74	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER18	428468	5919904	428421	5920092	670.89	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER18	428842	5919301	428447	5919940	2,400.54	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	429075	5919204	428842	5919301	302.53	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	429004	5919304	428468	5919904	2,559.45	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428905	5919082	429004	5919304	385.18	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	428637	5918720	429075	5919204	869.50	>90%	<15%	No	<5%	>15%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428735	5918272	428905	5919082	2,023.23	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428799	5918621	428637	5918720	217.94	>90%	>35%	No	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER18	429753	5916841	429593	5917095	715.80	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	429767	5916841	429833	5917083	459.52	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	429602	5917114	429768	5917327	300.47	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	429833	5917083	429602	5917114	277.57	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428650	5917861	428735	5918272	657.67	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	428062	5922267	427681	5923130	2,830.05	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428087	5922141	427532	5922835	2,443.78	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428242	5923119	428217	5923350	333.09	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER18	427813	5923366	428203	5923351	881.90	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428409	5920100	428593	5920306	428.54	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428593	5920306	428700	5920380	772.41	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	428700	5920380	428009	5920907	2,661.02	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428425	5920100	428869	5920219	916.12	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	428869	5920219	427891	5920985	3,110.99	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428009	5920907	427654	5921356	1,153.87	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Vermilion River	VER18	427891	5920985	427719	5921366	1,046.28	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Vermilion River	VER18	427719	5921366	427893	5921660	995.39	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER18	427654	5921356	427893	5921646	1,031.65	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER18	427893	5921660	427584	5921888	1,168.49	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	427893	5921646	427578	5921977	1,280.58	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	427578	5921977	428062	5922267	1,224.56	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	427584	5921888	428087	5922141	1,075.72	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	427643	5923157	428242	5923119	1,011.48	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	427532	5922835	427643	5923157	545.95	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	427681	5923130	427813	5923366	384.32	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	428206	5923361	428413	5923744	546.52	>90%	>35%	No	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER18	428220	5923358	428334	5923881	777.97	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER17	431456	5926858	431184	5927292	1,991.73	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER17	428066	5924003	428863	5924055	2,071.41	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER17	429135	5924331	429213	5924507	219.36	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER17	428996	5924572	429213	5924522	523.87	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER17	428914	5924197	429135	5924331	790.30	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER17	428863	5924055	428914	5924197	540.29	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER17	428643	5924160	428996	5924572	1,792.27	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER17	428062	5923976	428643	5924160	1,341.61	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER18	428413	5923744	428074	5923988	1,170.50	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER17	429889	5925163	430420	5925785	2,437.00	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER17	430415	5925800	430406	5925824	25.81	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER17	430033	5925212	430435	5925785	2,191.64	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER17	430429	5925801	430421	5925824	24.53	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER17	429222	5924525	429889	5925163	1,815.84	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER17	429223	5924511	430033	5925212	2,084.07	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER17	430401	5925840	430872	5926256	1,204.50	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER17	430416	5925839	430660	5925954	695.87	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER17	430821	5925993	430871	5926236	294.24	>90%	<15%	No	5-15%	5-15%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER17	430660	5925954	430821	5925993	190.11	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER17	431184	5927315	431372	5927963	1,584.43	>90%	15-35%	No	>15%	5-15%	Stable	Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER17	431198	5927312	431373	5927949	1,566.38	75-90%	15-35%	No	>15%	5-15%	Stable	Moderately Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER17	430882	5926264	431710	5926633	1,988.25	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER17	430882	5926246	431678	5926544	1,911.77	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER17	431678	5926544	431818	5926892	401.76	>90%	>35%	No	>15%	5-15%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER17	431710	5926633	431641	5926782	495.70	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER17	431641	5926782	431456	5926858	624.61	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER17	431021	5927123	431198	5927288	352.88	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER17	431372	5927963	431736	5928307	611.92	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER17	431736	5928307	431936	5928459	625.02	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER17	431373	5927949	432390	5928955	2,081.28	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER17	431936	5928459	432376	5928955	822.48	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER17	432377	5928966	432453	5929755	1,111.12	>90%	15-35%	No	>15%	5-15%	Stable	Not Diverse/Complex	9	22	40.91	Poor
Vermilion River	VER17	432391	5928966	432467	5929755	1,111.60	>90%	15-35%	Yes	>15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER17	432452	5929763	432098	5932038	4,760.33	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER17	432466	5929763	431856	5932075	4,463.38	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	432023	5932637	432035	5932997	578.36	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER17	431856	5932075	432150	5932462	1,141.71	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER17	432098	5932038	432008	5932628	1,148.06	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER16	432021	5933007	432413	5933432	976.21	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER16	432224	5933059	432605	5933623	1,090.72	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER16	432035	5933007	432224	5933059	230.81	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	432605	5933623	432619	5933823	206.08	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	432413	5933432	432618	5933839	574.58	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	432628	5933827	434263	5935487	4,441.16	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	432627	5933841	434263	5935501	4,444.26	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER16	434272	5935501	435471	5936189	2,751.33	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER16	434272	5935487	435485	5936190	2,775.28	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER16	435485	5936198	435408	5936371	208.70	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	435408	5936371	435707	5937138	1,225.63	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER16	435471	5936199	435488	5936850	956.68	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	435488	5936850	435921	5937599	1,390.80	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER16	435707	5937138	435921	5937583	891.89	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER16	436640	5938306	436932	5939406	3,212.69	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER16	436488	5938450	436916	5939407	2,606.45	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER16	436113	5937680	436488	5938450	2,372.84	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	436169	5937717	436640	5938306	1,711.91	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	435921	5937599	436113	5937680	219.06	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER16	435921	5937583	436169	5937717	297.32	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER16	436719	5940755	436239	5941826	4,402.56	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	436792	5940657	436256	5941842	4,602.07	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER16	435993	5942532	435808	5942658	395.61	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	435992	5942546	435822	5942657	371.14	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	436729	5942291	436002	5942534	2,138.24	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER16	436239	5941826	436490	5942059	613.19	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER16	436392	5942555	436001	5942549	1,306.47	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER16	436922	5939415	436773	5939603	562.74	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	436937	5939415	436776	5939617	582.20	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	436773	5939603	436719	5940755	2,483.49	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER16	436776	5939617	436792	5940657	2,283.39	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER16	436490	5942059	436566	5942090	90.46	75-90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	9	22	40.91	Poor
Vermilion River	VER16	436256	5941842	436524	5942076	617.73	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER16	436566	5942090	436729	5942291	498.42	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	436524	5942076	436729	5942341	618.75	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	436729	5942341	436392	5942555	802.55	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER16	435821	5942667	435996	5942886	627.31	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER16	435807	5942668	435998	5942900	650.19	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER16	436007	5942898	436188	5943487	1,765.64	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	470145	5941225	472041	5939065	3,552.43	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER15	436460	5944671	437317	5945316	1,797.05	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER15	437317	5945316	437624	5945321	323.29	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER15	437599	5945411	437649	5945413	305.10	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER15	437624	5945321	437599	5945411	128.68	<75%	<15%	No	>15%	>15%	Moderately Unstable	Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER15	436929	5945239	437649	5945430	1,167.39	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER15	436445	5944667	436929	5945239	1,412.28	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	436677	5943787	436504	5944406	1,941.33	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER16	436005	5942885	436167	5943093	807.40	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	436167	5943093	436661	5943553	1,597.78	>90%	15-35%	Yes	5-15%	<5%	Moderately Unstable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER16	436188	5943487	436677	5943787	1,439.52	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	436504	5944406	436455	5944656	820.51	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER16	436661	5943553	436847	5943787	1,182.21	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER16	436847	5943787	436599	5944188	1,102.21	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER16	436599	5944188	436595	5944403	368.61	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER15	438298	5945808	438800	5945624	1,437.81	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER15	438300	5945663	438814	5945627	1,639.98	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER15	438893	5945903	439054	5946752	2,377.49	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER15	439167	5945980	439299	5947317	3,394.59	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER15	437658	5945411	438197	5945418	686.42	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER15	438197	5945418	438285	5945338	136.48	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER15	438285	5945338	438300	5945663	499.16	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER15	437658	5945425	438298	5945808	1,501.02	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER15	438800	5945624	438901	5945897	1,164.04	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER15	438814	5945627	438919	5945902	1,163.08	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER15	438911	5945907	439167	5945980	375.21	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER15	439054	5946752	439183	5947016	1,053.80	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER15	439183	5947016	439299	5947339	366.67	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER15	439311	5947349	442372	5948311	4,172.67	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER15	439309	5947328	441498	5948020	3,003.80	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER14	443118	5948256	444218	5948339	1,115.74	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER14	443118	5948242	444219	5948325	1,116.16	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER15	442307	5948308	443063	5948232	919.16	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER15	442579	5948235	443060	5948246	621.59	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER15	442372	5948311	442579	5948235	227.67	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER15	441498	5948020	442307	5948308	1,108.27	>90%	>35%	No	5-15%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER14	444990	5948674	445718	5949049	869.09	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER14	444228	5948326	444990	5948674	842.55	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER14	444228	5948340	445354	5948947	1,291.28	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER13	445732	5949053	446137	5949357	540.50	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER13	445721	5949063	446709	5949660	1,197.91	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER13	446137	5949357	446826	5949720	786.24	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER13	446826	5949720	447339	5950061	623.05	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER13	446709	5949660	447350	5950076	773.49	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER13	447339	5950061	448797	5950151	2,149.86	>90%	>35%	No	<5%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Vermilion River	VER13	447350	5950076	448811	5950156	2,156.80	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER12	448797	5950151	450727	5951016	2,448.12	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER12	448811	5950156	450727	5951032	2,430.84	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER12	450742	5951024	451749	5950743	1,304.25	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER12	450742	5951039	451907	5950694	1,473.46	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER11	451903	5950681	452718	5950172	972.28	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER11	451936	5950682	452700	5950197	916.89	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER11	452718	5950172	455462	5949695	2,810.68	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER11	452700	5950197	455466	5949709	2,834.92	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER11	455471	5949693	456121	5949512	675.59	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER11	455475	5949707	456015	5949555	560.76	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER11	456121	5949512	457516	5949506	1,397.20	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER11	456015	5949555	458155	5949518	2,149.46	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER11	458679	5949324	461239	5948639	2,712.52	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER11	458772	5949285	461219	5948684	2,570.07	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER11	461219	5948684	462029	5948299	907.10	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER11	461239	5948639	462026	5948285	869.57	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER11	458155	5949518	458772	5949285	667.30	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER11	457516	5949506	458679	5949324	1,201.20	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER11	463116	5947545	464525	5946907	1,551.23	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER11	465664	5946007	466792	5945474	1,251.40	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER10	468521	5944166	468641	5943727	478.64	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER11	462036	5948297	464517	5946930	2,883.48	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	468549	5944017	468650	5943738	316.80	>90%	<15%	No	<5%	>15%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER11	466970	5945359	468536	5944165	2,028.91	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER11	467202	5945010	468505	5944231	1,532.12	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER11	466792	5945474	467202	5945010	628.76	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER11	465609	5946059	466970	5945359	1,540.03	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER11	464525	5946907	465664	5946007	1,582.11	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER11	464517	5946930	465609	5946059	1,527.12	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER11	462035	5948282	463116	5947545	1,344.57	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	468646	5943720	469358	5942308	1,867.65	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	468655	5943731	469377	5942308	1,877.06	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	469353	5942301	470133	5941217	1,993.53	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	469371	5942301	470139	5941231	1,978.18	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER10	470139	5941209	470920	5940262	1,494.07	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	471309	5940008	472027	5939064	1,570.57	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	472045	5939055	473024	5938383	2,360.94	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	470920	5940262	471309	5940008	470.14	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	473024	5938383	473337	5938251	353.64	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER10	472669	5938253	473329	5938240	910.19	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	473335	5938234	473912	5936625	2,222.93	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	473912	5936625	473951	5935817	1,217.32	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER10	473345	5938244	473927	5936625	2,232.47	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	473879	5936057	473965	5935816	396.73	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	473927	5936625	473879	5936057	821.88	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	473958	5935046	473700	5933474	3,456.35	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	474070	5934644	473713	5933461	2,926.77	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	473713	5933461	473970	5932580	1,143.62	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER10	473700	5933474	473955	5932580	1,156.11	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER10	473951	5935809	473958	5935046	1,022.69	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER10	473973	5932570	474164	5931987	1,186.63	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER10	474102	5932157	474109	5931897	719.98	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER10	473958	5932570	474102	5932157	658.36	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	474109	5931897	474923	5929536	4,114.10	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	474437	5930900	475084	5930010	1,707.08	>90%	15-35%	No	<5%	<5%	Stable	Not Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER10	476131	5928711	476314	5928451	416.59	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER10	475909	5928869	476131	5928711	368.14	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER10	475628	5928865	475909	5928869	855.66	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	475084	5930010	475628	5928865	2,296.43	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER10	476167	5928672	476303	5928441	353.72	>90%	>35%	Yes	5-15%	5-15%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER10	475747	5928752	476167	5928672	780.08	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	474923	5929536	475747	5928752	1,816.69	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER10	474164	5931987	474437	5930900	1,600.36	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	477623	5926739	477638	5926343	1,252.11	>90%	15-35%	No	5-15%	5-15%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER10	479219	5924644	479754	5924495	2,611.08	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	479564	5924627	479745	5924484	1,250.95	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	479547	5924677	479564	5924627	458.39	>90%	15-35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	19	22	86.36	Good
Vermilion River	VER10	478785	5924675	479547	5924677	1,657.64	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	478633	5924851	478785	5924675	286.39	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER10	478566	5925017	478633	5924851	921.66	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER10	478178	5926052	478566	5925017	2,430.26	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER10	477432	5927699	477769	5926559	2,173.64	>90%	>35%	Yes	>15%	5-15%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER10	477833	5926382	477973	5926204	1,019.81	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER10	477638	5926343	478178	5926052	1,098.23	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER10	476306	5928432	476658	5928191	574.81	>90%	>35%	No	5-15%	5-15%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER10	476658	5928191	477456	5927494	1,762.97	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	476317	5928443	476918	5928233	920.10	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	476918	5928233	477235	5927888	760.11	>90%	>35%	No	5-15%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER10	477235	5927888	477432	5927699	283.63	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	477769	5926559	477833	5926382	474.72	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER10	477456	5927494	477623	5926739	1,248.54	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER10	477973	5926204	478638	5925458	1,657.82	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	478638	5925458	478529	5925286	246.37	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER10	478529	5925286	478852	5924976	1,303.24	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER10	478852	5924976	479047	5924646	1,004.38	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	479047	5924646	479219	5924644	481.33	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER10	479823	5923836	479840	5923203	1,218.72	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	479726	5923539	479807	5923245	372.85	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	479977	5922699	480880	5920623	4,229.38	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	480066	5922643	480721	5920418	4,136.73	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER10	480865	5919524	481418	5918959	1,125.27	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	479816	5924179	479817	5923823	837.78	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	479760	5924489	479816	5924179	818.18	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	479807	5923245	479826	5922871	768.73	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER10	479817	5923823	479874	5923625	288.34	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	479874	5923625	479761	5923606	265.89	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	479761	5923606	479726	5923539	158.16	>90%	>35%	No	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER10	479751	5924477	479732	5924298	469.06	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	479732	5924298	479826	5924168	368.25	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	479826	5924168	479823	5923836	777.15	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER10	479840	5923203	479812	5922871	664.14	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	479813	5922863	479977	5922699	789.05	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER10	480747	5920433	480588	5919754	1,147.91	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	480831	5919388	481416	5918940	1,282.94	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	480588	5919754	480831	5919388	471.77	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER10	480880	5920623	480747	5920433	881.93	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER10	480721	5920418	480865	5919524	1,728.42	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	479827	5922862	480066	5922643	1,787.13	>90%	>35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER10	481423	5918933	483013	5916068	7,526.74	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER10	481426	5918950	483012	5916083	7,525.72	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER10	483021	5916070	483571	5915205	2,762.66	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER09	484631	5914785	486377	5913697	4,702.00	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	483825	5915003	484256	5914841	1,096.80	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER10	483571	5915205	483825	5915003	414.03	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER10	483021	5916085	484244	5914867	4,256.07	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER09	487726	5913782	488395	5913726	1,369.95	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER09	484275	5914841	484901	5914841	931.37	>90%	>35%	Yes	>15%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER09	484267	5914828	484631	5914785	541.01	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER09	486377	5913697	487364	5913654	1,374.11	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER09	487364	5913654	487726	5913782	984.84	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER09	490934	5912050	493196	5911827	4,319.92	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER09	490030	5912995	490748	5912079	2,710.58	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER09	490748	5912079	493197	5911813	4,536.49	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER09	488402	5913725	489607	5913014	2,867.36	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER09	488405	5913739	489119	5913307	1,977.83	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER09	489119	5913307	490239	5912976	2,632.96	>90%	>35%	No	>15%	5-15%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER09	489607	5913014	490030	5912995	1,459.98	>90%	15-35%	No	>15%	5-15%	Stable	Not Diverse/Complex	9	22	40.91	Poor
Vermilion River	VER09	490239	5912976	490583	5912471	731.26	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER09	490583	5912471	490934	5912050	1,906.70	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER09	493204	5911812	495907	5911244	5,216.86	>90%	<15%	No	>15%	5-15%	Moderately Unstable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER09	493205	5911826	496482	5911568	6,708.95	>90%	<15%	No	5-15%	5-15%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER09	496482	5911568	496587	5911766	757.27	>90%	>35%	No	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER09	495907	5911244	496772	5912228	3,202.03	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Vermilion River	VER09	496587	5911766	497421	5914026	4,477.41	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER09	496772	5912228	497020	5913718	2,865.13	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER09	497200	5913987	497421	5914012	222.66	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER09	497020	5913718	497200	5913987	437.28	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER08	504102	5912939	509285	5912425	7,674.75	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER09	497430	5914012	497939	5914335	1,215.75	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER09	497939	5914335	498914	5914712	1,283.83	>90%	>35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER09	498914	5914712	500712	5913807	4,749.99	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER09	500712	5913807	501525	5913445	1,007.93	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER09	501525	5913445	503241	5912810	3,769.56	>90%	<15%	No	<5%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER09	503337	5913114	503906	5913007	1,313.61	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER08	509314	5912432	509574	5912321	302.95	75-90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	5	22	22.73	Poor
Vermilion River	VER08	509317	5912418	509579	5912307	304.63	>90%	15-35%	No	>15%	5-15%	Stable	Not Diverse/Complex	9	22	40.91	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER08	509594	5912308	510037	5912325	714.06	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER08	510037	5912325	510742	5912557	1,315.67	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER08	509588	5912321	511059	5912985	3,047.17	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER08	511059	5912985	513874	5913425	4,338.38	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER08	510742	5912557	511878	5912756	2,299.89	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER08	511878	5912756	513815	5912815	3,838.34	>90%	<15%	No	<5%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER06	514440	5912923	516341	5915656	3,433.55	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	514438	5912937	516054	5915191	2,869.32	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	516054	5915191	516237	5915435	306.14	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER06	516237	5915435	516750	5916434	1,136.08	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	516750	5916434	517055	5916936	594.46	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER06	516341	5915656	517218	5917094	1,707.82	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER06	517055	5916936	518725	5918008	2,078.05	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	517902	5917601	518723	5917994	963.56	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	517218	5917094	517562	5917428	488.24	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	517562	5917428	517902	5917601	385.59	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER06	518731	5917994	522222	5919523	5,233.00	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	518736	5918007	520352	5918683	2,658.80	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	522222	5919523	522618	5920380	970.09	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER06	522618	5920380	522551	5920782	410.78	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	522499	5919927	522531	5920741	835.62	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER06	522551	5920782	522819	5921294	578.63	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER06	522819	5921294	522960	5921761	545.55	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	522800	5921615	523954	5922671	1,774.10	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER06	525212	5922941	525705	5923049	852.99	>90%	>35%	No	<5%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Vermilion River	VER06	524836	5922833	525205	5922936	581.67	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER06	524334	5922637	524836	5922833	713.23	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER06	523948	5922590	524334	5922637	473.06	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	523444	5922175	523948	5922590	700.90	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER06	522960	5921761	523115	5921952	270.32	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER06	523954	5922671	525205	5922954	1,706.60	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	522531	5920741	522800	5921615	947.56	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	520738	5918832	522499	5919927	2,615.59	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER06	520352	5918683	520738	5918832	435.96	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER05	525857	5923261	528471	5922548	4,632.24	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	525859	5923275	528470	5922564	4,630.75	>90%	15-35%	Yes	>15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER06	525212	5922959	525843	5923271	1,136.45	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER06	525705	5923049	525857	5923261	299.37	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	528476	5922567	530106	5922173	2,793.86	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	528476	5922551	530107	5922159	2,796.98	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	530118	5922173	531068	5922530	1,610.24	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	531068	5922530	531556	5922771	832.63	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER05	531556	5922771	531737	5922881	224.50	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	530119	5922159	531738	5922867	2,668.67	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	531744	5922867	532006	5922776	398.19	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER05	531744	5922881	531994	5922792	386.23	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	532921	5926070	532742	5926550	587.63	>90%	>35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER05	532089	5923620	532908	5926062	5,525.71	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER05	532055	5923239	531941	5923623	910.74	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	531994	5922792	532100	5923332	842.65	>90%	>35%	No	5-15%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER05	532100	5923332	532089	5923620	471.97	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER05	531941	5923623	532022	5923802	351.59	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER05	532006	5922776	532055	5923239	585.24	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER05	532731	5926427	533293	5927063	2,240.98	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	533436	5926994	533599	5926915	285.94	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER05	533293	5927063	533593	5926929	492.77	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER05	532948	5927000	533436	5926994	734.29	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER05	532544	5926520	532948	5927000	917.66	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	532627	5926477	532544	5926520	488.61	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER05	532742	5926550	532627	5926477	155.16	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER05	532906	5926070	532731	5926427	451.67	>90%	>35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER04	533599	5926915	534331	5926235	1,849.69	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER04	534054	5926703	534373	5926358	802.14	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER04	534373	5926358	534345	5926231	499.30	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER04	533609	5926932	534054	5926703	570.33	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER04	534559	5925759	535137	5925262	965.85	>90%	>35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER04	535137	5925262	535825	5924940	2,181.44	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER04	536411	5924747	536612	5924671	546.44	>90%	>35%	No	5-15%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER04	537098	5924761	537948	5925666	2,150.71	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER04	537949	5926036	538477	5926364	1,210.25	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER04	534626	5925882	535504	5925085	2,963.39	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Vermilion River	VER04	539576	5927142	539872	5927140	462.71	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER04	539340	5927115	539626	5927274	423.27	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER04	539626	5927274	539872	5927154	338.82	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER04	539259	5926940	539340	5927115	244.08	>90%	15-35%	No	>15%	5-15%	Stable	Not Diverse/Complex	9	22	40.91	Poor
Vermilion River	VER04	539218	5926859	539259	5926940	537.31	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER04	538745	5926948	539576	5927142	2,286.05	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER04	538776	5927089	539218	5926859	1,077.70	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER04	538429	5926180	538442	5926725	1,127.85	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER04	538442	5926725	538776	5927089	542.59	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER04	538477	5926364	538745	5926948	1,321.81	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER04	537948	5925666	537949	5926036	1,084.44	>90%	>35%	Yes	5-15%	>15%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER04	537728	5925887	538429	5926180	1,501.71	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER04	536965	5925036	537728	5925887	3,586.27	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER04	536839	5924932	537098	5924761	1,021.04	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER04	536312	5924831	536965	5925036	968.73	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER04	535842	5924940	536312	5924831	1,646.30	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER04	535825	5924940	535812	5924631	376.06	>90%	15-35%	Yes	>15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER04	535812	5924631	536016	5924701	222.20	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER04	536016	5924701	536136	5924704	408.46	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER04	536136	5924704	536411	5924747	555.50	>90%	<15%	No	<5%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER04	536612	5924671	536839	5924932	368.48	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER04	535504	5925085	535842	5924940	531.88	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER04	534342	5926226	534626	5925882	581.98	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER04	534329	5926230	534559	5925759	934.61	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER03	539990	5927064	540975	5928419	3,679.15	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER03	539993	5927082	540852	5927764	2,349.37	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER03	540861	5928566	540618	5928889	812.49	>90%	15-35%	No	5-15%	<5%	Moderately Unstable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER02	540631	5928898	540341	5929195	466.54	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER02	540618	5928889	540325	5929198	477.43	>90%	<15%	No	>15%	5-15%	Moderately Unstable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER03	540852	5927764	540861	5928566	1,516.99	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER03	540975	5928419	540636	5928882	1,014.02	>90%	>35%	Yes	5-15%	<5%	Moderately Unstable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER02	540324	5929207	540051	5929503	768.34	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER02	538862	5930017	538199	5930815	1,866.29	>90%	>35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER02	539615	5929418	539042	5930138	2,046.05	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER02	539561	5933758	539898	5934300	758.44	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER02	539669	5933719	539902	5934287	844.75	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER02	538834	5932992	539669	5933719	1,564.74	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER02	538997	5933284	539561	5933758	1,233.98	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER02	538217	5932696	538834	5932992	1,509.96	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER02	537834	5932366	538217	5932696	631.04	>90%	>35%	No	<5%	<5%	Moderately Unstable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER02	537797	5932398	538997	5933284	2,535.80	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER02	537666	5931292	537797	5932398	2,480.44	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Vermilion River	VER02	537673	5931372	537834	5932366	2,327.53	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER02	539042	5930138	537673	5931372	3,320.65	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER02	540339	5929205	539615	5929418	1,316.22	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER02	540051	5929503	539737	5929430	336.89	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER02	539737	5929430	539594	5929339	261.86	>90%	15-35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER02	539594	5929339	538862	5930017	1,764.03	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER02	538199	5930815	537666	5931292	1,572.13	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER02	539908	5934289	540264	5935312	1,626.16	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Vermilion River	VER02	539903	5934302	539647	5935818	2,553.30	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER02	540264	5935312	539659	5935825	951.47	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER02	539655	5935832	539243	5936488	1,239.15	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER02	539243	5936488	538582	5937165	1,401.13	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER02	538582	5937165	537740	5938047	1,881.38	>90%	<15%	No	>15%	5-15%	Moderately Unstable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER02	539343	5935965	538998	5936518	1,214.04	>90%	<15%	No	>15%	<5%	Moderately Unstable	Diverse/Complex	12	22	54.55	Fair

