

**MORICE WATERSHED RESTORATION PROJECT**  
**01 APRIL 1996**  
**CONTRACT NO. FRP 96 DMOWR 01**



**MORICE WATERSHED RESTORATION PROJECT  
PART 4 FINAL REPORT**

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## **EXECUTIVE SUMMARY**

### **INTRODUCTION**

The Morice Watershed Restoration Project was initiated through the B.C. Government's Forest Renewal Program in late October 1996. Contract #:FRP 96 DMOWR 01 was awarded to the Wet'suwet'en Treaty Office of the Hereditary Chiefs to act as the lead proponent for the Level 1 Assessment of the Morice watershed.

The purpose of the project was to do an overview assessment of impacts to the watershed from past harvesting and roading activities in order to prescribe restorative and rehabilitative measures for documented impacts and potential hazards in the Morice watershed.

The WRP was guided by a multi-interest steering committee facilitated by Nadina Community Futures and including licensees, agency representatives, First Nations and community representatives. The work was divided into two parts, a Roads\Hillslopes & Gullies portion and a Streams and Riparian component led by representatives of the Ministry of Forests and the Ministry of Environment, Lands and Parks respectively.

An Access Management Planning process was also initiated covering the eligible roads and cutblocks within the watershed in order to determine deactivation plans for roads with input from the public.

### **METHODOLOGY**

The Level 1 contract was initiated in late October 1995 with compilation of relevant reports and information from agencies, licensees, forest cover maps, trim maps, NTS topography maps, 1971 and 1994 aerial photographs, terrain and bedrock geology reports, House territory maps, Aquatic Biophysical maps and reports, S.I.S.S. information, SKR Level 1 report on Fenton\Owen Watersheds and anecdotal information.

Two consulting firms were contracted to assist in the R\H\G and S & R portions of the contract, these were Ambush Forest Enterprises Ltd. out of Houston and Nortec Consulting out of Smithers.

Overview assessments were carried out from Nov.\95 to Mar.\96 . Due to the late start of the Level 1 Project field surveys as prescribed for Level 1 were not feasible in the term of the contract and are proposed for Level 2 in 1996.

Overview flights and low level aerial mosaics were also postponed until the Level 2 portion.

The methodology to complete the Level 1 portion of the contract is detailed in the Part 2 and Part 3 portions of this report.

## RESULTS

The results of the overview assessments found few major impacts from harvesting and roads in impacted watersheds but multiple moderate hazards and impacts that were obvious from aerial photos and review of the SKR report.

Obvious impacts originated from stream crossings, logging alongside streams, logging over lower order and ephemeral streams and from extensive harvesting regimes in tributary watersheds.

Impacts consisted of loss of large organic debris, loss of long term source of LOD, loss of stream cover, erosion, siltation, sedimentation, inadequate riparian vegetation, potential access problems for fish and streambank destabilization. These impacts occur in many sites and over considerable lengths of streams as outlined in maps from Parts 2 & 3 of this report. On site assessment of the proposed areas is required to determine the degree of impact and possible prescription for restoration.

Sediments transported and stored in downstream reaches is unknown but could over time be transported downstream to affect more spawning and rearing habitat. Stream channel impacts were difficult to assess in the overview portion and will require site assessment and perhaps professional assessment.

One of the main problems with the Level 1 overview was that from airphotos impacts upon drainage within blocks was difficult to ascertain and downstream impacts were not obvious. Low gradient portions of many blocks showed moderate impact upon drainage as a result of skidding and landing and spur road construction. Firebreaks and blowdown also showed evidence of impacts on drainage and on streams along cutblocks.

The main problems associated with roads were related to stream crossings, cut and fill slopes and gullies where slopes were actively eroding. The sediment being produced from this erosion had low deliverability to streams in some gullies and slopes but requires on site assessment.

Given the natural response of streams to increase their geomorphic response to disturbance as one progresses downstream it is possible that sediments and silts will continue downstream with changes in peak flow regimes in heavily impacted sub-basins.

Changes in hydrologic response of these watersheds from extensive harvesting are assumed although little is known as to how this could affect sediment transport, spawner migration, fry emergence and rearing capabilities of the impacted habitats.

In summary, although many of the impacts assumed in the overview are of a moderate nature, the compound effect on the impacted areas and downstream reaches should not be ignored. Only through an extensive Level 2 assessment with the assistance of professionals can the overall potential hazards and impacts be determined for these watersheds. Since the assessment portion of the MWRP is expected to be complete following the level 2 project, we are hopeful that every

effort will be made to ensure adequate time and money are allocated to complete a comprehensive survey of these high value fish bearing streams.

**PART 3 REPORT**

**MORICE WATERSHED RESTORATION PROJECT**

**LEVEL 1 STREAM & RIPARIAN COMPONENT**

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## 1.0 INTRODUCTION

The Level 1 Streams Riparian portion of the Morice Watershed Restoration Project (Contract # FRP-96-DMOWR 01) was carried out by Nortec Consulting, Brian Michell (WTO) and Stefan Schug (WTO).

The project was initiated in late October of 1995 and carried through to March of 1996.

Phase 1 consisted of a review of the contract requirements, review of existing reports and information compiled from M.O.E.L.P., D.F.O. S.I.S.S., and the SKR Level 1 report of 1994. (See Bibliography for a reference of reports reviewed.)

The information was compiled, copied and utilized to complete Sub-Basin summaries which include the following information:

- Locations and general descriptions of primary streams within the sub-basin
- Identified reaches and fish species present historically as well as recent fish trends.
- data gaps are identified if applicable to WRP
- Potential harvesting or road impacts by eligible cutback or road.
- A brief work plan of estimated field time required for site visit and assessment by map sheet .

Sub-Basins are presented in order of priority ranking for Level 2 Assessment from a Streams & Riparian aspect.

Phase 2 entailed the review of airphotos of eligible cutblocks and roads to identify potential areas of impacts. Potential hazard sites were then plotted on 1 - 20,000 mylar overlays supplied by Ambush.

Sites were identified as to potential impact and prioritized as high, medium or low priority. Estimates of time required for site visit were determined at this time. These estimates are minimal at best as specifications and requirements were not available at this time.

Phase 3 consisted of report preparation, budget and expense calculations, attending steering committee meetings and interaction with Ministry representatives. An outline of Level 2 proposed works was also generated.

NOTE: With the late signing of this contract a field season was not possible or recommended for the overview or Level 1 portion of the Morice WRP. Outstanding works that are required early in the Level 2 portion include overview flights, Aerial mosaic of stream channels and site visits. An effort to accomplish this as early as possible in the Level 2 portion will assist in implementation of the level 2 assessment portion of the contract.

## **2.1 FENTON/OWEN SUB-BASIN**

### **FENTON CREEK**

#### **LOCATION OF FENTON CREEK**

Fenton headwater begin at the 1150 m elevation, flowing north before entering the Morice River

#### **DRAINAGE SYSTEM**

Fenton Creek > Morice River > Bulkley River > Skeena River

#### **GENERAL DESCRIPTION**

Fenton creek is a low gradient stream with riffle pool complexes over mainly larges and gravel. Abundant cover as over hanging vegetation, large organic debris and boulders. Fenton Creek is a small tributary to the Morice River that provides a niche for Coho, Steelhead destined for the Morice watershed. Detailed data available in SKR report dated 1994 by Regina Saimoto.

#### **FISH TRENDS**

##### **COHO (*Oncorhynchus kisutch*)**

Cohos have been observed at 2 km upstream from the confluence ( ref. 4D-66)  
Limited information on upper limits of distribution and rearing potential. Surveys by SKR Environmental Consultants indicate Coho utilization in the lower reaches (1994)

#### **OTHER**

**Limited information available on utilization by other species or coarse fish.**

#### **IMPACTS**

**Impacted sites and stream crossings have been identified in SKR level 1 report that requires site visit in high waterflows for prescription development in level 2.**

### **OWEN CREEK**

**WATERSHED CODE 46-5500-050**

Owen Creek flows north west before entering Morice River

#### **DRAINAGE SYSTEM**

**Owen Creek > Morice River > Bulkley River > Skeena River**



## MAPS

Maps for the Owen Creek can be found on topographical maps numbered; 93L/007; 93L/015; 93L/016; 93L/017; 93L/027; 93L/037

## GENERAL DESCRIPTION

Owen Creek is a lake headed system that drains an area of 17,900 ha, with its headwaters at Owen Lake. Owen Creek is a low gradient, riffle-glide complex over mainly gravel-cobble substrate with areas of heavy beaver activity throughout the lower reaches. Accesses to the upper reaches are impeded by the beaver dams, where suitable spawning gravels are abundant.

Primary role of Owen Creek is the production of late fry, yearlings and two year olds. **(Tredger 1981)** Owen Creek contains populations of; Coho; Rainbow Trout; Steelhead; Dolly Varden; Rocky Mountain Whitefish; Burbot; Pygmy Whitefish; Redside Shiners; Ling; Longnose Suckers; Coarsescale; Peamouth Chub and Sculpins. Target species for restoration activities are Coho and Steelhead.

Owen Creek is a prime candidate for WRP restoration or rehabilitation due to the historical harvesting activity in the watershed and the degradation of the riparian area due to logging, roading and the subsequent influx of beavers. Access for spring and fall migrations may be the major limiting factor. See "Level 3 Work Plans" for more detail on proposed 1996 works.

## FISH TRENDS

### **COHO (*Onchorhynchus kisutch*)**

Coho destined for the Owen Creek begin migration into the Skeena River late July, early August and begin spawning until the second week of November. Historically Cohos have not been observed in Owen Creek since 1980, although some have been observed in 1994-1995. Average fry densities of Coho did during 1980/1981 indicate fry densities were equal in both years with the exception of 1981 being slightly higher than the previous year (Tredger). Change from a woodstove culvert installed in 1956 to a bridge crossing assures passage to the upper reaches for salmonids.

A total of sixty-three beaver dams observed in 1995 prove to be a barrier for salmonids in low flows.

### **RAINBOW TROUT (*Onchorhynchus mykiss*)**

Past studies of the Owen Creek suggest two stocks utilize the mainstem Owen, these being Anadromous and resident stocks. Resident stocks out immigrate to the mainstem Owen, this is due to the enriching effect of the outflow of Owen lake. Owen Lake was stocked with rainbow historically.

**STEELHEAD (*Onchorhynchus mykiss*)**

Steelhead destined for the Owen Creek system utilize the upper portion approximately 12 km upstream from the confluence. Fry densities remained constant in 1991/1992( D.Bustard)

**DOLLY VARDEN (*Salvelinus malma*)**

Dolly Varden are present throughout the Owen system including Owen Lake.

**OTHER**

Coarse fish utilize the upper portion, below the Owen Lake outlet. No information on distribution.

**WORK PLAN FOR FENTON\OWEN SUB-BASIN**

Seventy eight potential impacts due to logging have been identified in the Fenton/Owen sub basin. Potential impacts include stream crossings that may lead to erosion problems during high water flows. Ratings given to potential impacts range in high -moderate to low with majority being in the high end.

- Map # 93L/007 have six potential impacts requiring 8 hours field reconnaissance with travel time approximately 1 1/2 hours . Office time required approximately 2 1/2 hours.

- Map # 93L/015 have thirty one ( 31) potential impacts requiring nineteen (19) hours of field time with travel time approximately 2 hours. Office time required for report writing at approximately sixteen hours.
- Map # 93L/016 have twenty one (21) potential impacts requiring approximately twenty six and one half hours of field time. Office time required for writing reports at approximately two working days at eight hours a day see travel time for map # 93L/015

- Map # 93L/017 have seventeen potential impacts requiring twenty three hours of field time, office time at two working days. Suggested reconnaissance for map # 93L/017 be a camp operation.

- Map # 93L/027 have three potential impacts with field time at five hours and office time requiring three hours.

## **2.2 LAMPREY/McBRIDE SUB-BASIN**

### **MAPS FOR LAMPREY/McBRIDE**

Maps for the Lamprey / McBride systems can be found on topographical maps numbered; 93L/003, 93L/004, 93L/005, 93L/006, 93L014

### **LAMPREY CREEK (WC 46-5500-100)**

### **LOCATION OF LAMPREY CREEK**

Lamprey creek flows north east before entering Morice river, west of Morice lake.

### **DRAINAGE SYSTEM**

Lamprey creek > Morice river > Bulkley river > Skeena river

### **GENERAL DESCRIPTION**

Lamprey creek is a lake fed system that is generally a low gradient stream with exception to the 3.5 km up stream from the confluence where it flows over cobbles and boulder substrate. The substrate above this canyon remains fairly constant i.e. gravel with fines. Tributaries to Lamprey include Pimpnel, Phips, Collins Creek, of these Pimpnel has high potential for salmonid species rearing up to the falls 4. Km up stream from lamprey confluence. Lake information as to species present can be found on the Fisheries Riparian overlay maps.

Lamprey creek has populations of; Coho, Steelhead, Rainbow trout, Dolly Varden, Cutthroat trout and Rocky Mountain Whitefish, Lamprey spec., Longnose Dace, suckers.

### **FISH TRENDS**

#### **COHO ( *Oncorhynchus kisutch* )**

Coho destined for Lamprey utilize the lower portion a glide riffle complex near the Morice /Lamprey confluence. Pool habitat (site 4 ) lower densities were found in shallow riffle glide habitat. Study of Lamprey suggest rearing potential for 1+ is minimal due to the low numbers of 1+ trapped in all sites. (Tredger 1981) Coho stocks are known to be on the decline in the Morice system and present low levels are cause for concern .

#### **STEELHEAD/RAINBOW ( *Oncorhynchus mykiss* )**

Lamprey creek contains two stocks of Steelhead/Rainbow fry, resident species utilize the mainstem Lamprey and associated streams . Steelhead utilize the lower section of the

mainstem and lower portions of Bill Nye, Collins and Pimpernel creeks. Mean size of fry was 43.6 mm, with a range of 40.3 mm below Lamprey lake - 47.7mm in Bill Nye creek.

Steelhead utilize the lower portions of mainstem Lamprey, fry have been captured up to Bill Nye creek as well as Pimpernel creek up to the falls. Rearing habitat for 1+,2+ appear limited in the mainstem Lamprey due to low flows.

### **DOLLY VARDEN ( *Salvelinus malma* )**

Dolly Varden in the Lamprey system appear to be low throughout the system. Of the tributaries were only found in Bill Nye creek. Data gap?

### **CUTTHROAT TROUT ( *Oncorhynchus clarki* )**

Cutthroat trout were present in all tributaries with the exception of Pimpernel creek which contain high populations of resident and anadromous rainbow. C.D. Tredger suggested the limiting factors for habitat utilization of Cutthroat trout are the presence or absence of rainbow trout.

Age groups in the tribs and the mainstem were mainly fry of the year and 1+, with sizes ranging from 38.9-51.2 mm and 38.4 - 53.2 mm respectfully

### **PRICKLY SCULPIN ( *Cottus asper* )**

Gee trapped in the lower portion app. 100m from the confluence. (Sept. 1995)

### **McBRIDE CREEK (WC-46-5500-100)**

#### **LOCATION**

McBride Creek flows from through McBride Lake northwest to west into Morice Lake approximately 4 kilometers southwest of Morice Lake outflow.

#### **DRAINAGE SYSTEM**

McBride lake >Morice lake >Morice R.>Bulkley R. >Skeena R.

#### **GENERAL DESCRIPTION**

McBride Creek system is a low gradient meandering system with abundant gravels suitable for spawning and abundant pool and sidepool presence suitable for Coho rearing. Total length of stream is approximately 10.2 kilometers. It is concluded that McBride has the best Coho and rearing habitat available in the Morice system exceeded only by the Gosnell system. Historical information has Coho juveniles and adults upstream of McBride lake in virtually all accessible areas sampled. A small hatchery was located in the lower reach of McBride Creek approximately 30 - 40 years ago but evidence of it and the old road has since been eroded. McBride watershed has seen extensive roaming and

harvesting activity and beavers have now colonized large sections of the lower reaches creating problems of access for spawners. Cutthroat trout are also present throughout the system.

## **FISH TRENDS**

### **COHO (*Oncorhynchus kisutch*)**

Historical records indicate strong runs and up to 200 adults observed holding off the creek mouth. McBride now likely suffers from a decline similar to other Upper Bulkley\Morice stocks with a lack of spawner recruitment. Recent juveniles surveys indicate lower abundance of juveniles as well. Restoration of access to adults and juveniles from lower reaches should be attempted, as well as determining habitat impacts from harvesting and roading activities to prescribe riparian restoration. Coho are also recorded as using McBride lake for rearing.

### **CUTTHROAT TROUT (*Oncorhynchus Clarki*)**

Cutthroat are found throughout the system and lakes in this watershed and should be a target species for restoration works as well as Coho. They provide excellent sport fishing opportunity and trends of catch were not available in reports reviewed.

### **DOLLY VARDEN (*Salvelinus malma*)**

Dolly Varden are found in the lower reaches but little information was found to indicate presence above the lakes.

## **OTHER SPECIES**

There are records of the following species present in the lakes: Lake trout, Burbot, suckers, shiners and Peamouth Chub. Rainbow were not record as present in lake sampling or in sampling of the creek. Mountain whitefish are present in McBride Creek .

## **SUMMARY**

Studies indicate Lamprey is a high valued tributary to the Morice river and has spawning habitat suitable for Steelhead and Coho destined for the Morice watershed. Rearing potential for 1+ and 2+ Steelhead and juvenile Coho thought be limited by low flows in late summer and early fall. Target species for WRP should be Steelhead, Coho and Cutthroat.

There is limited information on coarse fish distribution throughout both systems.

Beaver dams throughout McBride creek causes problems for up stream migration of Coho and resident species. Assessment of impacts from harvesting activity and roads is required to determine limiting factors and possible restorative works.

Coho stocks in the Morice watershed are declining over the years, McBride creek deserves further study i.e. low flows- high flows during spring run off - access to the upper reaches for Coho spawners.

#### **WORK PLAN FOR LAMPREY\MCBRIDE SUB-BASIN**

- Map # 93L/003 has 11 potential impacts identified for the level 2 assessment, potential hazards are erosion, loss of large organic debris and stream cover. Estimated time required for field reconnaissance totaled 20 hours, office time at approximately 3 working days. Travel time required to the sites identified is approximately 4 hours.

- Map # 93L/004 has 28 potential impacts requiring field reconnaissance for the level 2 assessment. Estimated time required for field work totaled 25 hours with office time at approximately 3 working days. See travel time for map # 93L/003.

- Map # 93L/005 has 13 potential impacts identified for level 2 assessment in the 1996 field season. Estimated time for field work totaled 10 1/2 hours with office time required at 1 working day.

- Map # 93L/014 has 46 potential impacts identified for level 2 assessment. Estimated time required for field work at 64 1/2 hours with office time at 5 working days. The field work on this area will be a camp job.

The time required for field and office times are best estimates, depending on field inspection, travel time allotted for each site are averaged by past field inspection done in the 1995 field season.

## **2.3 HOUSTON TOMMY SUB-BASIN**

### **HOUSTON TOMMY CREEK (WC-46-5500-040)**

#### **LOCATION**

Houston Tommy is one of the main tributaries to the Morice River, headwaters of the Tommy begin flowing generally southerly direction until app.20 km u/s from confluence. The Tommy then begins flowing in a easterly direction before entering into the Morice river.

#### **DRAINAGE SYSTEM**

Houston Tommy > Morice River > Bulkley river > Skeena River

#### **MAPS**

Maps for Houston Tommy can be found on 1:20,000 topographical maps #s 93L/025, 93L/026, 93L/035, 93L036, 93L/046, 93L/047.

#### **GENERAL DESCRIPTION**

Houston Tommy is partially lake fed, with a low gradient riffle- glide complex over cobble boulder substrate. The Tommy lacks pool habitat throughout the system. A log jam 2 km up stream from the confluence may be a point of difficult passage during (high) flows for salmonids. The Tommy's habitat characteristics are constant throughout the system indicating potential habitat for salmonids above the series of falls located 17.6 km up stream from the confluence.

Houston Tommy contains populations of Coho ( *Oncorhynchus kisutch* ) Steelhead ( *Oncorhynchus mykiss* ) formerly *Salmo gairdneri* , Pinks ( *Oncorhynchus gorbuscha* ) Dolly Varden ( *Salvelinus malma* ).

Access to Houston Tommy can be gained via Chisolm FSR or the Gold FSR located on the right bank Morice.

#### **FISH TRENDS**

##### **COHO ( *Oncorhynchus kisutch* )**

Observed at 15 km up-stream from confluence (ref. 4D-66), Upper limits of distribution is the bedrock falls. Information on the tributaries below the falls are insufficient to draw any conclusions regarding distribution of Coho spawners in the Houston Tommy.

##### **STEELHEAD ( *Oncorhynchus mykiss* )**

Fry release started in 1983 and ended in 1986, 40,000, 30,000, 43700 and 25,000 respectively

Habitat rated as poor - moderate for fry, parr habitat rated as good - excellent( *D. Bustard & Associates 1992* )



Steelhead spawn throughout to falls ( ref. 4D-102)

### **PINKS (*Oncorhynchus gorbuscha* )**

Pinks have been recorded .3 km from confluence , no information available regarding upper limits of distribution.

### **OTHER SPECIES**

**No information on distribution of Mountain Whitefish, Longnose Dace, Redside Shiners available.**

### **SUMMARY**

There are numerous small tributaries to Houston Tommy and to the Morice Mainstem within the Sub-Basin that have no information available. While many of the harvesting and road impacts in this Sub-Basin are assumed to be moderate from the overview, assessment is required to determine potential hazards and impacts to the available habitat. Information gaps on smaller tributaries and upper reaches also need to be assessed.

### **WORK PLAN**

Sixty sites have been identified for level 2 assessment on the Houston Tommy, with hours totaling up to 58 hours of field time, not including travel time. (See table 1)  
Of the 60 sites, 36 potential impacts have been identified on the Houston Tommy to date. This portion of the WRP contract required two parts, AM-BUSH maps on hillslopes and gully assessment and the colour coded maps have been incorporated to outline the work plan for level 2 assessment.



## **2.4 THAUTIL RIVER SUB-BASIN**

### **THAUTIL RIVER (WC-46-5500-140)**

#### **LOCATION**

Thautil River drains approximately 250 square km flowing in a southerly direction before entering the Morice River 13 km downstream from Morice Lake. The main tributaries to the Thautil River are Denys and Starr Creeks.

#### **DRAINAGE SYSTEMS**

Thautil River > Gosnell Creek > Morice River > Bulkley River > Skeena River

#### **MAPS**

Maps for the Thautil and its tributaries can be found on 1:20 topographical maps numbered; 93L/023;93L024 and 93L/034

#### **GENERAL DESCRIPTION**

The Thautil River has a variety of habitats for rearing, spawning and holding for ; Rainbow/Steelhead trout (*Oncorhynchus mykiss*), Coho Salmon ( *Oncorhynchus kisutch*), Dolly Varden ( *Salvelinus malma*), Rocky Mountain Whitefish ( *Prosopium williamsoni*), Longnose Dace (*Rhinichthys cataractae*) and Prickly Sculpin ( *Cottus asper*). The Thautil River is one of the main tributaries to the Morice River that has high fisheries value and is known to be the most turbid of the tributaries during seasonal higher flows. The Thautil River mainstem maintains an average channel width of 18 m and is occasionally confined by bedrock walls. The Thautil drains through marshy areas that slows the flow to approximately 2 c.f.s. ( Rod Carswell 1979)

#### **TRIBUTARIES TO THAUTIL R.**

##### **GABRIEL CREEK (WC- 46-5500-140-050)**

Gabriel creek is a low gradient creek that flows over cobble gravel substrates.. Several areas flow through heavily overstoried areas that provide cover for salmonids. Several tributaries to Gabriel have potential habitat suitable for spawning and rearing of Coho and Steelhead.

##### **DENYS CREEK (WC- 46-5500-140-060)**

The lower portions of Denys Creek meanders through a series of riffles and pool complexes. Flood plains are evident in the lower portion of Denys that slows the flow due to the flat bars. Dolly Varden is present but Steelhead/Rainbow trout are suspected in this

portion of Denys creek. The upper portion flows through barren bank cover and alpine like understory and has mining activity. Flow is generally a rolling broken complex.

#### **LOLJUH CREEK (WC- 46-5500-060-010)**

Loljuh creek is a meandering tributary to Denys creek that has a barrier in the form of falls located approximately .7 km upstream from the confluence of Loljuh and Denys creeks.

#### **STARR CREEK (WC- 46-5500-140--070)**

Starr Creeks lower portion flows over boulder, cobble and gravel substrates and braiding is evident in this area. The flood plain in this portion of Starr is in the range of 60 m, substrate material recruitment during high flows add to the existing substrate.

Upper portions of Starr creek is occasionally confined by bedrock wall zones and has a sinuous pattern of side and transverse bars. Dolly Varden are present in Starr creek but Steelhead/Rainbow trout are suspected due to the lack of barriers and vegetation coverage in this portion.

#### **STARR CREEK TRIBUTARY (WC- 46-5500-140-070)**

This tributary to Starr flows through marshy sections with swamp grasses making up the bank cover. This tributary is a lake headed system that contains Lake Chub but Steelhead and Coho Salmon are suspected to utilize this creek for spawning and limited rearing.

### **FISH TRENDS**

#### **COHO ( *Oncorhynchus kisutch* )**

Coho tend to be reliant on small stream systems generally with heavily canopied overstory, making it difficult to enumerate these stocks. Coho fry emerge four to six months in incubation and require up to fifteen months rearing in fresh water. Followed by a sixteen month growing period in salt water. Some males return as jacks (age 2.+ )

Majority of Coho mature after their third year of life. ( *F.K. Sandercock DFO Salmonid Enhancement Program* )

Known spawning sites on the Thautil are on the mainstem and Gabriel creek, a tributary to Thautil River.

Escapement of Coho on the Thautil recorded in 1966 were as low as 300 and held steadily at 200-300 until 1970, after 1970 there are no records to compare. A study carried out in 1991/1992 suggest a continued decline in Coho stocks and more recent information confirms this.

#### **CHINOOK ( *Oncorhynchus tshawytscha* )**

Chinook Salmon utilize the lower portion of Gosnell creek mainstem a tributary to Thautil. Studies of the Steelhead stocks in the Thautil suggest the Chinook do not utilize the middle or upper portions of the Thautil River. Reviewing the Stream Summary Catalogue sub district 4D Smithers support this.

### **RAINBOW/STEELHEAD (*Oncorhynchus mykiss*)**

Rainbow, Steelhead fry utilize the mainstem Thautil and its tributaries, Gabriel, Denys, and Starr creeks (*see tribs to Thautil river*). Studies of the Thautil indicate moderate fry densities **in the 0.3-0.6** fry per square metre range. (*Tredger 1981-1987*) Habitat for Rainbow/ Steelhead fry/ parr are rated as good -excellent with a mean of 0.20 fry per square metre and parr at 0.09 parr per square metre. (*Bustard 1991/1992*)

#### **SUMMARY**

Thautil's tributaries have potential spawning and rearing habitat for Coho and Steelhead Limited sports fishing potential except during adult migrations.

Lack escapement records and tributary utilization by target species.

Highest existing sediment transport capability.

Data gaps- more information required on flow monitoring and turbidity

#### **WORK PLAN**

**Fourteen potential impacts** related to logging in the Thautil sub-basin have been identified for the 1996 field season. Ratings ranging from high-moderate- low with the majority being in the high range. Potential impacts includes stream crossings, streams logged on both sides and logged one side. Impacts that may cause sediment transport due to erosion during high water run off, or loss of large organic debris.