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER02	538546	5936904	538094	5937551	1,150.81	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER02	538998	5936518	538546	5936904	755.71	>90%	15-35%	Yes	5-15%	<5%	Moderately Unstable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER02	539644	5935824	539343	5935965	395.51	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER02	537767	5937461	537730	5938057	656.62	>90%	15-35%	No	>15%	5-15%	Stable	Not Diverse/Complex	9	22	40.91	Poor
Vermilion River	VER02	538094	5937551	537767	5937461	369.87	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER02	537735	5938065	537505	5938367	592.58	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER01	539757	5944020	540071	5944332	710.26	>90%	>35%	No	5-15%	<5%	Moderately Unstable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER02	537796	5940630	538038	5941499	1,481.71	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER01	538192	5942160	538871	5942761	2,177.78	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER01	538179	5942165	538854	5942315	1,333.62	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER01	538854	5942315	538790	5942566	497.02	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER01	538871	5942761	538906	5942975	803.10	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER01	538906	5942975	539768	5943184	1,517.31	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER01	539768	5943184	539920	5943890	977.44	>90%	>35%	No	>15%	<5%	Moderately Unstable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER01	539920	5943890	540812	5943962	1,865.48	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER01	540812	5943962	541700	5944783	1,369.67	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER01	541700	5944783	542236	5944723	936.04	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER01	542236	5944723	542631	5944828	443.65	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER01	542631	5944828	543149	5945135	916.17	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER01	543149	5945135	543298	5944921	340.61	>90%	15-35%	No	>15%	5-15%	Stable	Not Diverse/Complex	9	22	40.91	Poor
Vermilion River	VER01	543159	5945159	543890	5945827	1,972.14	>90%	>35%	No	>15%	>15%	Stable	Moderately Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER01	542933	5945076	543159	5945159	347.41	>90%	>35%	No	5-15%	<5%	Highly Unstable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER01	542628	5944842	542933	5945076	569.29	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER01	541661	5944745	542628	5944842	1,444.45	>90%	<15%	No	5-15%	<5%	Moderately Unstable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER01	541051	5944137	541661	5944745	981.33	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER01	540516	5944229	541051	5944137	768.84	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER01	538790	5942566	538622	5942898	619.25	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER01	538622	5942898	538781	5943126	315.19	>90%	>35%	Yes	<5%	<5%	Moderately Unstable	Diverse/Complex	20	22	90.91	Good
Vermilion River	VER01	538781	5943126	539747	5943333	2,032.35	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER01	539747	5943333	539757	5944020	880.47	>90%	>35%	No	5-15%	<5%	Moderately Unstable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER01	540071	5944332	540516	5944229	522.99	>90%	>35%	Yes	<5%	<5%	Moderately Unstable	Diverse/Complex	20	22	90.91	Good
Vermilion River	VER02	537745	5938055	537443	5939112	1,406.67	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER02	537505	5938367	537632	5940054	1,819.40	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER02	537443	5939112	537796	5940630	1,666.03	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER02	538038	5941499	538171	5942105	1,004.66	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER02	537632	5940054	538168	5941528	2,286.57	>90%	15-35%	No	5-15%	5-15%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER10	473965	5935808	474096	5934972	1,171.29	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Vermilion River	VER10	474096	5934972	474070	5934644	393.27	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Vermilion River	VER02	538168	5941528	538159	5942096	841.65	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER04	539880	5927140	539978	5927079	119.01	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER01	538171	5942105	538189	5942154	56.91	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER04	539880	5927154	539993	5927082	138.58	>90%	<15%	No	>15%	<5%	Moderately Unstable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER08	513874	5913425	514438	5912937	1,461.09	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER08	513815	5912815	514440	5912923	675.59	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER08	509285	5912425	509314	5912432	29.69	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER08	509287	5912411	509317	5912418	31.09	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER09	503241	5912810	504117	5912933	1,226.48	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Vermilion River	VER09	503906	5913007	504102	5912939	461.96	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER10	484244	5914867	484275	5914841	41.77	>90%	>35%	Yes	>15%	<5%	Stable	Not Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER11	468536	5944165	468549	5944017	148.66	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Vermilion River	VER11	468505	5944231	468521	5944166	67.13	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER11	451907	5950694	451936	5950682	31.59	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Vermilion River	VER12	451749	5950743	451903	5950681	166.08	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER14	445354	5948947	445721	5949063	423.18	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Vermilion River	VER14	443060	5948246	443104	5948256	45.68	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Vermilion River	VER14	443063	5948232	443106	5948242	43.27	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Vermilion River	VER16	436595	5944403	436460	5944671	953.37	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Vermilion River	VER17	432150	5932462	432023	5932637	309.82	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Vermilion River	VER16	432008	5932628	432021	5932995	582.72	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER18	428334	5923881	428066	5924003	968.76	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Vermilion River	VER19	430074	5915990	429979	5916143	514.35	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Vermilion River	VER19	430122	5916163	429984	5916129	149.31	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Warwick Creek	WAR03	430032	5940719	431042	5941312	2,451.88	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR01	436023	5944343	436251	5944578	603.72	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Warwick Creek	WAR01	436022	5944357	436253	5944627	552.73	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Warwick Creek	WAR01	436251	5944578	436455	5944656	408.46	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Warwick Creek	WAR01	436253	5944627	436445	5944667	451.17	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Warwick Creek	WAR01	435205	5944084	435972	5943991	1,098.91	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Warwick Creek	WAR01	434483	5945917	436014	5944356	6,021.26	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR01	434469	5945917	434116	5945368	,1163.92	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Warwick Creek	WAR01	434116	5945368	434327	5945100	378.66	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Warwick Creek	WAR01	434327	5945100	434401	5944473	862.08	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR01	434401	5944473	434598	5944362	269.11	>90%	>35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	16	22	72.73	Fair
Warwick Creek	WAR01	434598	5944362	434613	5944248	295.58	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR01	434613	5944248	434879	5944130	326.18	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Warwick Creek	WAR01	434879	5944130	435205	5944084	827.58	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR01	435972	5943991	436014	5944342	822.64	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR01	434426	5946475	434469	5945926	1,000.08	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Warwick Creek	WAR01	434426	5946493	434483	5945923	1,026.38	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Warwick Creek	WAR01	432814	5946729	433442	5947133	1,714.93	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Warwick Creek	WAR01	432816	5946743	433682	5947104	1,992.98	>90%	15-35%	Yes	>15%	5-15%	Stable	Not Diverse/Complex	11	22	50	Fair
Warwick Creek	WAR01	434111	5946799	434418	5946482	925.97	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Warwick Creek	WAR01	433442	5947133	434111	5946799	1,135.82	>90%	>35%	No	<5%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Warwick Creek	WAR01	433682	5947104	434417	5946499	1,779.74	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Warwick Creek	WAR01	432168	5945947	432804	5946742	2,205.49	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR01	432183	5945946	432804	5946728	2,187.06	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR01	432024	5945768	432167	5945940	230.40	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR03	429466	5940704	431035	5941325	3,472.16	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR02	432198	5945298	432025	5945754	1,024.99	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Warwick Creek	WAR02	432111	5945334	432038	5945759	907.56	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Warwick Creek	WAR02	432064	5944389	432212	5945119	1,437.72	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Warwick Creek	WAR02	432139	5944465	432179	5945131	1,303.77	>90%	>35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	14	22	63.64	Fair
Warwick Creek	WAR03	431138	5942742	431311	5942827	273.92	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Warwick Creek	WAR03	431311	5942827	431660	5943218	855.02	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR03	431138	5942756	431652	5943206	1,093.21	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR02	431879	5943343	431786	5943969	1,254.32	>90%	>35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Warwick Creek	WAR02	431829	5943367	431729	5943919	1,209.12	>90%	>35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	20	22	90.91	Good
Warwick Creek	WAR02	431786	5943969	432064	5944389	699.65	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Warwick Creek	WAR02	431729	5943919	432139	5944465	902.24	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR02	432212	5945119	432111	5945334	590.12	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR02	432179	5945131	432198	5945298	480.62	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR03	430939	5942728	431130	5942741	208.29	>90%	<15%	No	<5%	>15%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR03	430924	5942729	431132	5942756	232.17	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Warwick Creek	WAR03	430935	5941915	431020	5942338	605.97	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Warwick Creek	WAR03	430949	5941916	431014	5942351	635.34	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Warwick Creek	WAR03	428929	5940279	429168	5940723	1,079.14	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Warwick Creek	WAR03	429180	5940714	429455	5940693	1,039.76	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Warwick Creek	WAR03	429467	5940690	430001	5940619	913.86	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR03	430001	5940619	430032	5940719	112.49	>90%	>35%	No	<5%	<5%	Stable	Moderately Diverse/Complex	18	22	81.82	Good
Warwick Creek	WAR03	430923	5941657	430949	5941916	686.78	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Warwick Creek	WAR03	430917	5941643	430935	5941915	700.58	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR03	431035	5941325	430917	5941643	467.18	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Warwick Creek	WAR03	431042	5941312	430923	5941657	498.71	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Warwick Creek	WAR03	431020	5942338	430921	5942721	569.49	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Warwick Creek	WAR03	431014	5942351	430936	5942721	541.43	>90%	15-35%	No	>15%	<5%	Stable	Moderately Diverse/Complex	13	22	59.09	Fair
Warwick Creek	WAR03	429380	5939514	428929	5940279	1,364.68	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Warwick Creek	WAR03	429394	5939514	429033	5940335	1,477.93	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Warwick Creek	WAR03	429168	5940723	429457	5940707	1,055.00	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Warwick Creek	WAR03	429033	5940335	429180	5940714	956.25	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Warwick Creek	WAR01	432038	5945759	432181	5945940	239.08	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Warwick Creek	WAR02	431660	5943218	431879	5943343	402.56	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Warwick Creek	WAR02	431652	5943206	431829	5943367	380.28	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS02	423537	5922212	423537	5922212	46.42	>90%	<15%	Yes	>15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Waskwei Creek	WAS01	427578	5923896	428062	5923976	1,221.38	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS01	427578	5923882	428074	5923988	1,257.15	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS01	426752	5923666	427572	5923897	1,777.42	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS01	426754	5923651	427571	5923883	1,776.03	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor

Name	Reach	Segment Start[a]		Segment End[a]		Length [m]	% Vegetation Cover[b]	% Woody Species Cover[b]	Evidence of Recruitment (Y/N) [b]	% Area of Human Caused Vegetation Cover Alteration[b]	% Area of Human Caused Bare Ground / Physical Alteration[b]	Overall Bank Stability? [b]	Adjacent Vegetation Structural Complexity[b]	Score	Possible Score	% Score	Health Category
		Easting	Northing	Easting	Northing												
Waskwei Creek	WAS01	426269	5923378	426754	5923651	1,025.25	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Waskwei Creek	WAS01	426254	5923375	426752	5923666	1,055.29	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Waskwei Creek	WAS01	425936	5923202	426253	5923364	496.73	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Waskwei Creek	WAS01	425936	5923188	426267	5923363	519.22	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Waskwei Creek	WAS02	425779	5922909	425925	5923199	481.54	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS02	425781	5922895	425924	5923184	484.11	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS02	425236	5922115	425779	5922909	1,098.39	>90%	<15%	No	>15%	<5%	Stable	Moderately Diverse/Complex	12	22	54.55	Fair
Waskwei Creek	WAS02	425241	5922101	425781	5922895	1,095.98	>90%	15-35%	No	<5%	<5%	Stable	Diverse/Complex	19	22	86.36	Good
Waskwei Creek	WAS02	424280	5921990	424834	5922205	847.49	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS02	424279	5921976	424847	5922212	877.31	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Waskwei Creek	WAS02	424847	5922212	425241	5922101	497.43	>90%	15-35%	No	5-15%	<5%	Stable	Not Diverse/Complex	13	22	59.09	Fair
Waskwei Creek	WAS02	424834	5922205	425236	5922115	522.23	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS02	423503	5922253	424273	5921976	1,587.86	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Waskwei Creek	WAS02	423511	5922264	424271	5921990	1,533.74	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS02	422647	5922111	423503	5922253	1,107.39	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Waskwei Creek	WAS02	422646	5922125	423511	5922264	1,117.30	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Waskwei Creek	WAS02	421005	5921752	422639	5922124	2,039.96	>90%	15-35%	No	5-15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Waskwei Creek	WAS02	421007	5921736	422637	5922109	2,037.71	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Waskwei Creek	WAS02	420559	5921037	420999	5921748	1,161.35	>90%	>35%	Yes	5-15%	<5%	Stable	Diverse/Complex	20	22	90.91	Good
Waskwei Creek	WAS02	420538	5920950	420998	5921730	1,234.70	>90%	>35%	Yes	>15%	<5%	Stable	Diverse/Complex	18	22	81.82	Good
Waskwei Creek	WAS02	420386	5920456	420559	5921037	701.29	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Waskwei Creek	WAS02	420401	5920456	420538	5920950	607.07	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS03	419188	5917014	420250	5919992	5,038.50	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS03	419202	5917014	419713	5918993	3,519.20	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Waskwei Creek	WAS03	419713	5918993	420344	5920224	1,807.74	>90%	15-35%	Yes	<5%	<5%	Stable	Moderately Diverse/Complex	19	22	86.36	Good
Waskwei Creek	WAS03	420250	5919992	420330	5920226	290.30	>90%	15-35%	Yes	5-15%	<5%	Stable	Moderately Diverse/Complex	17	22	77.27	Fair
Waskwei Creek	WAS03	417593	5914656	419187	5917008	4,027.46	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS03	417592	5914642	419201	5917007	4,050.55	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Waskwei Creek	WAS03	415951	5914935	417586	5914656	1,925.87	>90%	<15%	No	>15%	5-15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Waskwei Creek	WAS03	415951	5914921	417586	5914642	1,924.69	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS03	415583	5915072	415942	5914936	398.42	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Waskwei Creek	WAS03	415513	5915083	415583	5915072	70.23	>90%	<15%	Yes	>15%	>15%	Stable	Not Diverse/Complex	8	22	36.36	Poor
Waskwei Creek	WAS03	415456	5915092	415941	5914922	531.95	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor
Waskwei Creek	WAS03	415112	5915077	415456	5915092	360.80	>90%	15-35%	Yes	>15%	<5%	Stable	Moderately Diverse/Complex	15	22	68.18	Fair
Waskwei Creek	WAS03	415091	5915091	415513	5915083	445.44	>90%	<15%	No	5-15%	<5%	Stable	Not Diverse/Complex	12	22	54.55	Fair
Waskwei Creek	WAS03	414293	5914904	415091	5915091	851.53	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Waskwei Creek	WAS03	414293	5914890	415112	5915077	872.41	>90%	<15%	No	>15%	>15%	Stable	Not Diverse/Complex	6	22	27.27	Poor
Waskwei Creek	WAS03	412632	5914673	414285	5914904	2,814.81	>90%	15-35%	Yes	>15%	5-15%	Stable	Not Diverse/Complex	11	22	50	Fair
Waskwei Creek	WAS03	412631	5914659	414283	5914890	2,813.93	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Waskwei Creek	WAS03	411012	5914663	412624	5914660	1,678.93	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Waskwei Creek	WAS03	411007	5914676	412625	5914674	1,684.79	>90%	>35%	Yes	<5%	<5%	Stable	Diverse/Complex	22	22	100	Good
Waskwei Creek	WAS03	420330	5920234	420386	5920456	273.41	>90%	15-35%	No	>15%	<5%	Stable	Not Diverse/Complex	11	22	50	Fair
Waskwei Creek	WAS03	420344	5920232	420401	5920456	275.11	>90%	<15%	No	>15%	<5%	Stable	Not Diverse/Complex	10	22	45.45	Poor