Estimated time for assessing potential impacts identified on map # 93L/023 totaled up to five hours of field time with approximately two hours travel time to the Thautil river. Office time required for report writing approximately four hours maximum. Potential impacts identified on map # 93L/024 will require three and a half hours field time. Travel time approximately one hour and office time approximately one and half hours. Map # 93L/034 requires eleven hours field time with a travel time of one hour, office time required for report writing up to 4 hours maximum.

## **2.5 NANIKA SUB-BASIN**

### **NANIKA RIVER (WC- 46-5500-190)**

#### **LOCATION**

Nanika river flows *NW* from Nanika Lake to Kidprice Lake, then North before entering Morice Lake approximately 24 km downstream.

#### **DRAINAGE SYSTEMS**

Nanika Lake > Kidprice Lake > Nanika River > Morice Lake > Morice River > Bulkley River > Skeena River

#### **MAPS**

Maps for the Nanika River and tributaries can be found on 1:20 topographical series numbered ;93E/072, 93E/073, 93E/074, 93E/084, 93E/093

#### **GENERAL DESCRIPTION**

The Upper Nanika watershed is comprised of two major lake systems, Nanika and Kidprice. These lakes offer excellent recreational opportunity and sport fishing opportunity for rainbows which are the predominant species present in this area. The lower Nanika River begins at the outflow of Kidprice Lake with a spectacular falls of approximately 11 meters, here the Nanika River begins its journey through entrenched valley bottom with bedrock walls confining the Nanika at this point. The Nanika River then flows through whitewater areas some .5 km downstream from the falls. The gradient slowly decreases allowing the Nanika to meander through deep pool areas. The Nanika passes the confining bedrock walls allowing the natural meander to form side and back channels suitable for rearing and spawning for all species. Back and side channels created by the meandering nature of the Nanika exposes substrates suitable for spawning.

Large organic debris accumulation occur frequently in the middle and lower portions creating cover for rearing salmonids. The majority of the Sockeye destined for the Morice watershed migrate up to the Nanika River to spawn with the largest concentration of spawners found in the reaches below the falls. The Nanika River also has populations of Chinook, Coho, Steelhead, Rainbow trout, Pinks, Dolly Varden, Cutthroat Trout, and Mountain Whitefish utilizing the portion of the river below the falls. This is probably the highest value tributary of the Morice with the exception of the mainstem Morice itself.

The Nanika River offers outdoor enthusiasts canoeing, kayaking and hiking opportunities, and to see nature at her best. Access can be gained via Morice FSR, Nanika FSR, Cutthroat FSR or for the canoeist, kayakers access can be gained via Nanika R. Portage. Caution must be taken when using radio controlled logging roads follow instructions posted, regarding vehicles without two way radios.

## **2.5 NANIKA SUB-BASIN**

### **NANIKA RIVER (WC- 46-5500-190)**

#### **LOCATION**

Nanika river flows *NW* from Nanika Lake to Kidprice Lake, then North before entering Morice Lake approximately 24 km downstream.

#### **DRAINAGE SYSTEMS**

Nanika Lake > Kidprice Lake > Nanika River > Morice Lake > Morice River > Bulkley River > Skeena River

#### **MAPS**

Maps for the Nanika River and tributaries can be found on 1:20 topographical series numbered ;93E/072, 93E/073, 93E/074, 93E/084, 93E/093

#### **GENERAL DESCRIPTION**

The Upper Nanika watershed is comprised of two major lake systems, Nanika and Kidprice. These lakes offer excellent recreational opportunity and sport fishing opportunity for rainbows which are the predominant species present in this area. The lower Nanika River begins at the outflow of Kidprice Lake with a spectacular falls of approximately 11 meters, here the Nanika River begins its journey through entrenched valley bottom with bedrock walls confining the Nanika at this point. The Nanika River then flows through whitewater areas some .5 km downstream from the falls. The gradient slowly decreases allowing the Nanika to meander through deep pool areas. The Nanika passes the confining bedrock walls allowing the natural meander to form side and back channels suitable for rearing and spawning for all species. Back and side channels created by the meandering nature of the Nanika exposes substrates suitable for spawning.

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The Nanika River offers outdoor enthusiasts canoeing, kayaking and hiking opportunities, and to see nature at her best. Access can be gained via Morice FSR, Nanika FSR, Cutthroat FSR or for the canoeist, kayakers access can be gained via Nanika R. Portage. Caution must be taken when using radio controlled logging roads follow instructions posted, regarding vehicles without two way radios.

## **FISH TRENDS**

### **SOCKEYE (*Onchorhynchus nerka*)**

Sockeye destined for the Nanika River begin their upstream migration during July and early August arriving at the Nanika River in late August and through September. Spawning starts in early September and October. The majority of the Sockeye utilize the upper portions of the Nanika approximately 21 km upstream from the Morice Lake. Sockeye utilize spawning gravels available throughout the mainstem and side and back channels. Emerging fry then migrate to Morice Lake for 1 - 2 years before migrating to the ocean.

Sockeye populations have fluctuated from highs of 60,000 pre 1950 to lows of 1,000 - 5,000 through the 1970's & 80's and then back up to about 30,000 in the early 1990's. Limiting factors are thought to be the productivity of Morice Lake, harvest rates in ocean fisheries and harvest in the Skeena and Bulkley Rivers in Aboriginal fisheries.

### **COHO (*Onchorhynchus kisutch*)**

Coho destined for the Nanika River begin their upstream migration during the second week of August and they begin spawning roughly the end of September, spawning continues until the end of October or early November. Coho have been observed 21 km upstream from Morice Lake. Limited data on Coho spawners distribution throughout the Nanika, although trib 2 is suspected as a spawning site. (R. Carswell 1979)

### **CHINOOK (*Oncorhynchus tshawytscha*)**

Chinook destined for the Nanika River begin their upstream migration during high water flows in the mainstem Skeena and peak movement through the Bulkley mainstem varies between mid-June to the end of July depending on flow regimes. Chinook begin spawning in mid September utilize the entire mainstem Nanika River where suitable spawning gravels can be found. Escapement target is 200 with a maximum escapements of 4 -500 recorded in September 1995 WTO crew estimated 250 Chinook.

### **STEELHEAD (*Oncorhynchus mykiss*)**

Steelhead destined for the Nanika River have been observed spawning 20 km upstream from the confluence. Rearing and spawning areas have been identified in all reaches (R. Carswell 1979) There is no data on escapement levels to the Nanika River.

### **RAINBOW TROUT ( *Oncorhynchus mykiss* )**

Rainbow trout are distributed throughout the mainstem Nanika River (ref.4D-92,ref. 4D-103)

### **PINKS ( *Oncorhynchus gorbuscha* )**

The Pinks destined for the Nanika River spawn in the lower reaches (ref. 4D -158) maximum recorded escapement at 100 in 1986 only. Information on upper limits of distribution. Ref.4D 158 unavailable for reviewing. In 1995 approximately 200 pinks were observed spawning immediately upstream of Morice Lake (WTO).

### **DOLLY VARDEN ( *Salvelinus malma* )**

Dolly Varden are distributed throughout the mainstem Nanika River where spawning gravels can be found. Two tributaries to the Nanika River have been identified as spawning habitat for Dolly Varden (R. Carswell 1979)

### **CUTTHROAT TROUT ( *Oncorhynchus clarki* )**

Observed 18 km upstream from the confluence (ref. 4D -22) limiting factors for distribution of Cutthroat Trout are the presence or absence of Rainbow Trout ( Tredger 1979)

### **OTHER**

Limited data available on the distribution of coarse fish.

### **SUMMARY**

As previously mentioned the Nanika system is probably the highest value tributary to the Morice with its variety of anadromus species, high water quality, and the available habitat for spawning and rearing of target species such as CK, CO, ST and RB.

The Nanika Sub-Basin has had limited eligible harvesting activity but some roads in the area are eligible for assessment and have known impacts on high value habitats. Assessment of impacts in this area should be a priority to determine potential hazards and road impacts in the up-slope and riparian areas.

An assessment of the existing habitat condition of Nanika R. should be carried out in light of present logging and road construction activities in that area.

## **WORK PLAN**

A total of 12 potential impacts have been identified in this Sub-Basin and require assessment. Access to these sites is difficult and estimates of time are approximately 3 days including preparation of site maps and prescriptions.



## **2.6 MORICE/ATNA SUB-BASIN**

### **LOCATION OF MORICE LAKE**

Morice Lake is situated app. 70 km south west of Houston B.C.

### **DRAINAGE SYSTEM**

Atna Lake-River > Morice Lake > Morice River > Bulkley River > Skeena River

### **MAPS FOR MORICE/ATNA**

Map with eligible activity for Morice/Atna Sub-basin is topographical map #93L/013

### **GENERAL DESCRIPTION**

Morice lake is approximately 75 km in circumference with a length of approximately 43 km. The Morice Lakes depth ranges from 30 m - 90m on the south arm and north arms. Maximum depths ranges from 90-150+ m on the north and south arms as well as Atna bay. Morice Lake contains habitat suitable for spawning, rearing and holding of various species.

Atna lake is approximately 5 Km long and 30 meters deep. It supports populations of sockeye, Chinook, Coho, Dolly Varden and Lake Trout although little information is available from reports reviewed to date as to numbers or population characteristics.

### **IMPACTS**

There are no impacts to Morice Lake or Atna Lake related to harvesting activity except with respect to Nanika and McBride systems and located on #93L.013. There has been no logging in the Morice Lake or Atna Lake drainage to date. See Lamprey\McBride Sub-Basin and Nanika Sub-Basin for more information on impacts to these tributaries to Morice Lake.

### **FISH SUMMARY**

#### **Chinook Salmon (*Oncorhynchus tshawytscha*)**

Chinook have been documented holding in Morice Lake in numerous locations around the outflow, below Atna falls and off of Nanika R. Spawning begins in Mid September and peaks around the end of September. The majority of spawning occurs below the Morice lake outflow. Anecdotal information has CK spawning in the Atna falls area and off of smaller tributaries in that area. Chinook juveniles have been found rearing

primarily in the north end of the lake. The peak out migration of smolts is approx. May 25.

### **Sockeye Salmon (*Oncorhynchus nerka*)**

The major anadromus species utilizing Morice lake is sockeye. Sockeye spawn in a number of shoreline areas around the lake and in Atna and Nanika systems. Nanika R. has the majority of sockeye migrating upstream to spawn. Morice Lake is then the primary if not the only rearing location for Sk juveniles from all spawning areas. Juvenile rearing is throughout the lake but largest concentrations have been sampled in the north end of the lake. In 1995 WTO documented three lake shore spawning locations previously unrecorded in reports reviewed. Lake spawning generally occurs in two main areas of the lake and locations can be found in the Kemano II reports. The peak out migration of smolts is approx. May 18 while fry emigration would peak about mid June.

### **Coho Salmon (*Oncorhynchus kisutch*)**

Coho access spawning and rearing locations in Nanika, Atna and McBride systems via Morice lake. Adult holding is common off the tributary confluences. There is little recent information available on the number of adults spawning in these systems but juvenile density studies in recent years demonstrate a decline in standing stock of Coho juveniles in the Morice system. There is no information available on Coho use of other Morice tributaries. I.E. Delta, Pyramid and Cabin creek. Coho juveniles have been documented using Morice Lake for rearing as well. Smolts migration is extended but peaks aprox. June 30.

### **Pink Salmon (*Oncorhynchus gorbuscha*)**

Pink Salmon have been documented historically and in 1995 spawning below the outflow of Morice lake and in the lower reach of Nanika R. WTO staff estimated approximately 200 pinks upstream of Morice lake during a river float in early Sept. '95. Pink numbers are highest in odd year returns.

### **Steelhead (*Oncorhynchus mykiss*)**

While Steelhead are known to be present in the Morice system there is little available information on use of Steelhead of Morice Lake or the Atna system. They are thought to be present in Nanika and McBride systems but again little information is available.

### **Rainbow Trout (*Oncorhynchus mykiss*)**

Morice lake has a resident population of rainbows which probably emigrate to the lake following a number of years rearing in tributary streams. There is no population information available. These resident rainbow provide opportunity for sportfishing .

### **Lake Trout (*Salvelinus namaycush*)**

This species resides in Morice lake and also provides sportfishing opportunity. Again little information was found with respect to population size and size range.

### **Other Species Present:**

Burbot (*Lota lota*), Dolly Varden (*Salvelinus malma*), Mountain Whitefish (*Prosopium williamsoni*), Longnose Sucker (*Castostomus castostomus*), Cutthroat Trout (*Oncorhynchus clarki*), Prickly Sculpin (*Cottus asper*)

### **SUMMARY**

Although no impacts are documented in the Morice lake basin, data gaps have been identified for the minor tributaries to Morice Lake. I.E. Delta, Cabin and Pyramid Creek. There is also limited information available on the Atna system. For assessment purposes no work is proposed through level II in the Morice Lake area sub-basin but inventory may be an option for addressing data gaps in future. A Sockeye lake spawning survey will probably be carried out by the WTO Fisheries program in 1996.

## **2.7 GOSNELL CREEK SUB-BASIN (WC- 46-5500-140-010)**

### **LOCATION**

Gosnell creek drains an area of approximately 865 square km, flowing in a easterly direction into the Thautil river and then into the Morice River some 13 Km downstream from Morice lake. The main tributary to the Gosnell is the Shea creek W.C 46-5500-140-010-040

### **DRAINAGE SYSTEMS**

Gosnell creek > Thautil River > Morice River > Bulkley River > Skeena River

### **GENERAL DESCRIPTION**

The Gosnell drainage system is a low gradient, slow flowing creek that meanders extensively in some portions. It is multi channeled with many sides and back channels. Debris accumulations occur frequently in the lower portion. The middle to upper portion flow through swamp, meadow areas.

Gosnell has high fisheries value and contains ; Chinook (*Oncorhynchus tshawytscha*); Coho (*Oncorhynchus kisutch*); Steelhead (*Oncorhynchus mykiss*) formerly *Salmo gairdneri*, Pinks (*Oncorhynchus gorbuscha*); Dolly Varden (*Salvelinus malma*), Cutthroat trout (*Oncorhynchus clarki*) formerly *Salmo clarki*, Rocky mountain Whitefish (*Prosopium williamsoni*) Rainbow trout (*Oncorhynchus mykiss*) formerly *Salmo gairdneri*, Lamprey ( *Lampetra spp.*) Longnose Dace (*Rhinichthys cataractae* )

Access to Gosnell creek is via Morice West FSR, a year round maintained road. Scenic opportunities exist for the hiker or wildlife viewers who wish to experience nature at its best.

### **MAPS**

Maps for the Gosnell creek and tributaries can be found on 1:20,000 topographic maps #; 93L/012, 93L/013 and 93L/23

### **FISH TRENDS**

#### **COHO ( *Oncorhynchus kisutch* )**

Coho are observed to falls at 31 km on the mainstem , Coho Juveniles were found throughout the Gosnell systems. Coho have been identified in the headwaters ( reach 6 ) and in four tributaries ( Carswell 1978) Highest densities were found in reach 2 and reach 3 sites (1981) and in Shea (Cox) creek in 1980. In both years 0+ and 1+ Coho were

found. A study on the Gosnell System by S.P. Hatlevik 1981 identified four (4) Unnamed creeks that have suitable habitat for Coho.

#### **CHINOOK (*Oncorhynchus tshawytscha*)**

Chinook are observed at 6. km on the mainstem only. Limited information on the Gosnell mainstem relating to Chinook upper limits of distribution.

#### **STEELHEAD ( *Oncorhynchus mykiss* ) formerly *Salmo gairdneri***

The upper limits for Steelhead appears to be the confluence of Shea (Cox) creek a major tributary to Gosnell system. Spawning sites are identified on the Shea creek up to the 4 m rock falls, impassable to Coho, Steelhead salmon. A radio telemetry study traced two Steelhead to their spawning sites located on the north fork ( Shea cr. ). The falls are located 9 km up stream from the confluence of Gosnell and Shea creek. Assessment of the upper Shea creek indicate potential habitat for Steelhead above the falls.

A study on the Gosnell creek by Dave Bustard and Associates 1992, summarizes the Gosnell system. The 1992 study rated habitat suitability and mean densities of fry and parr Steelhead. Mean densities of Steelhead fry at 0.29 fry per square meter, parr at mean of 0.03 parr per square meter.

#### **PINKS ( *Oncorhynchus gorbuscha* )**

Pinks have been observed at 12 km on the mainstem Gosnell, targeted escapement 1000 with a maximum recorded escapement of 2,250 - 15,000, period of record 1980-1988 and 1981-1989 respectively. During the 1995 season approximately 1000 pinks were observed in lower reaches.

#### **DOLLY VARDEN ( *Salvelinus malma* )**

Dolly Varden are found throughout the Gosnell Creek and tributaries including above the 3 m falls located 31 km from the Gosnell confluence. Below the falls have been identified as a prime spawning grounds for Dolly Varden. Inventories are presently proposed to determine whether these are Bull Trout or Dolly Varden.

#### **OTHER SPECIES**

Studies show that coarse fish utilize Gosnell and tributaries, these include Longnose Dace; Mountain Whitefish; Prickly Sculpin. The Study of Steelhead on the Mainstem Morice and tributaries by D.Bustard also indicate the coarse fish were captured in the tributaries.

## **SUMMARY**

The North Fork (Shea cr. ) was identified as a major pathway for Steelhead spawning area. As this tributary has high fish values mainly Steelhead, further examination on the upper reaches above the falls should be undertaken as called for by S.P. Hatlevik.

The tributaries to Gosnell have been walked and have identified rearing areas for Coho and Steelhead . Again further study in these tributaries should be undertaken to record spawning areas for Coho and Steelhead stocks.

Lake headed tributaries in the Gosnell system deserve further examination due to the Steelhead stocks prefer this type of flow regime.

## **WORK PLAN**

A total of 11 sites on the Gosnell system have been identified for level 2 assessment by AM-BUSH. Using the colour coded mylar overlays and AM-BUSH findings , the two are incorporated to locate qualified roads and stream crossings. Estimate of time required for field assessment and prescription is 4 days.

## **2.8 MORICE RIVER MAINSTEM**

### **GENERAL DESCRIPTION**

The Morice Mainstem runs for about 75 kilometers from Morice lake to the junction with the Little Bulkley River approximately 4 kilometers north of Houston at which point it becomes the "Bulkley River". The Morice is renowned for its high water quality, excellent fishing, limited access and wilderness environment.

Harvesting and roads in the area have had limited impact on esthetics of the riverine environment to date due to L.R.M.P. planning process and recognition of other values.

Impacts to the mainstem riparian area and stream channel from harvesting activity and roading in the tributaries are unknown but can be assumed to be siltation from ditching, aggregation of gravel's at creek mouths, loss of large organic debris and some channelization where roads encroach upon high water channels and flood plain areas.

### **FISH TRENDS**

#### **CHINOOK**

Chinook stocks in the Morice system have been recorded as high as 15,000 (1954) historically and escapement targets are for 20,000 annually. Recent estimates of spawning escapements have ranged from 6,000 to 25,000 in the past 10 years which reflects an increase over escapements in the past 20 years primarily due to international fishing agreements. Population information prior to 1948 is not available but it is assumed that Chinook numbers could have been even higher prior to when escapement records were initiated.

The Morice mainstem supports about 95% of the spawning for Chinook and main spawning areas are well documented through DFO Reports and Kemano II Reports. The area from Morice Lake to Gosnell is the primary spawning area, followed by Gosnell to Lamprey and then downstream to the confluence of the Morice/Bulkley.

Juvenile rearing of Chinook is throughout the system in main channel, side channels and some juveniles emigrate up the smaller tributaries to rear before migrating down through the Bulkley system, Kemano II reports suggest that most CK rearing takes place in the lower reaches of the Morice as fish are moving down and out of the system.

#### **STEELHEAD**

Although estimates of Steelhead numbers in the Morice system are not available from the Ministry of Environment, trends suggest a serious decline in numbers over the past 40

years primarily due to fishing pressures. The 1970's saw very low escapements, building moderately to 1986 which was the last good year of substantial returns, and since then stocks seem to be at a moderate level. Sportfishing pressure has been increasing and the fishery is catch and release only and has been for about 5 years in the name of conservation.

Standing stock density studies of juvenile presence carried out by the agencies in the past 10-15 years suggest an increase of juveniles in the system over the sampling period with a decline of Coho juveniles. This along with an increase of Steelhead catches by sport fishers suggest Steelhead stocks are on the increase from recent lows although no hard data was available from the MOE to support this.

## **COHO**

Stocks of Coho in the whole upper Skeena system have been a disaster in the past 10 years with the exception of 1994. Morice stocks are no exception and in fact may be one of the most impacted systems. The primary concern is the lack of spawner recruitment which can be attributed primarily to commercial exploitation by Canada and Alaska.

Other Coho concerns and contributing factors are reduced access to spawning areas due to late summer/fall low flows, beaver dams and the build up of gravel in creek mouths. Siltation of spawning areas may also be an important factor for incubation survivals.

Changes in flow regimes due to extensive harvesting in low gradient tributaries may also be an important factor. Many of these low gradient streams now have early high flows due to snowmelt from clearcut areas and subsequent low flows during summer and early fall. This can affect all species in the following ways:

- Coho fry usually emerge from the gravel towards the end of May in many upper Skeena systems, with early high flows they may now be flushed out of the redds prior to buttoning up or emergence.
- Reduced survivals of rearing juveniles due to low flows and high water temperatures in rearing areas.
- There is a decrease in the amount of summer and overwintering rearing sites critical to survival of species using tributaries and off channel areas.

The mainstem Morice River and side-channels have documented spawning areas for Coho through observations and recent radio telemetry studies. Low flows in tributary streams and poor access may have contributed to more spawning in the mainstem and subsequent rearing of juveniles. Coho prefer slow flows so are usually found in side-channels or off channel habitats to the main rivers.

Recent studies refer to relative densities of juveniles of all species using the available habitat and will be useful as high value habitats along the mainstem Morice are documented.



## **SOCKEYE**

While some sockeye spawn in the Morice the bulk of the fish utilize the Nanika River for spawning. Small numbers of sockeye have been recorded over the years in the mainstem Morice primarily below the Lake. Sockeye juveniles utilize the lake for rearing and migrate down the Morice during spring flows following one or two years of lake residence.

## **PINKS**

Pink salmon have colonized the Morice system following the construction of the fishways in Moricetown. Over the past 40 years numbers of pinks have been on the increase in the upper reaches and in 1995 were found throughout the mainstem Morice and into the Lower Nanika R. Pinks were first recorded in 1954 at 1000 fish and has since climbed as high as 800,000 in 1991. Average numbers in the past 10 years are approximately 200,000. Runs have been much stronger in the odd year cycle. Pinks have also been documented in the lower reaches of tributary streams. Migration to the ocean takes place shortly after fry emergence.

## **RAINBOW**

Native rainbow are found in the Morice system from the Nanika watershed to the confluence with the Bulkley River. The stocks support a moderate sport fishery and information from the M.O.E. suggests that there is a data gap with respect to these stocks. I.E. Spawning Areas, Rearing, population size. etc.

## **DOLLYVARDEN/BULLTROUT**

Dolly Varden are found in good numbers throughout the Morice R. and provide an excellent sportfishery and even for the table... While again spawning areas are not documented stocks appear plentiful and not threatened at this time. More data on this species would facilitate future management. Recent information has the agency now distinguishing between what is a dolly and what is a Bulltrout and studies are ongoing. Bulltrout is the newest fish on the block and is expected to be found throughout the system as well although known by anglers as a Dolly Varden in the past. Again more information about this species will be available following agency studies.

## **OTHER FISH SPECIES**

Populations of Longnose Suckers, Pacific Lamprey, Mountain Whitefish, Cutthroat trout, Prickly Sculpins, Peamouth Chub, Dace and Shiners are also found within the Morice River. Little information other than presence or absence is available for these species other than densities where electroshocking has been carried out for primary species.

## **SUMMARY**

The most important factor relating to all fish resources and the Morice River is the water quality aspect. All species anadromus and native require cool, clean water for incubation and rearing in the tributaries and the mainstem habitats. If nothing else we should strive to maintain the integrity of the riparian areas and minimize anything impacts that will jeopardize or impact the quality of the water in the Morice Watershed.

While many river systems have months of turbid water during spring and early summer the Morice above Thautil R. virtually remains clear year round providing a high quality water supply for all species present in that area and downstream in the mainstem Morice/Bulkley River.

More information on salmonid use of the mainstem river and off-channel habitats would be useful as well as monitoring the impacts of activities on the tributaries and subsequent impacts on the Morice itself through changes to water quality and flow regimes.

## **WORK PLAN**

A minimum of two weeks is planned for assessment of impacts and hazards on the mainstem Morice. Working with a geomorphologist we hope to be able to determine existing and potential hazards. Where possible prescriptions for restorative works in cutoffs and high water channels will be made if impacted by roading or channelization. Opportunities for rehabilitation will be identified in tributary and spawning areas and if required sites for mitigative works.

### **3.0 OUTLINE OF PROPOSED LEVEL 2 WORKS**

As a requirement of the Level 1 contract, an outline of Level 2 works was requested. The following is a brief overview of expected components of the Level 2 project. Estimated costs are rough estimates at this time and will be reviewed in detail during detailed work plan development for Level II contract with agency representatives. At that time days required, day rates, expenses, overhead, helicopter time etc. will be detailed for preparation of Schedule B for contract.

#### **3.1 PHASE 1**

- Confirm participants and consultants for Roads\Hillslopes\Gullies and Streams & Riparian contracts
- Review of Level 2 contract specifications and requirements
- Review Level 1 reports and hazard maps.
- Reference SKR report for prioritized sites in Fenton\Owen Sub-Basin
- Summarize kilometers of roads and blocks for R\H\G assessments and est. \$ per Km.
- Identify job shadow participants
- Access air photos (not photocopies) for field assessment by sub-basin
- Overview helicopter flight to confirm sub-basin prioritization and areas requiring emergency works. Owen Creek, Lamprey and McBride
- Confirm reporting requirements, agency participants and structure
- Determine access management plan status on roads with licensees and MOF
- Identify deactivation works proposed in sub-basins for 1996 that may affect WRP plans,
- Plan and schedule site visits for assessment and prescription development

Estimated time required for R\H\G: 15 days x 2 techs & Forestry technician,

Estimated time required for S&R: 15 days x 2 techs & consultant

Rough estimate of funds required: \$40,000

#### **3.2 PHASE II**

- Site visits for assessment and prescription development beginning with Fenton\Owen Sub-Basin.
- Coordination with R\H\G\ crew and S&R crew for initial site visits and prescription to minimize overlap
- Assess upland sites identified in Ambush and WTO Level 1 report
- Determine limiting factors of priority stream reaches through stream assessment.
- Stream assessment of impacted riparian areas for prescription.
- Instream assessment for prescription in identified degraded sites.
- See Sub Basin breakdown of identified and prioritized sites in Level 1 Report
- Determine kilometers of roads requiring deactivation and make prescriptions

- Identify, assess and prescribe works for any gullies, roads or hillslopes with possible impacts.

Estimate of time required for R\H\G: 60 days x 2 techs & 40 days x consultant, 15 professional days

Estimate of time required for S&R: 60 days x 2 techs & 40 days x consultant , 15 professional days

Rough estimate of funds required : \$150,000

### **3.3 PHASE III**

- Prepare and submit monthly work schedules and reports to MOE and MOF
- Complete detailed site maps and prescriptions for confirmed impacts and hazards.
- Estimate costs and time required for proposed Level 3 works.
- Generate a Summary Report for Phases 1 - 3
- Plan and schedule Level 3 prescriptions and works as identified and approved for 1996
- Prepare sub-contacts for same Level 3 works and new impacts and hazards found during level 2 .
- Attend and prepare presentations for Steering Committee meetings.
- Input Level 1 & 2 assessment information into GIS format suitable for transfer to agencies.