(a) Start and end coordinates are displayed Universal Transvers Mercator (UTM) coordinate system, NAD83 Projection, Zone 12U.

(b) Columns refer to questions associated with the Alberta Conservation Association Aerial Videography - Lotic Riparian Assessment Scorecard.

APPENDIX B

Landcover Change Results between 1990 and 2010 by River Reach

Landcover Class	BIR01						BIR02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	191.3	<0.1	154.7	0.1	-36.6	-19.1	1,037.1	0.4	928.6	0.4	-108.5	-10.5
Trees	34.1	<0.1	30.2	<0.1	-3.9	-11.4	87.5	<0.1	63.5	<0.1	-24.0	-27.5
Forest Wetland	31.2	<0.1	27.4	<0.1	-3.9	-12.4	306.3	0.1	296.0	0.1	-10.3	-3.4
Cropland	2,229.5	0.9	2,275.2	1.0	45.7	2.0	6,048.8	2.6	6,212.0	2.6	163.3	2.7
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	0.1	<0.1	0.1	<0.1	<0.1	0.0	2.3	<0.1	1.9	<0.1	-0.4	-15.8
Roads	102.0	<0.1	106.1	<0.1	4.1	4.0	243.6	0.1	245.6	0.1	2.0	0.8
Settlement	31.0	<0.1	31.7	<0.1	0.6	2.1	99.2	<0.1	106.8	<0.1	7.5	7.6
Treed Wetland	19.4	<0.1	19.4	<0.1	<0.1	0.0	30.6	<0.1	30.6	<0.1	<0.1	<0.1
Water	54.3	<0.1	54.3	<0.1	<0.1	0.0	146.9	0.1	146.9	0.1	<0.1	<0.1
Wetland	66.2	<0.1	60.2	<0.1	-6.0	-9.1	166.0	0.1	137.0	0.1	-29.0	-17.5
Wetland Herb	0.3	<0.1	0.3	<0.1	<0.1	0.0	0.3	<0.1	0.3	<0.1	<0.1	<0.1
Wetland Shrub	22.2	<0.1	22.2	<0.1	<0.1	0.0	110.8	<0.1	110.2	<0.1	-0.6	-0.6
Grand Total	**2,781.7**	**1.2**	**2,781.7**	**1.2**	**0.0**	**0.0**	**8,279.3**	**3.5**	**8,279.3**	**3.5**	**0.0**	**0.0**

Landcover Class	CAM01						CAM02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	16.0	<0.1	14.5	<0.1	-1.5	-9.1	90.2	<0.1	63.6	<0.1	-26.6	-29.5
Trees	-	-	-	-	-	-	11.7	<0.1	12.8	<0.1	1.1	9.7
Forest Wetland	-	-	-	-	-	-	11.3	<0.1	10.4	<0.1	-0.9	-7.9
Cropland	36.8	<0.1	38.3	<0.1	1.5	4.0	874.4	0.4	903.6	0.4	29.2	3.3
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	1.9	<0.1	1.9	<0.1	<0.1	<0.1	21.6	<0.1	21.6	<0.1	<0.1	<0.1
Settlement	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.9	<0.1	0.9	<0.1	<0.1	<0.1
Treed Wetland	-	-	-	-	-	-	2.9	<0.1	2.9	<0.1	<0.1	<0.1
Water	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	29.0	<0.1	29.0	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	8.5	<0.1	5.7	<0.1	-2.8	-32.9
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	2.2	<0.1	2.2	<0.1	<0.1	<0.1
Grand Total	**54.8**	**<0.1**	**54.8**	**<0.1**	**0.0**	**0.0**	**1,052.6**	**0.4**	**1,052.6**	**0.4**	**0.0**	**0.0**

Landcover Class	CAM03					
	1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	124.0	0.1	103.2	<0.1	-20.8	-16.8
Trees	34.6	<0.1	26.0	<0.1	-8.5	-24.7
Forest Wetland	-	-	-	-	-	-
Cropland	3,012.8	1.3	3,041.7	1.3	28.9	1.0
Grassland Managed	-	-	-	-	-	-
Other Land	-	-	-	-	-	-
Roads	73.1	<0.1	73.1	<0.1	<0.1	<0.1
Settlement	7.3	<0.1	7.8	<0.1	0.5	6.8
Treed Wetland	1.7	<0.1	1.7	<0.1	<0.1	<0.1
Water	320.6	0.1	320.6	0.1	<0.1	<0.1
Wetland	4.1	<0.1	4.1	<0.1	<0.1	<0.1
Wetland Herb	-	-	-	-	-	-
Wetland Shrub	0.3	<0.1	0.3	<0.1	<0.1	<0.1
Grand Total	**3,578.4**	**1.5**	**3,578.4**	**1.5**	**0.0**	**0.0**

Landcover Class	COT01					
	1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	594.8	0.3	550.2	0.2	-44.6	-7.5
Trees	66.7	<0.1	48.9	<0.1	-17.8	-26.7
Forest Wetland	5.4	<0.1	4.7	<0.1	-0.7	-13.3
Cropland	7,089.2	3.0	7,153.0	3.0	63.8	0.9
Grassland Managed	-	-	-	-	-	-
Other Land	2.1	<0.1	2.1	<0.1	<0.1	<0.1
Roads	234.3	0.1	234.4	0.1	0.1	<0.1
Settlement	45.5	<0.1	46.7	<0.1	1.3	2.8
Treed Wetland	2.9	<0.1	2.9	<0.1	<0.1	<0.1
Water	943.5	0.4	943.5	0.4	<0.1	<0.1
Wetland	16.7	<0.1	14.8	<0.1	-2.0	-11.8
Wetland Herb	1.1	<0.1	0.9	<0.1	-0.2	-16.7
Wetland Shrub	3.0	<0.1	3.1	<0.1	0.2	6.1
Grand Total	**9,005.2**	**3.8**	**9,005.2**	**3.8**	**0.0**	**0.0**

Landcover Class	DEE01						DEE02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	16.4	<0.1	14.2	<0.1	-2.2	-13.5	433.7	0.2	309.8	0.1	-124.0	-28.6
Trees	1.9	<0.1	1.9	<0.1	<0.1	<0.1	30.2	<0.1	31.3	<0.1	1.0	3.4
Forest Wetland	-	-	-	-	-	-	2.6	<0.1	2.6	<0.1	<0.1	<0.1
Cropland	72.4	<0.1	74.6	<0.1	2.2	3.1	1,680.0	0.7	1,802.6	0.8	122.6	7.3
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	-	-	-	-	-	-	50.5	<0.1	50.5	<0.1	<0.1	<0.1
Settlement	-	-	-	-	-	-	7.1	<0.1	7.6	<0.1	0.4	6.3
Treed Wetland	-	-	-	-	-	-	3.6	<0.1	3.6	<0.1	<0.1	<0.1
Water	-	-	-	-	-	-	12.9	<0.1	12.9	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	29.8	<0.1	29.6	<0.1	-0.2	-0.6
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	7.4	<0.1	7.4	<0.1	<0.1	<0.1
Grand Total	**90.6**	**<0.1**	**90.6**	**<0.1**	**0.0**	**0.0**	**2,257.9**	**1.0**	**2,257.9**	**1.0**	**0.0**	**0.0**