Estimate of time required for R\H\G : 60 days x 2 crew, 30 days x consultant

Estimate of time required for S&R: 60 days x 2 crew, 30 days x consultant

Rough estimate of funds required: \$120,000

### **3.4 ESTIMATE OF LEVEL 3 WORKS FOR 1996**

Level 3 works are proposed for emergency impacts and demonstration projects for 1996 MWRP. One priority area has already been discussed extensively with the steering committee and agencies and this is Owen Creek. A plan is being drafted for this creek and would be facilitated by allocating approximately \$25,000 from WRP to allow for matching funds from other sources. Further information will be forthcoming as plans develop.

It is estimated that approximately \$80,000 could be utilized to contract necessary equipment and expertise for approved deactivations and stream works as identified. A breakdown of specific costs is not feasible at this time but projects can be identified early in the Level 2 contract to facilitate approvals for 1996 Level 3 works. These works would form the basis of a separate contract through WRP.

Estimated costs for Level 3 Works: \$80,000

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## **Appendix 1**

### **5.0 Table 1**

*Fisheries & Riparian Sites for Level 1*



## Morice Watershed Restoration Project

### Level 1 Assessment Survey 1995/96

### Part 3 Report: Fisheries/Riparian

Contract #: FRP 96 DMO - WR 01

*Summary: Hazards and Potential Impacts by Sub-Basin and 1:20 000 Mapsheets*

Sub - basin	Mapsheet #	Page #	Potential Impact #	Ratings:		
				H	M	L
Lamprey/McBride	93L003		11	11	-	-
Lamprey/McBride	93L004		28	8	20	-
Lamprey/McBride	93L005		13	3	9	1
Lamprey/McBride	93L006		-	-	-	-
Lamprey/McBride	93L014		46	44	2	-
Fenton/Owen	93L007		5	4	1	(1)
Fenton/Owen	93L015		31	7	24	-
Fenton/Owen	93L016		21	9	11	1
Fenton/Owen	93L017		17	16	1	-
Fenton/Owen	93L027		3	3	-	-
Fenton/Owen	93L037		4	-	4	-
Houston Tommy	93L025		3	1	2	-
Houston Tommy	93L026		-	12	18	-
Houston Tommy	93L035		-	-	-	-
Houston Tommy	93L036		12	2	10	-
Houston Tommy	93L046		8	7	1	-
Houston Tommy	93L047		3	2	1	-
Thautil	93L023		3	3	-	-
Thautil	93L024		3	1	2	-
Thautil	93L034		8	7	1	-
Nanika	93E072		2	2	-	-
Nanika	93E073		2	2	-	-
Nanika	93E074		1	1	-	-
Nanika	93E084		5	5	-	-
Nanika	93E093		2	1	1	-
Morice/Atna	93L013		11	11	-	-
Gosnell Creek	93L024		3	1	2	-

FOREST DISTRICT: MORICE WATERSHED NAME: MORICE SUBBASIN: McBRIDE / LAMPREY

PRIORITY RANKING:

MAP #	93L003						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	LM2	3SX/RS	EROS,L.LOD ACCESS	H	Y	3HR	
2	LM2	SX	EROS,ACCESS	H	Y	1HR	
3	6	LIS	EROS,L.LOD	H	Y	2HR	
4	LM4	OLD SX,RS	EROS,L.LOD	H	Y	1HR	
5	2	LBS,SX	EROS,L.LOD	H	Y	2HR	
6	NA2	6SX	EROS,L.LOD	H	Y	3HR	
7	NA2	OLD SX	EROS,L.LOD	H	Y	1HR	
8	CUTTHER.	NEW ROAD	EROS,L.LOD	H	Y	1HR	
9	NA4	2SX	EROS,L.LOD,SS	H	Y	2HR	
10	1	LBS	EROS,L.LOD,SS	H	Y	2HR	
11	3	L1S	EROS,L.LOD,SS	H	Y	2HR	
					TOTAL	20HR-H	
LEGEND							
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

FOREST DISTRICT: MORICE    WATERSHED NAME: MORICE    SUBBASIN: LAMPREY / McBRIDE

PRIORITY RANKING:

MAP #	93L004						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	LM13-1	SX	EROS	H	Y	1HR	
2	LM13	SX	EROS	M	Y	0.5HR	
3	32	LBS	EROS,L.LOD	M	Y	0.5HR	
4	45	L1S	EROS,L.LOD	H	Y	1HR	
5	LM8A	3SX	EROS	H	Y	1HR	
6	31	L1S	EROS,L.LOD	M	Y	0.5HR	
7	22,30	LBS	EROS,L.LOD	M	Y	1HR	
8	LM8-4	1SX	EROS	M	Y	0.5HR	
9	LM8	3SX	EROS	M	Y	1HR	
10	19	S,LBS	EROS,L.LOD	M	Y	1HR	
11	LM9	5SX	EROS	H	Y	1HR	
12	LM9-1	2SX	EROS	M	Y	0.5HR	
13	11,52	L1S	EROS,L.LOD	M	Y	1HR	
14	48	1SX,2LBS	EROS,L.LOD	M	Y	1HR	
15	37	5LBS,4SX	EROS,L.LOD	H	Y	2HR	
16	NA1	2LBS,2L1S,4SX	EROS,L.LOD	H	Y	2HR	
17	3	LBS	EROS,L.LOD	M	Y	1HR	
18	42	2S,LBS	EROS,L.LOD	M	Y	1HR	
19	1	L1S,LBS,1SX	EROS,L.LOD	M	Y	0.5HR	
20	LM2	2SX	EROS	H	Y	0.5HR	
21	5,49	S,LBS	EROS,L.LOD	M	Y	1HR	
22	6,7	LBS	EROS,L.LOD	M	Y	0.5HR	
23	9	LBS	EROS,L.LOD	H	Y	1HR	
24	LM5	3SX	EROS	M	Y	0.5HR	
25	17,18,LM3	L1S,LBS	EROS,L.LOD	M	Y	1HR	
26	20	LBS	EROS,L.LOD	M	Y	1HR	
27	34	LBS	EROS	M	Y	0.5HR	
28	LM8	4SX	EROS	M	Y	1HR	

FOREST DISTRICT: MORICE      WATERSHED NAME: MORICE      SUBBASIN:

PRIORITY RANKING:

LEGEND					TOTAL	9.5HR-H	
S=STREAM						15HR-M	
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

FOREST DISTRICT: MORICE

WATERSHED NAME: MORICE

SUBBASIN: LAMPREY / McBRIDE

PRIORITY RANKING:

MAP #	93L005						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	KM-13	R,SX	EROS	M	Y	1HR	
2	9	L1S	L.LOD,EROS	M	Y	0.5HR	
3	25	L1S,LBS	L.LOD,EROS	H	Y	1HR	
4	19	LBS	L.LOD,EROS	H	Y	1HR	
5	LM-8	SX	L.LOD,EROS	L	N	0.5HR	
6	4	L1S,LBS	EROS,S.S.	M	Y	0.5HR	
7	BN-1	2SX	EROS	M	Y	0.5HR	
8	17	2SX,LBS	L.LOD,EROS	M	Y	1HR	
9	18	LBS	L.LOD,EROS	M	Y	0.5HR	
10	6	2SX,LBS	L.LOD,EROS	M	Y	1HR	
11	7	4SX,2LBS	L.LOD,EROS	H	Y	2HR	
12	21	2SX	L.LOD,EROS	M	Y	0.5HR	
13	22	LBS	EROS	M	Y	0.5HR	
					TOTAL	4HR-H	
						6HR-M	
						0.5HR-L	
<b>LEGEND</b>							
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

FOREST DISTRICT: MORICE

WATERSHED NAME:

SUBBASIN: LAMPREY / McBRIDE

PRIORITY RANKING:

MAP #	93L006						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
		NO ELIGIBLE ACTIVITIES IN THIS MAPSHEET					
LEGEND							
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

FOREST DISTRICT: MORICE

WATERSHED NAME: MORICE

SUBBASIN: McBRIDE / LAMPREY

PRIORITY RANKING:

MAP #	93L014						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	28	LBS,BM	EROS,L.LOD	H	Y	3HR	
2	26	LBS	EROS,L.LOD	M	Y	1HR	
3	25	LBS	EROS,L.LOD	H	Y	2HR	
4	N	2SX	EROS	H	Y	1HR	
5	22	LBS,BM	EROS,L.LOD	H	Y	1.5HR	
6	18	LBS	EROS,L.LOD	M	Y	0.5HR	
7	15	LBS,L1S	EROS,L.LOD	H	Y	3HR	
8	13	L1S	EROS,L.LOD	H	Y	1HR	
9	N-4	L1S,LBS,2SX	EROS,L.LOD	H	Y	2HR	
10	8	3SX,LBS	EROS,L.LOD	H	Y	2HR	
11	N4-2	5SX	EROS,L.LOD	H	Y	1HR	
12		2LBS,L1S,3SX	EROS,L.LOD	H	Y	2HR	
13	47	LBS	EROS	H	Y	1HR	
14	7	4SX,3LBS	EROS,L.LOD	H	Y	2HR	
15	50	L1S	EROS,L.LOD	H	Y	1HR	
16	10	LBS,L1S	EROS	H	Y	2HR	
17	N-3	2SX	EROS	H	Y	1HR	
18	6	L1S	EROS	H	Y	1HR	
19	14	GULLY	EROS	H	Y	1HR	
20	19	1SX	EROS	H	Y	1HR	
21	20	LBS	EROS	H	Y	1HR	
22	N2	2SX	EROS	H	Y	1HR	
23	N14	1SX	EROS	H	Y	1HR	
24	N1-1	1SX	EROS	H	Y	1HR	
25	N-6	2SX	EROS	H	Y	1HR	
26	4	L1S	EROS	H	Y	0.5HR	
27	16	LBS	EROS,L.LOD	H	Y	2HR	
28	37	L1S	SS,L.LOD	H	Y	1HR	
29	CE-1	2SX	EROS	H	Y	1HR	

FOREST DISTRICT: MORICE

WATERSHED NAME: MORICE

SUBBASIN: McBRIDE / LAMPREY

PRIORITY RANKING:

30	1	L1S	EROS,L.LOD	H	Y	1HR	
31	1W	2LBS	EROS,L.LOD	H	Y	3HR	
32	49	L1S	EROS,L.LOD	H	Y	2HR	
33	2	L1S	S,EROS,SS	H	Y	1HR	
34	42	2LBS	EROS,L.LOD	H	Y	2HR	
35	MA1	2SX	EROS,L.LOD	H	Y	1HR	
36	3	LBS	SS,EROS	H	Y	1HR	
37	46	L1S,SX	EROS,L.LOD	H	Y	2HR	
38	44	LBS,SX	EROS,L.LOD	H	Y	1HR	
39	MW1	1SX	EROS	H	Y	1HR	
40	31	L1S,LBS	EROS,L.LOD	H	Y	2HR	
41	18	L1S,SX	EROS,L.LOD	H	Y	1HR	
42	17	L1S,SX	EROS,L.LOD	H	Y	1HR	
43	48	3LBS	SS,EROS,L.LOD	H	Y	2HR	
44	43	L1S,LBS	SS,EROS,L.LOD	H	Y	1HR	
45	40	L1S,LBS	SS,EROS,L.LOD	H	Y	2HR	
46	26	L1S,LBS	SS,EROS,L.LOD	H	Y	1HR	
LEGEND							
S=STREAM						TOTAL	63HR-H
H/S=HILLSLOPE/STREAM							1.5HR-M
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							



SUBBASIN: FENTON / OWEN

PRIORITY RANKING:

MAP #	93L007						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	MO4	2SX	EROS	H	Y	1HR	
2	MO4	2SX	EROS	H	Y	1HR	
3	MO2	S	EROS	H	Y	2HR	
4	#7	S	LBS	H	Y	1HR	
5	47	S	LIS	L	N	0	
6	6	S	LBS	M	Y	1HR	
					TOTAL	5HR-H	
						1HR-M	
LEGEND							
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

FOREST DISTRICT: MORICE

WATERSHED NAME: MORICE

SUBBASIN: FENTON / OWEN

PRIORITY RANKING:

MAP #	93L015						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	21	SX	EROS	M	Y	0.5HR	
2	F7	SX	EROS	M	Y	0.5HR	
3	1	SX,LBS	EROS	M	Y	0.5HR	
4	30	1SX,LBS	EROS,LOD	M	Y	0.5HR	
5	18	3SX,LBS	EROS,LOD	H	Y	1HR	
6	F11	R/S	EROS,LOD	M	Y	0.5HR	
7	F11	SX	EROS,LOD	H	Y	0.5HR	
8	33	L1S	EROS,LOD	H	Y	0.5HR	
9	34	LBS	EROS,LOD	H	Y	0.5HR	
10	10	L1S,LBS	EROS,LOD	M	Y	0.5HR	
11		2SX	RECON.	M	Y	1HR	
12		SX	EROS,ACCESS	M	Y	0.5HR	
13	17	SX,LBS	EROS,LOD	M	Y	1HR	
14	F8	SX		M	Y		
15	19	S,LBS	EROS,LOD	M	Y	0.5HR	
16	F10	SX	EROS,LOD	M	Y	0.5HR	
17	12	SX,LBS	EROS,LOD	H	Y	1HR	
18	25	LBS	EROS,LOD	M	Y	0.5HR	
19	B2	2SX	EROS	M	Y	0.5HR	
20	B1	3SX	EROS	H	Y	0.5HR	
21	9	LBS	EROS	M	Y	0.5HR	
22	3	2SX,LBS	EROS,LOD	M	Y	1HR	
23	24	2SX,LBS	EROS,LOD	M	Y	0.5HR	
24	7/28	SX,2LBS	EROS,LOD	M	Y	0.5HR	
25	41	1SX,LBS	EROS	M	Y	0.5HR	
26	T1	5SX	EROS	M	Y	1HR	
27	27	2LBS	L.LOD,EROS	M	Y	1HR	
28	TL-1	SX	EROS	M	Y	0.5HR	
29	42	R,G	EROS	M	Y	0.5HR	

FOREST DISTRICT: MORICE

WATERSHED NAME: MORICE

SUBBASIN: FENTON / OWEN

PRIORITY RANKING:

30	M1	2SX	EROS	M	Y	0.5HR	
31	11	L1S	L.LOD,EROS	H	Y	1HR	
LEGEND							
S=STREAM					TOTAL	5HR-H	
H/S=HILLSLOPE/STREAM						13.5HR-M	
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE

WATERSHED NAME: MORICE

SUBBASIN: FENTON / OWEN

PRIORITY RANKING:

MAP #	93L016						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	PROF. PRESC.	EST.TIME	
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	COMMENT
		ROAD,HILLSLOPE,STREAM					
1	F2	R/S	EROS	L	N		
2	2	SX	EROS	M	Y	1HR	
3	10	S,L1S	L.LOD,EROS	H	Y	2HR	
4	22	S,LBS	L.LOD,EROS	H	Y	3HR	
5	7	SX,L1S	L.LOD,EROS	H	Y	2HR	
6	22	S,LBS	L.LOD,EROS	M	Y	1HR	
7	11	SX,L1S	L.LOD,EROS	H	Y	2HR	
8	18	SX	EROS	H	Y	1HR	
9	F5	R/S	EROS	H	Y	1HR	
10	22	S,L1S	L.LOD,EROS	M	Y	1HR	
11	F1	SX	EROS	M	Y	0.5HR	
12	15	SX,LBS	EROS	M	Y	1HR	
13	41	SX,LBS	EROS	M	Y	0.5HR	
14	19	SX,LBS	EROS	M	Y	0.5HR	
15	43	SX,LBS	L.LOD, EROS	H	Y	1HR	
16	F3	2SX	EROS	M	Y	1HR	
17	2	3SX,LBS	L.LOD, EROS	H	Y	2HR	
18	F4	3SX	EROS	M	Y	2HR	
19	16	2SX,LBS	L.LOD, EROS	H	Y	2HR	
20	44	SX,LBS	L.LOD, EROS	M	Y	1HR	
21	45	SX,L1S	L.LOD, EROS	M	Y	1HR	
LEGEND					TOTAL	16HR-H	
S=STREAM						10.5HR-M	
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							

TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE      WATERSHED NAME: MORICE      SUBBASIN: FENTON / OWEN

PRIORITY RANKING:

MAP #	93L/017						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	PROF. PRESC.	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	13	L1S	L.LOD,EROS	H	Y	1HR	
2		SX	EROS	H	Y	0.5HR	
3	K1	SX	EROS	H	Y	0.5HR	
4	43	LBS	L.LOD,EROS	H	Y	1HR	
5	40	LBS	L.LOD,EROS	H	Y	2HR	
6	41	LBS	L.LOD,EROS	H	Y	2HR	
7	42	SX,LBS	L.LOD,EROS	H	Y	2HR	
8	17	SX,LBS	L.LOD,EROS	H	Y	2HR	
9	518/519	SX,L1S	L.LOD,EROS	H	Y	2HR	
10	17	SX,LBS	L.LOD,EROS	H	Y	2HR	
11	17	L1S	L.LOD,EROS	H	Y	1HR	
12	17	L1S	L.LOD,EROS	M	Y	1HR	
13	P1	2SX	EROS	H	Y	1HR	
14	P2	2SX	EROS	H	Y	1HR	
15	E1	SX	EROS	H	Y	1HR	
16	MO1	SX	EROS	H	Y	1HR	
17	OLD RD.	SX	EROS	H	Y	2HR	
					TOTAL	22HR-H	
						1HR-M	
LEGEND							
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

## TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE WATERSHED NAME: MORICE SUBBASIN: FENTON / OWEN

PRIORITY RANKING:

MAP #	93L027						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	5	LBS	L.LOD,EROS	H	Y	3HR	
2	21	LBS	L.LOD,EROS	H	Y	1HR	
3	21	LBS	L.LOD,EROS	H	Y	1HR	
		NO PHOTOS AVAILABLE					
LEGEND					TOTAL	5HR-H	
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

## TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE      WATERSHED NAME: MORICE      SUBBASIN: FENTON/OWEN

PRIORITY RANKING:

MAP #	93L037						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	1	LBS,R	EROS,L.LOD	M	Y	1HR	
2	27	LBS	EROS,L.LOD	M	Y	1HR	
3	PE1	R/SC	EROS	M	Y	0.5HR	
4	17	SX	EROS	M	Y	0.5HR	
LEGEND					TOTAL	3HR-M	
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

## TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE

WATERSHED NAME: MORICE

SUBBASIN: HOUSTON TOMMY

PRIORITY RANKING:

MAP #	93L025						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	MC2	2SX	EROS	H	Y	2HR	
2	5	L1S	EROS,L.LOD	M	Y	1HR	
3	8	L1S	EROS	M	Y	1HR	
COHO SPAWNING LOCATION 1995 RADIOTAG PROGRAM LGLWTO					TOTAL	2HR-H	
						2HR-M	
LEGEND							
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							



## TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE      WATERSHED NAME: MORICE      SUBBASIN: HOUSTON TOMMY

PRIORITY RANKING:

MAP #	93L026						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	42	S/SX	LIS	H	Y	2HR	
2	44	S	LIS	H	Y	2HR	
3	53/39	S	L2S	H	Y	2HR	
4	G2-2	2SX	EROS	M	Y	1HR	
5	M3-1	SX	EROS	M	Y	1HR	
6	1	3S	LBS	M	Y	1HR	
7	1	S	LIS/L.LOD	H	Y	1HR	
8	33/45	2SX	LIS/EROS	M	Y	1HR	
9	54	2S	LBS	M	Y	1HR	
10	4/23	S	LBS/EROS	H	Y	1HR	
11	M4	R	EROS	M	Y	1HR	
12	M5	2SX	EROS	H	Y	2HR	
13	31	3SX	EROS	H	Y	1HR	
		LBS	L.LOD	H	Y	2HR	
14	M6	2SX	EROS/L.LOD	H	Y	1HR	
15	M6	2SX	EROS/L.LOD	H	Y	1HR	
16	21	SX	EROS/L.LOD	M	Y	1HR	
17	37	SX	EROS/L.LOD	M	Y	1HR	
18	MCL	2SX	EROS	M	Y	1HR	
19	38	SX,LBS	EROS/L.LOD	M	Y	1HR	
20	7	S	LIS	M	Y	1HR	
21	MCL-1	2SX	EROS	M	Y	1HR	
22	8	SX,LBS	EROS	M	Y	1HR	
23	22	SX	EROS	M	Y	0.5HR	
24	46	S,L1S	L.LOD/EROS	H	Y	1HR	
25	5	S,L1S	L.LOD/EROS	H	Y	2HR	
26	MCL-1	2SX	EROS	M	Y	1HR	
27	47	S,LBS	L.LOD	M	Y	1HR	
28	58/57	SX,LBS	LOD,EROS	M	Y	1HR	

## TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE

WATERSHED NAME: MORICE

SUBBASIN: HOUSTON TOMMY

PRIORITY RANKING:

29	40	SX,LBS	L.LOD,EROS	M	Y	1HR	
30	MCL-3	SX	EROS	M	Y	1HR	
LEGEND					TOTAL	18HR-H	
S=STREAM						18.5HR-M	
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

## TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE WATERSHED NAME: MORICE SUBBASIN: HOUSTON TOMMY

PRIORITY RANKING:

MAP #	93L035						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	COMMENT
		ROAD,HILLSLOPE,STREAM					
		NO ELIGIBLE ACTIVITY					
LEGEND							
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE

WATERSHED NAME: MORICE

SUBBASIN: HOUSTON TOMMY

PRIORITY RANKING:

MAP #	93L036						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	PROF. PRESC.	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	G	S	EROS	H	Y	1HR	
2	4	6SX,LBS	L.LOD,EROS	M	Y	2HR	
3	GR3	SX	EROS	M	Y	1HR	
4	GR1-1	5SX	EROS	M	Y	2HR	
5	GR1-1	3SX	EROS/SED	M	Y	1HR	
6	G2	4SX	EROS	M	Y	2HR	
7	16	S,L1S	EROS/L.LOD	M	Y	1HR	
8	15	LBS	EROS,L.LOD	M	Y	5HR	
9	14	LBS	EROS,L.LOD	M	Y	0.5	
10	12	LBS	EROS,L.LOD	H	Y	1HR	
11	G1	2SX	EROS	M	Y	1HR	
12	9	LBS	EROS,L.LOD	M	Y	1HR	
					TOTAL	2HR-H	
						16.5HR-M	
LEGEND							
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

## TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE      WATERSHED NAME: MORICE      SUBBASIN: HOUSTON TOMMY

PRIORITY RANKING:

MAP #	93L046						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	GR1-7	R/S,8SX	EROS	M	Y	2HR	
2	#6	LBS,4SX	EROS,L.LOD	H	Y	2HR	
3	12	LBS,L1S	EROS	H	Y	2HR	
4	E1,E1-1	2SX	EROS	H	Y	1HR	
5	26	LBS,SX	L.LOD,EROS	H	Y	1HR	
6	22	L1S	L.LOD,EROS	H	Y	1HR	
7	23	LBS	L.LOD,EROS	H	Y	1HR	
8	5	3LBS	L.LOD,EROS,SS	H	Y	2HR	
		NO PHOTOS					
LEGEND					TOTAL	10HR-H	
S=STREAM						2HR-M	
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

FOREST DISTRICT: MORICE

WATERSHED NAME: MORICE

SUBBASIN: HOUSTON TOMMY

PRIORITY RANKING:

MAP #	93L047						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	16	LBS,SX	SS,EROS,L.LOD	H	Y	2HR	
2	17	L1S	EROS	M	Y	1HR	
3		2SX	SS,ACCESS	H	Y	1HR	
LEGEND					TOTAL	3HR-H	
S=STREAM						1HR-M	
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

FOREST DISTRICT: MORICE      WATERSHED NAME: MORICE      SUBBASIN: THAUTIL

PRIORITY RANKING:

MAP #	93L023						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	TH1	SX	EROS,SS	H	Y	2HR	
2	3	LAKE,L1S	EROS,L.LOD	H	Y	2HR	
3	5	LAKE,L1S	EROS,L.LOD	H	Y	1HR	
		NO AIR PHOTOS			TOTAL	5HR-H	
LEGEND							
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							

## TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE    WATERSHED NAME: MORICE    SUBBASIN: GOSNELL

PRIORITY RANKING:

MAP #	93L024						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST.TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW,MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	TH1	12SX	EROS	H	Y	2HR	RECON. REQUIRED
2	TH2	SX	EROS	M	Y	1HR	
3	TH3	SX	EROS	M	Y	0.5HR	
					TOTAL	2HR-H	
LEGEND						1.5HR-M	
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							







## TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE      WATERSHED NAME: MORICE      SUBBASIN: NANIKA

PRIORITY RANKING:

MAP #	93E073							
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST. TIME	COMMENT	
#	BLOCK #	LEVEL 2		LOW, MODERATE, HIGH	REQUIRED	REQUIRED		
		ROAD, HILL SLOPE, STREAM						
1	NA6	SX	EROS, SS	H	Y	2HR		
2	NA6	SLOPE FAILURES	EROS, SS	H	Y	2HR		
		NO AIR PHOTOS						
					TOTAL	4HR-H		
LEGEND								
S=STREAM								
H/S=HILL SLOPE/STREAM								
S/G=STREAM/GULLY								
SX=STREAM CROSSING								
L.LOD=LOSS OF LOD								
EROS=POSSIBLE EROSION								
SS=POSSIBLE SEDIMENT SOURCE								
LBS=LOGGED BOTH SIDES								
L1S=LOGGED 1 SIDE								

TABLE 1 FISHERIES/RIPARIAN

## LEVEL 1 ASSESSMENT MORICE WRP 1995/1996

PAGE:

FOREST DISTRICT: MORICE      WATERSHED NAME: MORICE      SUBBASIN: NANIKA

PRIORITY RANKING:

MAP #	93E074						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC	EST. TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW, MODERATE, HIGH	REQUIRED	REQUIRED	
		ROAD, HILLSLOPE, STREAM					
1	NA6	10SX	EROS, SS	H	Y	8HR	ROAD WASHOUT, EROSION, SEDIMENTATION NEED PROF. PRESCRIPTION
					TOTAL	8HR-H	
LEGEND							
S=STREAM							
H/S=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
LIS=LOGGED 1 SIDE							



FOREST DISTRICT: MORICE      WATERSHED NAME: MORICE      SUBBASIN: NANIKA

PRIORITY RANKING:

MAP #	93E093						
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	ROF. PRESC.	EST. TIME	COMMENT
#	BLOCK #	LEVEL 2		LOW/MODERATE,HIGH	REQUIRED	REQUIRED	
		ROAD,HILLSLOPE,STREAM					
1	NA4	RS	EROS	M	Y	1HR	
2	1	6LBS	L.LOD,EROS	H	Y	2HR	
					TOTAL	2HR-H 1HR-M	
LEGEND							
S=STREAM							
HS=HILLSLOPE/STREAM							
S/G=STREAM/GULLY							
SX=STREAM CROSSING							
L.LOD=LOSS OF LOD							
EROS=POSSIBLE EROSION							
SS=POSSIBLE SEDIMENT SOURCE							
LBS=LOGGED BOTH SIDES							
L1S=LOGGED 1 SIDE							



FOREST DISTRICT: MORICE      WATERSHED NAME: MORICE      SUBBASIN: GOSNELL

PRIORITY RANKING:

MAP #	93L024					
BLUE TAG	ROAD OR	ITEM REQUIRING	POTENTIAL HAZARD	RISK RATING	PROF. PRESC.	EST. TIME
#	BLOCK #	LEVEL 2		LOW, MODERATE, HIGH	REQUIRED	REQUIRED
		ROAD, HILLSLOPE, STREAM				
1	TH1	12SX	EROS	H	Y	2HR
2	TH2	SX	EROS	M	Y	1HR
3	TH3	SX	EROS	M	Y	0.5HR
					TOTAL	2HR-H
						1.5HR-M
LEGEND						
S=STREAM						
H/S=HILLSLOPE/STREAM						
S/G=STREAM/GULLY						
SX=STREAM CROSSING						
L.LOD=LOSS OF LOD						
EROS=POSSIBLE EROSION						
SS=POSSIBLE SEDIMENT SOURCE						
LBS=LOGGED BOTH SIDES						
L1S=LOGGED 1 SIDE						



## **Level 2 Assessment Summary Priority Ranking**

The following is the suggested priority ranking of Sub- Basins for level 2 assessments. This ranking is based on number and severity of sites requiring follow up inspections within each sub-basin.