Landcover Class	DEE03						DEE04					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	85.2	<0.1	68.7	<0.1	-16.5	-19.4	5.6	<0.1	4.5	<0.1	-1.2	-20.6
Trees	1.4	<0.1	1.7	<0.1	0.3	24.8	-	-	-	-	-	-
Forest Wetland	0.9	<0.1	0.9	<0.1	<0.1	<0.1	-	-	-	-	-	-
Cropland	137.0	0.1	153.2	0.1	16.2	11.8	0.9	<0.1	2.0	<0.1	1.2	132.0
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	-	-	-	-	-	-	-	-	-	-	-	-
Settlement	0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Treed Wetland	0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Water	27.6	<0.1	27.6	<0.1	<0.1	<0.1	0.5	<0.1	0.5	<0.1	<0.1	<0.1
Wetland	0.2	<0.1	0.2	<0.1	<0.1	<0.1	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	0.2	<0.1	0.2	<0.1	<0.1	<0.1	-	-	-	-	-	-
Grand Total	**252.6**	**0.1**	**252.6**	**0.1**	**0.0**	**0.0**	**7.0**	**<0.1**	**7.0**	**<0.1**	**0.0**	**0.0**

Landcover Class	DEE05						DEE06					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	199.8	0.1	132.3	0.1	-67.5	-33.8	334.6	0.1	231.9	0.1	-102.8	-30.7
Trees	26.4	<0.1	19.2	<0.1	-7.1	-27.0	81.2	<0.1	62.0	<0.1	-19.2	-23.6
Forest Wetland	6.2	<0.1	6.2	<0.1	<0.1	<0.1	9.9	<0.1	8.7	<0.1	-1.3	-12.7
Cropland	1,076.5	0.5	1,151.1	0.5	74.6	6.9	4,097.6	1.7	4,213.2	1.8	115.6	2.8
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	13.5	<0.1	13.5	<0.1	<0.1	<0.1	117.2	<0.1	117.6	<0.1	0.4	0.3
Settlement	11.1	<0.1	11.1	<0.1	<0.1	<0.1	72.3	<0.1	88.6	<0.1	16.4	22.7
Treed Wetland	5.2	<0.1	5.2	<0.1	<0.1	<0.1	5.9	<0.1	5.9	<0.1	<0.1	0.0
Water	173.6	0.1	173.6	0.1	<0.1	<0.1	273.7	0.1	273.7	0.1	<0.1	<0.1
Wetland	6.3	<0.1	6.3	<0.1	<0.1	<0.1	25.3	<0.1	16.8	<0.1	-8.6	-33.9
Wetland Herb	0.6	<0.1	0.6	<0.1	<0.1	<0.1	0.9	<0.1	0.4	<0.1	-0.5	-60.0
Wetland Shrub	2.6	<0.1	2.6	<0.1	<0.1	0.0	3.0	<0.1	3.0	<0.1	<0.1	<0.1
Grand Total	**1,521.8**	**0.6**	**1,521.8**	**0.6**	**0.0**	**0.0**	**5,021.5**	**2.1**	**5,021.5**	**2.1**	**0.0**	**0.0**

Landcover Class	HOL01						HOL02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	-	-	-	-	-	-	31.4	<0.1	27.4	<0.1	-4.1	-12.9
Trees	0.9	<0.1	0.5	<0.1	-0.3	-37.5	11.7	<0.1	8.9	<0.1	-2.9	-24.6
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	119.0	0.1	119.3	0.1	0.3	0.3	1,740.0	0.7	1,746.8	0.7	6.8	0.4
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	3.9	<0.1	3.9	<0.1	<0.1	<0.1	47.0	<0.1	47.0	<0.1	<0.1	<0.1
Settlement	1.6	<0.1	1.6	<0.1	<0.1	<0.1	2.6	<0.1	2.8	<0.1	0.2	6.9
Treed Wetland	-	-	-	-	-	-	0.5	<0.1	0.5	<0.1	<0.1	<0.1
Water	7.0	<0.1	7.0	<0.1	<0.1	<0.1	61.1	<0.1	61.1	<0.1	<0.1	<0.1
Wetland	0.4	<0.1	0.4	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**132.7**	**0.1**	**132.7**	**0.1**	**0.0**	**0.0**	**1,894.6**	**0.8**	**1,894.6**	**0.8**	**0.0**	**0.0**

Landcover Class	HOL03						HOL04					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	-	-	-	-	-	-	-	-	-	-	-	-
Trees	0.1	<0.1	<0.1	<0.1	-0.1	-100.0	0.1	<0.1	<0.1	<0.1	-0.1	-100.0
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	2.5	<0.1	2.6	<0.1	0.1	3.6	21.7	<0.1	21.5	<0.1	-0.2	-1.0
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.8	<0.1	2.8	<0.1	<0.1	<0.1
Settlement	0.1	<0.1	0.1	<0.1	<0.1	<0.1	1.7	<0.1	2.0	<0.1	0.3	15.6
Treed Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Water	1.1	<0.1	1.1	<0.1	<0.1	<0.1	0.4	<0.1	0.4	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**3.8**	**<0.1**	**3.8**	**<0.1**	**0.0**	**0.0**	**26.8**	**<0.1**	**26.8**	**<0.1**	**0.0**	**0.0**

Landcover Class	HOL05						HOL06					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	-	-	-	-	-	-	1.6	<0.1	1.6	<0.1	<0.1	<0.1
Trees	0.9	<0.1	0.8	<0.1	-0.1	-13.1	1.5	<0.1	0.7	<0.1	-0.8	-53.4
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	68.4	<0.1	68.4	<0.1	<0.1	<0.1	197.5	0.1	198.3	0.1	0.8	0.4
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	1.6	<0.1	1.6	<0.1	<0.1	<0.1	2.9	<0.1	2.9	<0.1	<0.1	<0.1
Settlement	<0.1	<0.1	0.1	<0.1	0.1	n/a	0.3	<0.1	0.3	<0.1	<0.1	<0.1
Treed Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Water	14.7	<0.1	14.7	<0.1	<0.1	<0.1	0.7	<0.1	0.7	<0.1	<0.1	<0.1
Wetland	1.4	<0.1	1.4	<0.1	<0.1	<0.1	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**87.0**	**<0.1**	**87.0**	**<0.1**	**0.0**	**0.0**	**204.4**	**0.1**	**204.4**	**0.1**	**0.0**	**0.0**

Landcover Class	HOL07						HOL08					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	-	-	-	-	-	-	-	-	-	-	-	-
Trees	-	-	-	-	-	-	0.5	<0.1	0.4	<0.1	-0.1	-20.0
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	20.7	<0.1	20.7	<0.1	<0.1	<0.1	161.7	<0.1	161.8	<0.2	0.1	0.1
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	-	-	-	-	-	-	3.3	<0.1	3.3	<0.1	<0.1	<0.1
Settlement	-	-	-	-	-	-	0.8	<0.1	0.8	<0.1	<0.1	<0.1
Treed Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Water	7.9	<0.1	7.9	<0.1	<0.1	<0.1	34.3	<0.1	34.3	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**28.6**	**<0.1**	**28.6**	**<0.1**	**0.0**	**0.0**	**200.7**	**0.1**	**200.7**	**0.1**	**0.0**	**0.0**

Landcover Class	HOL09						HOL10					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	-	-	-	-	-	-	13.2	<0.1	12.2	<0.1	-1.1	-8.2
Trees	0.3	0.0	0.3	<0.1	<0.1	<0.1	6.4	<0.1	3.9	<0.1	-2.5	-39.0
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	126.3	0.1	126.3	0.1	<0.1	<0.1	654.3	0.3	657.8	0.3	3.6	0.5
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	1.8	<0.1	1.8	<0.1	<0.1	<0.1	20.7	<0.1	20.7	<0.1	<0.1	0.0
Settlement	-	-	-	-	-	-	0.6	<0.1	0.6	<0.1	<0.1	0.0
Treed Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Water	6.4	<0.1	6.4	<0.1	<0.1	<0.1	36.9	<0.1	36.9	<0.1	<0.1	0.0
Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**134.8**	**0.1**	**134.8**	**0.1**	**0.0**	**0.0**	**732.2**	**0.3**	**732.2**	**0.3**	**0.0**	**0.0**

Landcover Class	HOL11						HOL12					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	10.8	<0.1	10.5	<0.1	-0.3	-2.9	-	-	-	-	-	-
Trees	6.4	<0.1	1.9	<0.1	-4.5	-70.5	0.7	<0.1	0.6	<0.1	-0.1	-13.7
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	1,048.9	0.4	1,051.5	0.4	2.5	0.2	47.2	<0.1	47.3	<0.1	0.1	0.2
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	36.8	<0.1	38.7	<0.1	1.9	5.3	0.3	<0.1	0.3	<0.1	<0.1	<0.1
Settlement	9.4	<0.1	9.8	<0.1	0.4	3.8	-	-	-	-	-	-
Treed Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Water	46.0	<0.1	46.0	<0.1	<0.1	<0.1	0.3	<0.1	0.3	<0.1	<0.1	<0.1
Wetland	0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**1,158.4**	**0.5**	**1,158.4**	**0.5**	**0.0**	**0.0**	**48.5**	**<0.1**	**48.5**	**<0.1**	**0.0**	**0.0**

Landcover Class	HOL13						HOL14					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	-	-	-	-	-	-	2.6	<0.1	2.6	<0.1	<0.1	<0.1
Trees	1.4	<0.1	1.0	<0.1	-0.3	-25.4	1.0	<0.1	0.2	<0.1	-0.8	-83.1
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	182.1	0.1	182.3	0.1	0.3	0.1	480.4	0.2	481.2	0.2	0.8	0.2
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	6.8	<0.1	6.8	<0.1	<0.1	<0.1	16.2	<0.1	16.2	<0.1	<0.1	<0.1
Settlement	9.1	<0.1	9.2	<0.1	0.1	1.0	0.4	<0.1	0.4	<0.1	<0.1	<0.1
Treed Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Water	38.6	<0.1	38.6	<0.1	<0.1	<0.1	28.4	<0.1	28.4	<0.1	<0.1	<0.1
Wetland	0.3	<0.1	0.3	<0.1	<0.1	<0.1	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**238.1**	**0.1**	**238.1**	**0.1**	**0.0**	**0.0**	**529.0**	**0.2**	**529.0**	**0.2**	**0.0**	**0.0**

Landcover Class	HOL15						HOL16					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	3.0	<0.1	<0.1	<0.1	-3.0	-100.0	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Trees	5.5	<0.1	3.3	<0.1	-2.3	-40.6	0.8	<0.1	0.7	<0.1	-0.1	-11.4
Forest Wetland	1.4	<0.1	1.4	<0.1	<0.1	<0.1	-	-	-	-	-	-
Cropland	1,513.4	0.6	1,518.4	0.6	4.9	0.3	490.8	0.2	490.9	0.2	0.1	<0.1
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	57.8	<0.1	57.8	<0.1	<0.1	<0.1	22.8	<0.1	22.8	<0.1	<0.1	<0.1
Settlement	1.7	<0.1	2.0	<0.1	0.3	15.7	0.3	<0.1	0.3	<0.1	<0.1	<0.1
Treed Wetland	0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Water	103.3	<0.1	103.3	<0.1	<0.1	<0.1	73.5	<0.1	73.5	<0.1	<0.1	<0.1
Wetland	0.2	<0.1	0.2	<0.1	<0.1	<0.1	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**1,686.3**	**0.7**	**1,686.3**	**0.7**	**0.0**	**0.0**	**588.2**	**0.2**	**588.2**	**0.2**	**0.0**	**0.0**

Landcover Class	HOL17						HOL18					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	0.8	<0.1	0.7	<0.1	-0.1	-9.9	5.8	<0.1	2.8	<0.1	-2.9	-50.9
Trees	-	-	-	-	-	-	2.3	<0.1	1.6	<0.1	-0.6	-28.0
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	25.4	0.0	25.5	<0.1	0.1	0.3	382.8	0.2	386.3	0.2	3.6	0.9
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	0.9	<0.1	0.9	<0.1	<0.1	<0.1	7.2	<0.1	7.2	<0.1	<0.1	<0.1
Settlement	-	-	-	-	-	-	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Treed Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Water	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	28.5	<0.1	28.5	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**27.1**	**<0.1**	**27.1**	**<0.1**	**0.0**	**0.0**	**426.7**	**0.2**	**426.7**	**0.2**	**0.0**	**0.0**