1. Fenton / Owen
2. Lamprey / McBride
3. Houston Tommy
4. Nanika
5. Thautil

The Gosnell and Morice Atna do not require additional follow up, as no sites requiring Level 2 assessments were noted.

## Level 1 Assessment Summary for the Watershed Restoration Program

Date: 95/12/11 Page: 1

Page: 1

Watershed Name: MORICE Subbasin: HOUSTON TOMMY

Priority Ranking: \_\_\_\_\_

[illegible]

## Table #2 of Level 1 Assessment Contract #

Forest District: MORICE

Forest District: MORICE

[illegible]

# Level 1 Assessment Summary for the Watershed Restoration Program

Table #2 of Level 1 Assessment Contract # \_\_\_\_\_

Date: 95/12/05

Page : 1

Forest District: MORICE \_\_\_\_\_

Watershed Name: MORICE \_\_\_\_\_

Subbasin: HOUSTON TOMMY

Priority Ranking: \_\_\_\_\_

Stream, Road or Cutblock Name or Map Ref. #	Stream or Road Length (km) or Cutblock Area (ha)	Tenure (CP, TSL, Non-status or other)	Forest Management Responsibilities		Item Assessed as Requiring Level 2 Assessment			Risk (as per WRTC #3 Appendix E)		Prof. Prescrip. Req'd? (Y/N)
			Outstanding Obligations <sup>1</sup> (M.P., Lic., CP, RP or PHSP or none)	Date of final Harvesting Activity	Hillslopes & Dry Gullies	Roads	Streams	Hazard <sup>3</sup> (L,M,H and Stability vs. Erosion)	Resources Impacted <sup>2</sup>	
093L026										
M 5	2.6 km	Non - Status	None		Low	Mod - 200m	2 Cross	Mod	F	Y -Tech
M 3	2.4 km	Non - status	None		Low	Mod - 400m		Mod (Stab)		Y -Tech
M3-1	0.8 km	Non - Status	None	1983	Low	Mod - 100m	1 Cross	Mod	F	Y -Tech
M-1	2.4 km	Non -Status	None	1987	Mod - Low	Mod -300m		Mod -(Stab)	F	Y - Tech
#42		TSL (EXP)	None	1987	Low	Mod - 100m	1 Cross - (LBS)	Mod (EROS)	F	Y -Tech
M 4	0.6 km	Non -Status	None		Low	Mod - 100m		Mod (EROS)		Y -Tech
#38	1.4 km	CP(EXP)	None	1985	Low	Mod - 100m	1 Cross - LBS	Mod	F (water)	Y-Tech
MC 1	Brood Removal 8.4	Road Permit	None		Low	Mod	2 Cross	Mod	F	Y -Tech
#7		CP(EXP)	None	1990	Low	Low	1 - LOS	Mod	F	Y -Tech
MC 1-1	2.7 km	Non- Status	None		Low	Mod - 200m		Mod		Y -Tech
#47	0.8 km	CP(EXP)	None	1988	Low	Mod - 100m	1 LBS	Mod		Y - Tech

## Table #2 of Level 1 Assessment Contract #

Page: 2

Watershed Name: MORICE Subbasin: HOUSTON TOMMY

**Priority Ranking:**

Stream, Road or Curblock Name or Map Ref. #	Stream or Road Length (km) or Curblock Area (ha)	Tenure (CP, TSL, Non-status or other)	Forest Management Responsibilities		Item Assessed as Requiring Level 2 Assessment				Risk (as per WRTC #3 Appendix E)		Prof. Prescrip.
			Outstanding Obligations <sup>1</sup> (M.P., Lic., CP, RP or PHSP or none)	Date of final Harvesting Activity	Hillslopes & Dry Gullies	Roads	Streams	Hazard <sup>3</sup> (L,M,H and Stability vs. Erosion)	Resources Impacted <sup>2</sup>		
093L026											
#40	2.6 km	CP(EXP)	None	1986	Low	Mod - 200m	2 Crossing	Mod	F		Y-Tech
#57		CP(EXP)	None	1990	Low	Mod - 100m	1 Cross	Mod	F		Y-Tech
#8	1.4km	CP(EXP)	None	1991	Low	Mod - 100m	1 Cross 1 LBS	Mod			Y-Tech
#31	2.6 km	CP(EXP)	None	1962	Mod - Hillslope	Mod	3 Cross (LBS)	Mod - High (Stab) (& Eros)	F & P		Y-Tech
M 6	2.4 km	Non - Status	None	1983	Mod	Mod - 2.4 km	4 Cross	Mod - High (Stab & Eros)	F		Y-Tech /Pro
#21	2.0 km	CP(EXP)	None	1983	Low	Mod (0.1 km)	F	Mod - (Eros)	F		Y-Tech
#23	0.8 km	CP(EXP)	None	1985	Low	Low	LOS - 400m	Mod	F		Y-Tech
MC 1-3	1.8 km	Non - Status	None		Low	Mod - 100m	1 Cross	Mod - Eros	F		Y-Tech
MC -2	5.4 km	CP(EXP)	None	None	Low	Low	2 Cross	Mod			Y-Tech
#55		CP(EXP)	None	1989/90	Mod	Low		Mod - Natural Slide Edge of Blk			Y-Tech

## Level I Assessment Summary for the Watershed Restoration Program

Page: 1

Priority Ranking: \_\_\_\_\_

[illegible]

## Level I Assessment Summary for the Watershed Restoration Program

Priority Ranking:

Page: 1

[illegible]

## Level 1 Assessment Summary for the Watershed Restoration Program

Date: 05/11/20

Page: 1

Watershed Name: MORICE

Subbasin: FENTON / OWEN

Priority Ranking: \_\_\_\_\_

[illegible]



# Level 1 Assessment Summary for the Watershed Restoration Program

Table #2 of Level 1 Assessment Contract # \_\_\_\_\_

Date: 95/11/23 Page: 1

Forest District: MORICE

Watershed Name: MORICE

Subbasin: FENTON / OWEN

Priority Ranking:       

Stream, Road or Cutblock Name or Map Ref. #	Stream or Road Length (km) or Cutblock Area (ha)	Tenure (CP, TSL, Non-status or other)	Forest Management Responsibilities		Item Assessed as Requiring Level 2 Assessment			Risk (as per WRTC #3 Appendix E)		Prof. Prescrip. Req'd? (Y/N)
			Outstanding Obligations <sup>1</sup> (M.P., Lic., CP, RP or PHSP or none)	Date of final Harvesting Activity	Hillslopes & Dry Gullies	Roads	Streams	Hazard <sup>3</sup> (L,M,H and Stability vs. Erosion)	Resources Impacted <sup>2</sup>	
<b>093L016</b>										
B North of #17	19.0 km	Non - Status	None		Moderate			Mod - (Stab)	(S) (I)	Y-Prof
F 1	1.1 km	Non - Status	None	1987		Mod - 100m	1 Cross / Bridge	Mod - (Eros)	F	Y-Tech
#22	56.0 km Rd. 12 km	CP(EXP)	None	1988	Low	Low	500m 1 LBS	Low (Eros)	F	Y-Tech
F 2	2.2 km	FS (Other)	None			Mod - 800m		Mod - (Eros)	O	Y-Tech
#2	118.8 / 2.8 km	CP(EXP)	None	1971	Low	Mod - 300m	3.4 km - LBS 3 Cross	Mod (Eros)	H	Y-Tech
#15	78.3 / 1.8 km	CP(EXP)	None	1987	Low	Low	1.4 km LBS 1 Cross	Low	H	Y-Tech
#16	82.0 ha 3.4 km	CP(EXP)	None	1987	Low	Mod - 200m	0.5km LBS 2 Cross	Mod - (Eros)	H	Y-Tech
F 5	3.2 km	Non - Status	None		Mod	High	3.2 km	High (Eros)	F	Y-Tech
F 3	1.8 km	CP(EXP)	None		Low	Mod - 100m	2 Cross	Mod (Eros)	F	Y-Tech
#18	44.0 ha / Rd. 0.6km	CP(Exp)	None	1986	Low	Moderate	*Cross	High (Eros)	F	Y-Tech
#19	94.0 ha / Rd. 1.2km	CP(EXP)	None	1983	Low	Mod - 200m	1 Cross (LBS)	High (Eros)	F	Y-Tech

## Table #2 of Level 1 Assessment Contract #

Page: 2

Watershed Name: MORICE Subbasin: FENTON / OWEN Priority Ranking:           

[illegible]

## Table #2 of Level 1 Assessment Contract #

Forest District: MORICE

Forest District: MORICE

[illegible]

## Level 1 Assessment Summary for the Watershed Restoration Program

Date: 95/12/04

Page: 1

**Watershed Name:** MORRIS

Subbasin: FENTON / OWEN      Priority Ranking

[illegible]

## Table #2 of Level 1 Assessment Contract # \_\_\_\_\_

Date: 95/12/21 Page: 1

Forest District: MORICE

Watershed Name: MORICE Subbasin: THAUTIL Priority Ranking:       

[illegible]

## Level I Assessment Summary for the Watershed Restoration Program

Table #2 of Level 1 Assessment Contract #

Date: 95/12/21 Page: 1

Forest District: MORICE

Watershed Name: MORICE Subbasin: THAUTIL Priority Ranking:           

[illegible]

## Table #2 of Level 1 Assessment Contract # \_\_\_\_\_

Date: 95/12/14 Page: 1

Watershed Name: \_MORICE\_ Subbasin: THAUTIL Priority Ranking: \_\_\_\_\_

[illegible]

## Table #2 of Level 1 Assessment Contract #

Page: 1

Watershed Name: MORICE Subbasin: THAUTIL Priority Ranking:

[illegible]



## Table #2 of Level 1 Assessment Contract #

Page: 1

Watershed Name: MORICE Subbasin: THAUTL Priority Ranking: \_\_\_\_\_

[illegible]

# Level 1 Assessment Summary for the Watershed Restoration Program

Table #2 of Level 1 Assessment Contract # \_\_\_\_\_

Date: 95/12/12

Page: 1

Forest District: MORICE

Watershed Name: MORICE

Subbasin: LAMPREY / McBRIDE

Priority Ranking:       

Stream, Road or Cutblock Name or Map Ref. #	Stream or Road Length (km) or Cutblock Area (ha)	Tenure (CP, TSL, Non-status or other)	Forest Management Responsibilities		Item Assessed as Requiring Level 2 Assessment			Risk (as per WRTC #3 Appendix E)		Prof. Prescrip. Req'd? (Y/N)
			Outstanding Obligations <sup>1</sup> (M.P., Lic, CP, RP or PHSP or none)	Date of final Harvesting Activity	Hillslopes & Dry Gullies	Roads	Streams	Hazard <sup>3</sup> (L,M,H and Stability vs. Erosion)	Resources Impacted <sup>2</sup>	
093L015										
#27	0.1 km	CP(EXP)	None	1988	Low	Mod - 100m	1 Cross	Mod	F	Y - Tech
#41	0.1 km	CP(EXP)	None	1992	Low	Mod	1 Cross	Mod	F	Y - Tech
#7 & 28	0.45km	CP(EXP)	None	1985	Low	Mod - LDG Low	2 - LBS	Mod	F /H	Y - Tech
#24		CP(EXP)	None	1986	Low	Low	1 - LBS	Mod	F	Y - Tech
#3	2.3 km	CP(EXP)	None	1973	Low	Mod - 200m	2 - Cross	Mod		Y - Tech
M 1	1.2 km	Non - Status	None		Low	Mod - 100m	1 Cross	Mod		Y - Tech
M 1-1	0.6 km	Non - Status	None		Low	Mod	1 Cross	Mod		Y - Tech
#12	1.4 km	CP(EXP)	None	1981	Low	Mod	1 Cross	Mod		Y - Tech
#27	0.1 km	CP(EXP)	None	1988	Low	Mod - 100m	1 Cross	Mod	F	Y - Tech
#41	0.1 km	CP(EXP)	None	1992	Low	Mod	1 Cross	Mod	F	Y - Tech

# Level I Assessment Summary for the Watershed Restoration Program

Table #2 of Level I Assessment Contract # \_\_\_\_\_

Date: 95/12/15 Page: 1

Forest District: MORICE

Watershed Name: MORICE Subbasin: LAMPREY / McBRIDE Priority Ranking:     