Landcover Class	HOL19						HOL20					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	-	-	-	-	-	-	-	-	-	-	-	-
Trees	1.0	<0.1	0.5	<0.1	-0.5	-47.9	0.1	<0.1	<0.1	<0.1	-0.1	-100.0
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	502.6	0.2	503.0	0.2	0.5	0.1	92.4	<0.1	92.5	<0.1	0.1	0.1
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	12.1	<0.1	12.1	<0.1	<0.1	<0.1	5.6	<0.1	5.6	<0.1	<0.1	<0.1
Settlement	0.3	<0.1	0.3	<0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1	<0.1	<0.1
Treed Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Water	8.5	<0.1	8.5	<0.1	<0.1	<0.1	2.0	<0.1	2.0	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**524.5**	**0.2**	**524.5**	**0.2**	**0.0**	**0.0**	**100.3**	**<0.1**	**100.3**	**<0.1**	**0.0**	**0.0**

Landcover Class	HOL21					
	1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	12.3	<0.1	7.2	<0.1	-5.1	-41.3
Trees	24.5	<0.1	10.2	<0.1	-14.3	-58.4
Forest Wetland	-	-	-	-	-	-
Cropland	3,197.0	1.4	3,215.7	1.4	18.7	0.6
Grassland Managed	-	-	-	-	-	-
Other Land	-	-	-	-	-	-
Roads	88.6	<0.1	88.6	<0.1	<0.1	<0.1
Settlement	5.7	<0.1	6.4	<0.1	0.7	12.7
Treed Wetland	1.4	<0.1	1.4	<0.1	<0.1	<0.1
Water	201.9	0.1	201.9	0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-
Grand Total	**3,531.4**	**1.5**	**3,531.4**	**1.5**	**0.0**	**0.0**

Landcover Class	IRI01						IRI02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	315.0	0.1	278.8	0.1	-36.2	-11.5	166.5	0.1	125.1	0.1	-41.4	-24.9
Trees	34.2	<0.1	23.1	<0.1	-11.1	-32.5	33.2	<0.1	19.5	<0.1	-13.7	-41.3
Forest Wetland	3.0	<0.1	2.8	<0.1	-0.2	-7.0	6.1	<0.1	5.8	<0.1	-0.3	-4.4
Cropland	3,334.2	1.4	3,376.5	1.4	42.3	1.3	2,629.0	1.1	2,683.4	1.1	54.4	2.1
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	107.9	<0.1	107.9	<0.1	<0.1	<0.1	87.6	<0.1	89.7	<0.1	2.2	2.5
Settlement	29.0	<0.1	35.1	<0.1	6.0	20.8	23.7	<0.1	24.7	<0.1	1.0	4.3
Treed Wetland	3.1	<0.1	3.1	<0.1	<0.1	<0.1	4.9	<0.1	4.9	<0.1	<0.1	<0.1
Water	24.3	<0.1	24.3	<0.1	<0.1	<0.1	13.6	<0.1	13.6	<0.1	<0.1	<0.1
Wetland	97.5	<0.1	96.8	<0.1	-0.7	-0.7	18.2	<0.1	16.1	<0.1	-2.2	-11.8
Wetland Herb	0.2	<0.1	0.2	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Wetland Shrub	1.3	<0.1	1.3	<0.1	<0.1	<0.1	0.5	<0.1	0.5	<0.1	<0.1	<0.1
Grand Total	**3,949.8**	**1.7**	**3,949.8**	**1.7**	**0.0**	**0.0**	**2,983.5**	**1.3**	**2,983.5**	**1.3**	**0.0**	**0.0**

Landcover Class	IRI03						IRI04					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	230.7	0.1	178.9	0.1	-51.8	-22.4	186.8	0.1	173.8	0.1	-13.0	-6.9
Trees	26.7	<0.1	13.3	<0.1	-13.4	-50.2	7.3	<0.1	5.7	<0.1	-1.6	-22.3
Forest Wetland	4.7	<0.1	3.8	<0.1	-0.9	-19.2	3.8	<0.1	1.9	<0.1	-1.9	-50.0
Cropland	2,591.8	1.1	2,655.4	1.1	63.7	2.5	731.5	0.3	744.1	0.3	12.5	1.7
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Roads	74.8	<0.1	74.8	<0.1	<0.1	<0.1	24.3	<0.1	24.3	<0.1	<0.1	<0.1
Settlement	29.1	<0.1	34.4	<0.1	5.2	18.0	50.3	<0.1	55.3	<0.1	5.0	10.0
Treed Wetland	5.5	<0.1	5.5	<0.1	<0.1	<0.1	3.1	<0.1	3.4	<0.1	0.3	8.7
Water	1.6	<0.1	1.6	<0.1	<0.1	<0.1	14.0	<0.1	14.0	<0.1	0.0	<0.1
Wetland	7.9	<0.1	5.5	<0.1	-2.4	-30.7	8.2	<0.1	7.4	<0.1	-0.8	-9.9
Wetland Herb	-	-	-	-	-	-	0.3	<0.1	<0.1	<0.1	-0.3	-100.0
Wetland Shrub	1.3	<0.1	1.0	<0.1	-0.4	-26.7	0.5	<0.1	0.2	<0.1	-0.3	-60.0
Grand Total	**2,974.1**	**1.3**	**2,974.1**	**1.3**	**0.0**	**0.0**	**1,029.9**	**0.4**	**1,029.9**	**0.4**	**0.0**	**0.0**

Landcover Class	LAM01						LAM02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	-	-	-	-	-	-	262.2	0.1	222.1	0.1	-40.1	-15.3
Trees	1.9	<0.1	0.3	<0.1	-1.6	-85.6	79.9	<0.1	66.4	<0.1	-13.5	-16.9
Forest Wetland	-	-	-	-	-	-	4.6	<0.1	0.1	<0.1	-4.5	-98.5
Cropland	137.4	0.1	139.0	0.1	1.6	1.2	8,360.3	3.5	8,429.4	3.6	69.1	0.8
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	0.3	<0.1	0.3	<0.1	<0.1	<0.1
Roads	7.4	<0.1	7.4	<0.1	<0.1	<0.1	268.7	0.1	269.0	0.1	0.3	0.1
Settlement	0.2	<0.1	0.2	<0.1	<0.1	<0.1	19.2	<0.1	19.2	<0.1	0.1	0.5
Treed Wetland	-	-	-	-	-	-	4.4	<0.1	4.3	<0.1	-0.1	-2.0
Water	0.1	<0.1	0.1	<0.1	<0.1	<0.1	261.1	0.1	261.1	0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	12.4	<0.1	1.2	<0.1	-11.3	-90.6
Wetland Herb	-	-	-	-	-	-	3.2	<0.1	3.2	<0.1	<0.1	<0.1
Wetland Shrub	-	-	-	-	-	-	7.3	<0.1	7.3	<0.1	<0.1	<0.1
Grand Total	**146.9**	**0.1**	**146.9**	**0.1**	**0.0**	**0.0**	**9,283.4**	**3.9**	**9,283.4**	**3.9**	**0.0**	**0.0**

Landcover Class	MAR01						MAR02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	4.4	<0.1	1.8	<0.1	-2.6	-59.1	1,11.7	<0.1	46.3	<0.1	-65.4	-58.5
Trees	0.9	<0.1	0.5	<0.1	-0.3	-38.9	29.8	<0.1	23.4	<0.1	-6.4	-21.4
Forest Wetland	-	-	-	-	-	-	1.2	<0.1	1.2	<0.1	<0.1	<0.1
Cropland	31.8	<0.1	34.7	<0.1	3.0	9.3	2,186.1	0.9	2,252.7	1.0	66.7	3.0
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	0.7	<0.1	0.7	<0.1	<0.1	0.0	72.2	<0.1	72.2	<0.1	<0.1	<0.1
Settlement	0.2	<0.1	0.2	<0.1	<0.1	0.0	46.3	<0.1	53.0	<0.1	6.6	14.3
Treed Wetland	-	-	-	-	-	-	1.5	<0.1	1.5	<0.1	<0.1	<0.1
Water	-	-	-	-	-	-	10.4	<0.1	10.4	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	1.2	<0.1	1.2	<0.1	<0.1	<0.1
Wetland Herb	-	-	-	-	-	-	1.9	<0.1	0.4	<0.1	-1.5	-81.0
Wetland Shrub	-	-	-	-	-	-	0.4	<0.1	0.4	<0.1	<0.1	<0.1
Grand Total	**38.0**	**<0.1**	**38.0**	**<0.1**	**0.0**	**0.0**	**2,462.7**	**1.0**	**2,462.7**	**1.0**	**0.0**	**0.0**

Landcover Class	MAR03					
	1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	79.1	<0.1	54.0	<0.1	-25.0	-31.7
Trees	12.9	<0.1	6.3	<0.1	-6.6	-51.1
Forest Wetland	-	-	-	-	-	-
Cropland	753.0	0.3	784.6	0.3	31.6	4.2
Grassland Managed	-	-	-	-	-	-
Other Land	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Roads	13.8	<0.1	13.8	<0.1	<0.1	<0.1
Settlement	11.7	<0.1	11.7	<0.1	<0.1	<0.1
Treed Wetland	0.4	<0.1	0.4	<0.1	<0.1	<0.1
Water	6.8	<0.1	6.8	<0.1	<0.1	<0.1
Wetland	1.3	<0.1	1.3	<0.1	<0.1	<0.1
Wetland Herb	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-
Grand Total	**878.9**	**0.4**	**878.9**	**0.4**	**0.0**	**0.0**

Landcover Class	MUN01						MUN02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	19.8	<0.1	9.5	<0.1	-10.4	-52.2	81.3	<0.1	70.9	<0.1	-10.4	-12.8
Trees	0.7	<0.1	2.3	<0.1	1.6	248.4	20.7	<0.1	15.9	<0.1	-4.7	-22.9
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	87.0	<0.1	95.7	<0.1	8.7	10.0	1,173.8	0.5	1,188.8	0.5	15.0	1.3
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	2.5	<0.1	2.5	<0.1	<0.1	<0.1	33.5	<0.1	33.7	<0.1	0.2	0.6
Settlement	0.6	<0.1	0.6	<0.1	<0.1	<0.1	2.8	<0.1	2.8	<0.1	<0.1	<0.1
Treed Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Water	3.5	<0.1	3.5	<0.1	<0.1	<0.1	43.2	<0.1	43.2	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**114.1**	**<0.1**	**114.1**	**<0.1**	**0.0**	**0.0**	**1,355.3**	**0.6**	**1,355.3**	**0.6**	**0.0**	**0.0**

Landcover Class	MUN03						MUN04					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	120.2	0.1	113.1	<0.1	-7.1	-5.9	34.4	<0.1	28.4	<0.1	-6.0	-17.6
Trees	17.9	<0.1	12.7	<0.1	-5.1	-28.8	2.4	<0.1	2.5	<0.1	0.1	5.6
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	1,508.4	0.6	1,520.6	0.6	12.1	0.8	324.5	0.1	330.5	0.1	5.9	1.8
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	64.6	<0.1	64.7	<0.1	0.1	0.1	12.0	<0.1	12.0	<0.1	<0.1	<0.1
Settlement	12.7	<0.1	12.7	<0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1	<0.1	<0.1
Treed Wetland	0.3	<0.1	0.3	<0.1	<0.1	<0.1	-	-	-	-	-	-
Water	16.8	<0.1	16.8	<0.1	<0.1	<0.1	2.0	0.0	2.0	<0.1	<0.1	<0.1
Wetland	0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**1,740.8**	**0.7**	**1,740.8**	**0.7**	**0.0**	**0.0**	**375.5**	**0.2**	**375.5**	**0.2**	**0.0**	**0.0**

Landcover Class	MUN05					
	1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	51.5	<0.1	49.2	<0.1	-2.3	-4.4
Trees	8.6	<0.1	5.8	<0.1	-2.9	-33.2
Forest Wetland	-	-	-	-	-	-
Cropland	696.1	0.3	701.3	0.3	5.1	0.7
Grassland Managed	-	-	-	-	-	-
Other Land	-	-	-	-	-	-
Roads	17.4	<0.1	17.4	<0.1	<0.1	<0.1
Settlement	1.4	<0.1	1.4	<0.1	<0.1	<0.1
Treed Wetland	-	-	-	-	-	-
Water	12.5	<0.1	12.5	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-
Grand Total	**787.5**	**0.3**	**787.5**	**0.3**	**0.0**	**0.0**

Landcover Class	STR01						STR02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	146.1	0.1	75.1	<0.1	-71.0	-48.6	159.1	0.1	74.2	<0.1	-84.9	-53.4
Trees	20.1	<0.1	19.8	<0.1	-0.2	-1.1	66.0	<0.1	48.2	<0.1	-17.8	-26.9
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	2,164.7	0.9	2,235.9	0.9	71.2	3.3	4,133.6	1.8	4,235.9	1.8	102.3	2.5
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Roads	56.1	<0.1	56.1	<0.1	<0.1	<0.1	136.6	0.1	136.6	0.1	<0.1	<0.1
Settlement	7.5	<0.1	7.5	<0.1	<0.1	<0.1	27.5	<0.1	27.9	<0.1	0.4	1.3
Treed Wetland	2.2	<0.1	2.2	<0.1	<0.1	<0.1	4.1	<0.1	4.1	<0.1	<0.1	<0.1
Water	7.6	<0.1	7.6	<0.1	<0.1	<0.1	11.7	<0.1	11.7	<0.1	<0.1	<0.1
Wetland	5.7	<0.1	5.7	<0.1	<0.1	<0.1	5.0	<0.1	5.0	<0.1	<0.1	<0.1
Wetland Herb	-	-	-	-	-	-	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Wetland Shrub	1.0	<0.1	1.0	<0.1	<0.1	<0.1	1.5	<0.1	1.5	<0.1	<0.1	<0.1
Grand Total	**2,411.0**	**1.0**	**2,411.0**	**1.0**	**0.0**	**0.0**	**4,545.2**	**1.9**	**4,545.2**	**1.9**	**0.0**	**0.0**

Landcover Class	STR03					
	1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	52.5	<0.1	29.4	<0.1	-23.1	-44.0
Trees	12.5	<0.1	5.4	<0.1	-7.1	-57.0
Forest Wetland	-	-	-	-	-	-
Cropland	774.1	0.3	804.2	0.3	30.1	3.9
Grassland Managed	-	-	-	-	-	-
Other Land	-	-	-	-	-	-
Roads	17.2	<0.1	17.2	<0.1	<0.1	<0.1
Settlement	6.2	<0.1	6.3	<0.1	0.1	1.5
Treed Wetland	0.4	<0.1	0.4	<0.1	<0.1	<0.1
Water	2.8	<0.1	2.8	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-
Wetland Shrub	0.2	<0.1	0.2	<0.1	<0.1	<0.1
Grand Total	**865.8**	**0.4**	**865.8**	**0.4**	**0.0**	**0.0**

Landcover Class	VER01						VER02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	704.5	0.3	590.1	0.2	-114.5	-16.2	799.9	0.3	677.3	0.3	-122.6	-15.3
Trees	41.7	<0.1	45.8	<0.1	4.0	9.6	112.7	<0.1	95.6	<0.1	-17.1	-15.2
Forest Wetland	1.8	<0.1	1.8	<0.1	<0.1	<0.1	1.3	<0.1	1.3	<0.1	<0.1	<0.1
Cropland	3,485.8	1.5	3,595.9	1.5	1,10.2	3.2	7,301.6	3.1	7,433.0	3.1	131.3	1.8
Grassland Managed	18.2	<0.1	18.2	<0.1	<0.1	<0.1	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	0.2	<0.1	0.2	<0.1	<0.1	<0.1
Roads	110.3	<0.1	110.4	<0.1	0.1	0.1	224.1	0.1	224.5	0.1	0.4	0.2
Settlement	39.5	<0.1	39.6	<0.1	0.2	0.5	126.2	0.1	134.7	0.1	8.5	6.7
Treed Wetland	0.8	<0.1	0.8	<0.1	<0.1	<0.1	5.3	<0.1	5.3	<0.1	<0.1	<0.1
Water	18.8	<0.1	18.8	<0.1	<0.1	<0.1	41.3	<0.1	41.3	<0.1	<0.1	<0.1
Wetland	28.5	<0.1	28.5	<0.1	<0.1	<0.1	63.8	<0.1	63.7	<0.1	-0.1	-0.1
Wetland Herb	-	-	-	-	-	-	0.7	<0.1	0.3	<0.1	-0.4	-62.5
Wetland Shrub	7.5	<0.1	7.5	<0.1	<0.1	<0.1	18.0	<0.1	18.0	<0.1	<0.1	<0.1
Grand Total	**4,457.4**	**1.9**	**4,457.4**	**1.9**	**0.0**	**0.0**	**8,695.1**	**3.7**	**8,695.1**	**3.7**	**0.0**	**0.0**

Landcover Class	VER03						VER04					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	117.9	<0.1	103.4	<0.1	-14.5	-12.3	992.7	0.4	709.7	0.3	-283.1	-28.5
Trees	11.6	<0.1	9.9	<0.1	-1.6	-14.2	105.3	<0.1	78.2	<0.1	-27.2	-25.8
Forest Wetland	-	-	-	-	-	-	15.9	<0.1	15.7	<0.1	-0.2	-1.1
Cropland	598.6	0.3	614.7	0.3	16.0	2.7	6,467.7	2.7	6,750.8	2.9	283.1	4.4
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	5.7	<0.1	5.7	<0.1	<0.1	<0.1	189.7	0.1	196.4	0.1	6.7	3.6
Settlement	0.9	<0.1	1.0	<0.1	0.1	10.5	101.0	<0.1	123.7	0.1	22.7	22.4
Treed Wetland	1.1	<0.1	1.1	<0.1	<0.1	<0.1	17.5	<0.1	17.5	<0.1	<0.1	<0.1
Water	8.0	<0.1	8.0	<0.1	<0.1	<0.1	139.5	0.1	139.5	0.1	<0.1	<0.1
Wetland	2.3	<0.1	2.3	<0.1	<0.1	<0.1	29.9	<0.1	29.0	<0.1	-0.9	-3.0
Wetland Herb	-	-	-	-	-	-	1.6	<0.1	0.4	<0.1	-1.3	-77.8
Wetland Shrub	2.1	<0.1	2.1	<0.1	<0.1	<0.1	8.0	<0.1	8.0	<0.1	<0.1	<0.1
Grand Total	**748.1**	**0.3**	**748.1**	**0.3**	**0.0**	**0.0**	**8,068.8**	**3.4**	**8,068.8**	**3.4**	**0.0**	**0.0**

Landcover Class	VER05						VER06					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	642.8	0.3	432.1	0.2	-210.7	-32.8	761.0	0.3	626.1	0.3	-134.9	-17.7
Trees	118.2	0.1	105.8	<0.1	-12.4	-10.5	51.1	<0.1	53.0	<0.1	1.9	3.7
Forest Wetland	1.4	<0.1	1.4	<0.1	<0.1	<0.1	5.2	<0.1	1.1	<0.1	-4.1	-79.3
Cropland	6,432.4	2.7	6,650.9	2.8	218.6	3.4	3,658.3	1.5	3,801.6	1.6	143.3	3.9
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	0.2	<0.1	0.2	<0.1	<0.1	<0.1	-	-	-	-	-	-
Roads	165.9	0.1	166.1	0.1	0.2	0.1	81.6	<0.1	81.6	<0.1	<0.1	<0.1
Settlement	74.5	<0.1	78.8	<0.1	4.3	5.8	11.9	<0.1	11.9	<0.1	<0.1	<0.1
Treed Wetland	10.6	<0.1	10.6	<0.1	<0.1	<0.1	16.6	<0.1	16.6	<0.1	<0.1	<0.1
Water	133.5	0.1	133.5	0.1	<0.1	<0.1	48.6	<0.1	48.6	<0.1	<0.1	<0.1
Wetland	25.5	<0.1	25.5	<0.1	<0.1	<0.1	41.9	<0.1	35.7	<0.1	-6.1	-14.6
Wetland Herb	1.0	<0.1	1.0	<0.1	<0.1	<0.1	-	-	-	-	-	-
Wetland Shrub	9.3	<0.1	9.3	<0.1	<0.1	<0.1	11.7	<0.1	11.7	<0.1	<0.1	<0.1
Grand Total	**7,615.1**	**3.2**	**7,615.1**	**3.2**	**0.0**	**0.0**	**4,687.8**	**2.0**	**4,687.8**	**2.0**	**0.0**	**0.0**

Landcover Class	VER07						VER08					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	265.3	0.1	182.2	0.1	-83.1	-31.3	218.6	0.1	185.7	0.1	-32.9	-15.1
Trees	39.1	<0.1	31.1	<0.1	-8.0	-20.4	18.9	<0.1	13.1	<0.1	-5.8	-30.6
Forest Wetland	8.3	<0.1	7.4	<0.1	-0.9	-10.9	-	-	-	-	-	-
Cropland	1,658.1	0.7	1,703.0	0.7	44.9	2.7	1,585.0	0.7	1,561.4	0.7	-23.6	-1.5
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Roads	169.5	0.1	169.5	0.1	<0.1	<0.1	90.9	<0.1	90.9	<0.1	<0.1	<0.1
Settlement	293.0	0.1	349.0	0.1	56.1	19.1	115.0	<0.1	178.7	0.1	63.7	55.4
Treed Wetland	9.9	<0.1	9.9	<0.1	<0.1	<0.1	0.5	<0.1	0.5	<0.1	<0.1	<0.1
Water	27.2	<0.1	27.2	<0.1	<0.1	<0.1	233.0	0.1	233.0	0.1	<0.1	<0.1
Wetland	25.1	<0.1	19.7	<0.1	-5.4	-21.5	14.4	<0.1	14.0	<0.1	-0.5	-3.1
Wetland Herb	4.7	<0.1	1.2	<0.1	-3.5	-75.1	1.3	<0.1	1.0	<0.1	-0.4	-26.7
Wetland Shrub	7.2	<0.1	7.2	<0.1	<0.1	<0.1	2.7	<0.1	2.1	<0.1	-0.6	-23.3
Grand Total	**2,507.5**	**1.1**	**2,507.5**	**1.1**	**0.0**	**0.0**	**2,280.3**	**1.0**	**2,280.3**	**1.0**	**0.0**	**0.0**

Landcover Class	VER09						VER10					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	1,435.8	0.6	1,123.0	0.5	-312.8	-21.8	4,106.6	1.7	2,812.0	1.2	-1,294.6	-31.5
Trees	158.7	0.1	138.7	0.1	-20.1	-12.6	306.8	0.1	249.9	0.1	-56.9	-18.6
Forest Wetland	24.9	<0.1	21.1	<0.1	-3.9	-15.5	86.5	<0.1	76.8	<0.1	-9.7	-11.2
Cropland	16,596.1	7.0	16,926.4	7.2	330.2	2.0	22,272.3	9.4	23,629.2	10.0	1,356.8	6.1
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	0.4	<0.1	0.4	<0.1	<0.1	<0.1	1.3	<0.1	1.3	<0.1	<0.1	<0.1
Roads	441.6	0.2	464.4	0.2	22.8	5.2	680.2	0.3	695.8	0.3	15.6	2.3
Settlement	100.2	<0.1	100.8	<0.1	0.6	0.6	71.7	<0.1	71.9	<0.1	0.2	0.3
Treed Wetland	29.1	<0.1	29.1	<0.1	<0.1	<0.1	59.3	<0.1	59.3	<0.1	<0.1	<0.1
Water	200.9	0.1	200.9	0.1	<0.1	<0.1	325.4	0.1	325.4	0.1	<0.1	<0.1
Wetland	105.9	<0.1	89.0	<0.1	-16.8	-15.9	181.7	0.1	170.4	0.1	-11.3	-6.2
Wetland Herb	0.5	<0.1	0.5	<0.1	<0.1	<0.1	-	-	-	-	-	-
Wetland Shrub	28.3	<0.1	28.2	<0.1	-0.1	-0.3	26.3	<0.1	26.3	<0.1	<0.1	<0.1
Grand Total	**19,122.5**	**8.1**	**19,122.5**	**8.1**	**0.0**	**0.0**	**28,118.2**	**11.9**	**28,118.2**	**11.9**	**0.0**	**0.0**

Landcover Class	VER11						VER12					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	5,126.7	2.2	4,507.1	1.9	-619.6	-12.1	219.1	0.1	166.5	0.1	-52.6	-24.0
Trees	165.7	0.1	119.7	0.1	-46.0	-27.8	23.6	<0.1	15.7	<0.1	-7.9	-33.4
Forest Wetland	134.0	0.1	98.7	<0.1	-35.3	-26.3	-	-	-	-	-	-
Cropland	12,789.0	5.4	13,509.7	5.7	720.7	5.6	1,027.6	0.4	1,066.7	0.5	39.1	3.8
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	1.3	<0.1	1.3	<0.1	<0.1	<0.1	-	-	-	-	-	-
Roads	520.3	0.2	520.3	0.2	<0.1	<0.1	90.1	<0.1	90.7	<0.1	0.5	0.6
Settlement	273.9	0.1	279.9	0.1	6.0	2.2	154.5	0.1	179.6	0.1	25.1	16.3
Treed Wetland	25.2	<0.1	25.1	0.0	-0.1	-0.4	8.6	<0.1	7.9	<0.1	-0.7	-8.3
Water	1015.9	0.4	1015.9	0.4	<0.1	<0.1	41.7	<0.1	41.7	<0.1	<0.1	<0.1
Wetland	48.6	<0.1	22.8	<0.1	-25.7	-53.0	0.9	<0.1	0.9	<0.1	<0.1	<0.1
Wetland Herb	1.6	<0.1	1.4	<0.1	-0.3	-16.7	1.6	<0.1	1.3	<0.1	-0.3	-16.7
Wetland Shrub	16.9	<0.1	17.2	<0.1	0.2	1.5	11.7	<0.1	8.4	<0.1	-3.3	-28.3
Grand Total	**20,119.1**	**8.5**	**20,119.1**	**8.5**	**0.0**	**0.0**	**1,579.4**	**0.7**	**1,579.4**	**0.7**	**0.0**	**0.0**

Landcover Class	VER13						VER14					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	424.2	0.2	391.5	0.2	-32.7	-7.7	87.9	<0.1	65.0	<0.1	-22.9	-26.1
Trees	24.1	<0.1	25.9	<0.1	1.8	7.3	19.4	<0.1	12.8	<0.1	-6.6	-34.1
Forest Wetland	2.3	<0.1	1.5	<0.1	-0.8	-34.6	2.0	<0.1	1.3	0.0	-0.6	-31.8
Cropland	1,816.5	0.8	1,849.7	0.8	33.1	1.8	2,405.3	1.0	2,445.1	1.0	39.8	1.7
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	61.5	<0.1	61.5	<0.1	<0.1	<0.1	70.4	<0.1	70.6	<0.1	0.2	0.3
Settlement	18.7	<0.1	19.6	<0.1	0.9	4.8	3.6	<0.1	3.7	<0.1	0.1	2.1
Treed Wetland	5.1	<0.1	5.1	<0.1	<0.1	0.0	0.8	<0.1	0.8	<0.1	<0.1	<0.1
Water	346.5	0.1	346.5	0.1	<0.1	<0.1	417.6	0.2	417.6	0.2	<0.1	<0.1
Wetland	5.5	<0.1	3.2	<0.1	-2.2	-41.0	11.0	<0.1	1.1	<0.1	-9.9	-90.2
Wetland Herb	2.4	<0.1	2.4	<0.1	<0.1	<0.1	0.3	<0.1	0.3	<0.1	<0.1	<0.1
Wetland Shrub	3.6	<0.1	3.6	<0.1	<0.1	<0.1	0.5	<0.1	0.5	<0.1	<0.1	<0.1
Grand Total	**2,710.5**	**1.1**	**2,710.5**	**1.1**	**0.0**	**0.0**	**3,018.8**	**1.3**	**3,018.8**	**1.3**	**0.0**	**0.0**

Landcover Class	VER15						VER16					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	61.6	<0.1	53.2	<0.1	-8.4	-13.6	269.2	0.1	240.1	0.1	-29.1	-10.8
Trees	18.2	<0.1	11.0	<0.1	-7.2	-39.5	41.8	<0.1	19.0	<0.1	-22.8	-54.5
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	1,082.5	0.5	1,098.1	0.5	15.6	1.4	6,735.5	2.9	6,787.7	2.9	52.1	0.8
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	<0.1	-	-	-	-	-	-
Roads	27.0	<0.1	27.0	<0.1	<0.1	<0.1	216.1	0.1	216.3	0.1	0.2	0.1
Settlement	1.4	<0.1	1.4	<0.1	<0.1	<0.1	14.6	<0.1	14.6	<0.1	<0.1	<0.1
Treed Wetland	0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Water	21.6	<0.1	21.6	<0.1	<0.1	<0.1	43.7	<0.1	43.7	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	0.7	<0.1	0.3	<0.1	-0.5	-62.5
Wetland Herb	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Wetland Shrub	0.2	<0.1	0.2	<0.1	<0.1	<0.1	-	-	-	-	-	-
Grand Total	**1,212.7**	**0.5**	**1,212.7**	**0.5**	**0.0**	**0.0**	**7,321.6**	**3.1**	**7,321.6**	**3.1**	**0.0**	**0.0**

Landcover Class	VER17						VER18					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	97.2	<0.1	76.5	<0.1	-20.7	-21.3	110.1	<0.1	60.6	<0.1	-49.5	-45.0
Trees	43.9	<0.1	25.2	<0.1	-18.7	-42.6	42.8	<0.1	29.4	<0.1	-13.4	-31.3
Forest Wetland	12.5	<0.1	8.3	<0.1	-4.2	-33.8	0.8	<0.1	<0.1	<0.1	-0.8	-100.0
Cropland	6,490.2	2.7	6,493.1	2.7	2.9	<0.1	8,882.8	3.8	8,945.1	3.8	62.4	0.7
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	1.0	<0.1	0.1	<0.1	-0.9	-90.7	0.7	<0.1	0.7	<0.1	<0.1	<0.1
Roads	370.5	0.2	372.4	0.2	1.9	0.5	261.8	0.1	263.5	0.1	1.7	0.7
Settlement	356.4	0.2	399.1	0.2	42.7	12.0	38.0	<0.1	38.0	<0.1	0.1	0.2
Treed Wetland	0.8	<0.1	0.8	<0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1	<0.1	<0.1
Water	118.4	0.1	118.4	0.1	<0.1	<0.1	158.1	0.1	158.1	0.1	<0.1	<0.1
Wetland	4.7	<0.1	1.7	<0.1	-3.0	-63.5	7.7	<0.1	7.3	<0.1	-0.5	-5.8
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	0.3	<0.1	0.3	<0.1	<0.1	<0.1	0.9	<0.1	0.9	<0.1	<0.1	0.0
Grand Total	**7,495.8**	**3.2**	**7,495.8**	**3.2**	**0.0**	**0.0**	**9,503.9**	**4.0**	**9,503.9**	**4.0**	**0.0**	**0.0**

Landcover Class	VER19						VER20					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	178.4	0.1	132.8	0.1	-45.6	-25.6	9.6	<0.1	7.3	<0.1	-2.3	-23.5
Trees	43.6	<0.1	30.3	<0.1	-13.3	-30.4	12.1	<0.1	8.0	<0.1	-4.1	-33.8
Forest Wetland	0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Cropland	6,629.7	2.8	6,684.5	2.8	54.8	0.8	2,157.7	0.9	2,164.0	0.9	6.4	0.3
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	0.5	<0.1	0.5	<0.1	<0.1	<0.1	-	-	-	-	-	-
Roads	151.6	0.1	155.6	0.1	4.1	2.7	55.7	<0.1	55.7	<0.1	<0.1	<0.1
Settlement	16.5	<0.1	16.5	<0.1	<0.1	<0.1	1.7	<0.1	1.7	<0.1	<0.1	<0.1
Treed Wetland	0.6	<0.1	0.6	<0.1	<0.1	<0.1	-	-	-	-	-	-
Water	81.6	<0.1	81.6	<0.1	<0.1	<0.1	40.0	<0.1	40.0	<0.1	<0.1	<0.1
Wetland	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.7	<0.1	0.7	<0.1	<0.1	<0.1
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**7,102.5**	**3.0**	**7,102.5**	**3.0**	**0.0**	**0.0**	**2,277.5**	**1.0**	**2,277.5**	**1.0**	**0.0**	**0.0**

Landcover Class	WAR01						WAR02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	46.8	<0.1	32.8	<0.1	-13.9	-29.8	-	-	-	-	-	-
Trees	13.6	<0.1	8.3	<0.1	-5.2	-38.4	0.9	<0.1	<0.1	<0.1	-0.9	-100.0
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	1,279.9	0.5	1,299.1	0.6	19.2	1.5	150.9	0.1	151.8	0.1	0.9	0.6
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	43.9	<0.1	43.9	<0.1	<0.1	<0.1	-	-	-	-	-	-
Settlement	2.2	<0.1	2.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Treed Wetland	0.3	<0.1	0.3	<0.1	<0.1	<0.1	-	-	-	-	-	-
Water	5.9	<0.1	5.9	<0.1	<0.1	<0.1	-	-	-	-	-	-
Wetland	0.5	<0.1	0.5	<0.1	<0.1	<0.1	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	0.4	<0.1	0.4	<0.1	<0.1	<0.1	-	-	-	-	-	-
Grand Total	**1,393.4**	**0.6**	**1,393.4**	**0.6**	**0.0**	**0.0**	**151.8**	**0.1**	**151.8**	**0.1**	**0.0**	**0.0**

Landcover Class	WAR03						WAR04					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	4.5	<0.1	4.5	<0.1	<0.1	-0.5	12.6	<0.1	11.0	<0.1	-1.6	-12.8
Trees	6.7	<0.1	2.2	<0.1	-4.6	-67.9	3.8	<0.1	2.0	<0.1	-1.8	-47.5
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	1,229.9	0.5	1,234.4	0.5	4.5	0.4	507.1	0.2	510.5	0.2	3.4	0.7
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	48.2	<0.1	48.2	<0.1	<0.1	0.0	12.3	<0.1	12.3	<0.1	<0.1	<0.1
Settlement	9.3	<0.1	9.4	<0.1	0.1	1.0	4.1	<0.1	4.1	<0.1	<0.1	<0.1
Treed Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Water	21.8	<0.1	21.8	<0.1	<0.1	<0.1	7.1	<0.1	7.1	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Grand Total	**1,320.6**	**0.6**	**1,320.6**	**0.6**	**0.0**	**0.0**	**547.0**	**0.2**	**547.0**	**0.2**	**0.0**	**0.0**

Landcover Class	WAR05					
	1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	33.8	<0.1	31.7	<0.1	-2.2	-6.4
Trees	7.3	<0.1	5.8	<0.1	-1.6	-21.5
Forest Wetland	-	-	-	-	-	-
Cropland	331.6	0.1	335.0	0.1	3.4	1.0
Grassland Managed	-	-	-	-	-	-
Other Land	-	-	-	-	-	-
Roads	19.0	<0.1	19.1	<0.1	0.1	0.5
Settlement	56.5	<0.1	56.7	<0.1	0.2	0.4
Treed Wetland	-	-	-	-	-	-
Water	15.6	<0.1	15.6	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-
Grand Total	**463.9**	**0.2**	**463.9**	**0.2**	**0.0**	**0.0**

Landcover Class	WAS01						WAS02					
	1990 Landcover		2010 Landcover		Difference		1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	5.2	<0.1	1.6	<0.1	-3.6	-68.9	50.1	<0.1	34.0	<0.1	-16.0	-32.0
Trees	1.3	<0.1	1.1	<0.1	-0.1	-8.8	4.1	<0.1	5.9	<0.1	1.8	44.6
Forest Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Cropland	104.5	<0.1	108.2	<0.1	3.7	3.5	360.3	0.2	374.5	0.2	14.2	3.9
Grassland Managed	-	-	-	-	-	-	-	-	-	-	-	-
Other Land	-	-	-	-	-	-	-	-	-	-	-	-
Roads	3.6	<0.1	3.6	<0.1	<0.1	<0.1	7.8	<0.1	7.8	<0.1	<0.1	<0.1
Settlement	1.0	<0.1	1.0	<0.1	<0.1	<0.1	2.6	<0.1	2.6	<0.1	<0.1	<0.1
Treed Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	7.0	<0.1	7.0	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**115.5**	**<0.1**	**115.5**	**<0.1**	**0.0**	**0.0**	**431.8**	**0.2**	**431.8**	**0.2**	**0.0**	**0.0**

Landcover Class	WAS03					
	1990 Landcover		2010 Landcover		Difference	
	Area [ha]	% of Landbase	Area [ha]	% of Landbase	Area Change [ha]	% Resource Change
Forest	29.3	<0.1	28.1	<0.1	-1.2	-4.2
Trees	8.0	<0.1	3.5	<0.1	-4.5	-56.6
Forest Wetland	-	-	-	-	-	-
Cropland	839.5	0.4	845.2	0.4	5.7	0.7
Grassland Managed	-	-	-	-	-	-
Other Land	-	-	-	-	-	-
Roads	23.0	<0.1	23.0	<0.1	<0.1	<0.1
Settlement	1.4	<0.1	1.4	<0.1	<0.1	<0.1
Treed Wetland	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Water	18.5	<0.1	18.5	<0.1	<0.1	<0.1
Wetland	-	-	-	-	-	-
Wetland Herb	-	-	-	-	-	-
Wetland Shrub	-	-	-	-	-	-
Grand Total	**919.7**	**0.4**	**919.7**	**0.4**	**0.0**	**0.0**

ATTACHMENT 1

Riparian Health Maps Scale 1:20000

ATTACHMENT 2

Riparian Health Maps Scale 1:5000

ATTACHMENT 3

Landcover Change Maps

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