Stream, Road or Cutblock Name or Map Ref. #	Stream or Road Length (km) or Cutblock Area (ha)	Tenure (CP, TSL, Non-status or other)	Forest Management Responsibilities		Item Assessed as Requiring Level 2 Assessment			Risk (as per WRTC #3 Appendix E)		Prof. Prescrip. Req'd? (Y/N)
			Outstanding Obligations <sup>1</sup> (M.P., Lic., CP, RP or PHSP or none)	Date of final Harvesting Activity	Hillslopes & Dry Gullies	Roads	Streams	Hazard <sup>3</sup> (L,M,H and Stability vs. Erosion)	Resources Impacted <sup>2</sup>	
<b>0931014</b>										
#51	2.6km	CP(EXP)	None	1992	Low	Mod - 300m	3 Cross 2 LBS	Mod - E	F	Y - Tech
#19	0.2 km	CP(EXP)	None	1966	Low	Mod - 100m	1 Cross	Mod - E	F	Y - Tech
#15	3.4 km	CP(EXP)	None	1985	Low	Mod - 300m		Mod - E		Y - Tech
#49	0.3 km Skid Trail	CP(EXP)	None	1991	Low / Mod (2 ha)	Low	1 - LOS	High	F	Y - Tech
#44	1.2 km	CP(EXP)	None	1991	Low	Mod - 100m	1 - LBS	Mod	F	Y - Tech
#17		CP(EXP)	None	1978	Low High - 2 ha	Low		High (Stab)	P	Y - Prof
#189					High (2ha)	Natural Slide out of Blk		High	F , P	Y - Pro
N 5	0.3 km	CP(EXP)	None	1992	Low	Mod - 100m	1 Cross	Mod	F	Y - Tech
N 4	2.1 km	Non - Status CP(EXP)	None		Low	Mod - 200m	1 - LOS 2 - Cross 1 - LBS	Mod	F	Y - Tech
#8	1.6 km	CP(EXP)	None	1980	Low	Mod - 300m	3 - Cross 2 - LBS	Mod - E	F	Y - Tech
N	3.8 km	Non -Status	None		Low	Mod - 100m	1 Cross	Mod	F	Y - Tech
#16	1.4 km	CP(EXP)	None	1979	Low	Mod - 100m	1 - LBS 1 Cross	Mod	F	Y - Tech

## Level I Assessment Summary for the Watershed Restoration Program

Page: 1

Priority Ranking: \_\_\_\_\_

[illegible]

## Table #2 of Level 1 Assessment Contract #

Page: 1

Watershed Name: MORICE Subbasin: LAMPREY / McBRIDE Priority Ranking: \_\_\_\_\_

[illegible]

## Table #2 of Level 1 Assessment Contract #

Forest District: MORICE

Priority Ranking:

[illegible]

## Table #2 of Level 1 Assessment Contract # \_\_\_\_\_

Date: 95/12/15 Page: 1

Forest District: MORICE

Watershed Name: MORICE Subbasin: NANIKA Priority Ranking:       

[illegible]

## Table #2 of Level 1 Assessment Contract #

Date: 95/12/18 Page: 1

Forest District: MORICE

Watershed Name: MORICE Subbasin: NANIKA Priority Ranking:           

[illegible]



## Table #2 of Level 1 Assessment Contract #

Forest District: MORICE

\_\_\_\_\_

[illegible]

## Level 1 Assessment Summary for the Watershed Restoration Program

Date: 05/13/20

Page : 1

Watershed Name: MORICE Subbasin: NANIK

Priority Ranking: \_\_\_\_\_

[illegible]

## Level I Assessment Summary for the Watershed Restoration Program

Table #2 of Level 1 Assessment Contract #

Date: 95/12/21 Page: 1

Page: 1

Forest District: MORICE

Watershed Name: MORICE Subbasin: NANIKA

Priority Ranking: \_\_\_\_\_

[illegible]

## Table #2 of Level 1 Assessment Contract #

Page: 1

Priority Ranking: \_\_\_\_\_

[illegible]

## **Level I Assessment Summary for the Watershed Restoration Program**

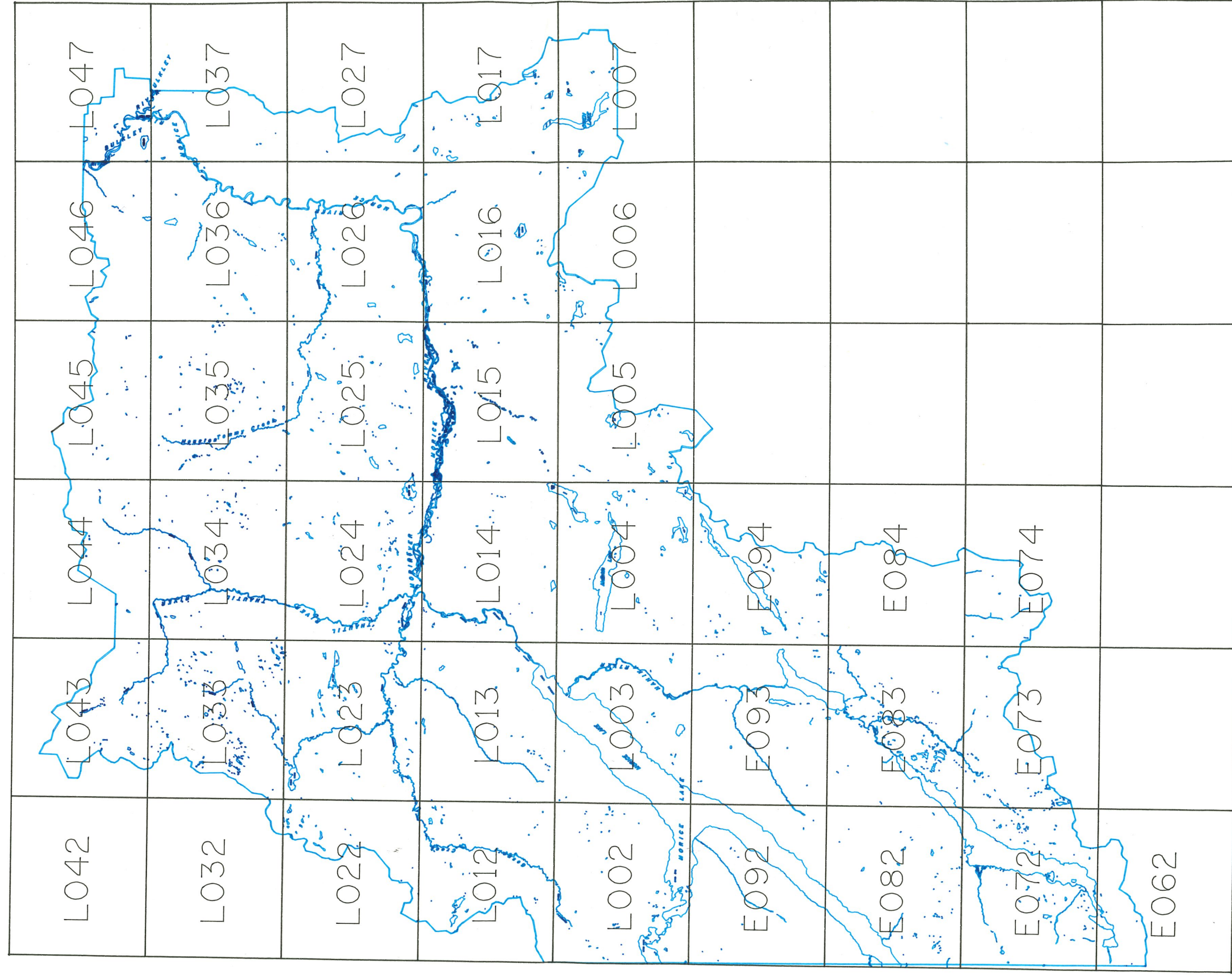
Date: 05/13/21

Page: 1

Watershed Name: MORICE Subbasin:

Watershed Name: MORICE Subbasin: NANIKA Priority Ranking: \_\_\_\_\_

[illegible]







SUBJECT: Final report review

DATE: April 2, 1996

FILE: FRP DMO96 WR01

ATTENTION: Jeff Lough

REMARKS:

Here is the final report of the WRP project from the We'suwet'en Office. I have included with this package the original fish stream ID maps (no other copy available!!) and one of two copies of the final report. The road portion of the contract has not changed much from when I first saw the report from Am-Bush. As far as the MoF all the contract requirements have been met and I am going to recommend full payment. I will be going away for a week starting on the 3rd and will be back to work on the 15th of April. Can you review the MoE portion of the contract and send a fax letter to our finance section Attn: Lynn Glaim. She will hold the invoice that I have done until she receives authorization from you for final payment. All I could find were a few spelling errors and the fact that page 15 and 16 are the same page. I have the WTO digitizing the maps and will pay for it out of this years budget. We can all have copies of the maps that way and they will be easier to add new information to. I have the road maps at our office and can make them available to you when ever you want. If you do find any major problems can you send a fax to Lynn and to Dave Rebagliati letting them know so they can make a decision on how much to pay them. I don't think there should be a problem as this is year one of a multi year contract. I'll get in touch as soon as I get back to see if there is any word on the coming years new proposals or any problems with this one..

John Thibeau  
Watershed Restoration Technician  
Morice Forest District

## Level 1 Assessment Summary for the Watershed Restoration Program

Table #2 of Level 1 Assessment Contract #

Date: 95/12/21

Page : 1

Forest District: MORICE

Watershed Name: MORICE Subbasin: NANIKA Priority Ranking:

[illegible]



## Level I Assessment Summary for the Watershed Restoration Program

Page: 1

Priority Ranking: \_\_\_\_\_

[illegible]

## Table #2A of Level 1 Assessment Contract # \_\_\_\_\_

Forest, District:

Watershed Name: \_\_\_\_\_

Subbasin:

2x4, 4x4, quad or none

Industrial (includes any forest management activity required by a license or legislation), Commercial (guiding, trapping etc) Cultural or Recreational use.

Less than 1 year, 1 - 3 years, 3 to 20 years, more than 20 years.

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: HOUSTON TOMMY

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: THAUTIL[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/18 Page: 1

Forest District MORICE Watershed Name: MORICE Subasin: THA1TTH

Subasin: THAUTII

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subbasin: HOUSTON TOMMY

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: HOUSTON TOMMY

[illegible]

# Access Management Plan For the Watershed Restoration Program

Date: 96/01/18 Page: 1

Subasin: THAUTII

[illegible]



# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: FENTON / OWEN[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: HOUSTON TOMMY

Road Name or Map Ref. #	Road Length (km)	Tenure (CP, RP, SUP, Non-Status)	Access		Road Use			Risk		Level 2 Assessment	Prof. Perscrip. Req'd?
			Current	Proposed	Current	Planned	Years Until Planned industrial use	Hazard (L, M, H and Stability vs. Erosion)	Resources Impacted		
0931.026											
MC 1-3	1.8km	Rd. Permit	2x4	4x4 / ATV	I	I	1-3	Mod	F	Yes	
MC 1-2	0.7 km	Non - Status	2x4	None				Low		No	
MC 1-1	2.7 km	Non - Status	2x4	4x4	I, R	I, R,	1-3	Mod	F	Yes	
MC 1	8.4 km	Rd. Permit (EXP)	2x4	2x4	I, R, C,	I, R, C,	<1	Low(mod)	F	Yes	
MC 2	5.4 km	CP(EXP)	2x4	4x4	I, R,	I, R,	1-3	Low(mod)	F	Yes	
M 1	2.4 km	Non - Status	2x4	4x4 / ATV	I, R	I, R	3-20	Mod	F	Yes	
M 1-1	1.0 km	Non - Status	4x4 / ATV	None	None			Low		No	
M 2	0.6 km	Special Use Permit	2x4	2x4	R	R		Low		No	
M 3	2.4 km	Non - Status	4x4	4x4	I, R	I, R	< 1	Mod	F	Yes	
M 3-1	0.8 km	Non - Status	ATV	None	None	None		Mod	F, H	Yes	
M 4	0.6km	Non - Status	2x4	2x4	R	R	< 1	Mod	F	Yes	
M 5	2.6 km	Non - Status	4x4 / ATV	None	I, R	I	3-20	Mod	F	Yes	
M 6	2.4 km	Non - Status	4x4	4x4	I, R	I, R	3-20	Mod	F, H	Yes	

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract #\_FRP96DM0-WR01\_\_\_\_\_

Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: THAULTIL[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: HOUSTON TOMMY

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP6DM0-WR01

Date: 96/01/18 Page: 1

Forest District MORICE Watershed Name: MORICE Subasin: THAUTIL

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: GOSNELL[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01Date: 96/01/18 Page: 1

Forest District MORICE Watershed Name: MORICE Subasin: THAUTIL

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: GOSNELL

[illegible]



# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract #\_FRP96DMO-WR01

Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subbasin: FENTON / OWEN[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DMO-WR01

Date : 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subbasin: FENTON / OWEN

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DMO - WR01

Date: 96/01/18 Page: 1

Forest District MORICE Watershed Name: MORICE

Subasin: FENTON / OWEN

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP 96 DMO-WR01

Date: 96/01/18 Page: 1

Forest District MORICE  
Watershed Name: MORICE  
Subbasin: 1 AMBREV / M-DBRMT

[illegible]

Date : 96/01/18 Page: 1

Subasin: LAMPREY / McBRIDE

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0

Date: 96/01/18 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: **McBRIDE / LAMPREY**[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP 96 DMO-WR01

Forest District MORICE

Watershed Name: MORICE

Date: 96/01/22 Page: 1

Subasin: \_MORICE / ATNA\_

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/22 Page: 1

Forest District MORICE

Watershed Name:            MORICE

Subasin: LAMPREY / McBRIDE

[illegible]



# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01Date: 96/01/22 Page: 1

Forest District MORICE Watershed Name: MORICE

Subasin: GOSNELL[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/22 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subbasin: MORICE / ATNA

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01Date: 96/01/22 Page: 1

Forest District \_\_\_\_\_ MORICE \_\_\_\_\_

Watershed Name: MORICE

Subasin: FENTON / OWEN[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/22 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: LAMPREY / McBRIDE

[illegible]

Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/22 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: LAMPREY / McBRIDE

Road Name or Map Ref. #	Road Length (km)	Tenure (CP, RP, SUP, Non-Status)	Access		Road Use			Risk		Level 2 Assessment	Prof. Perscrip. Req'd?
			Current	Proposed	Current	Planned	Years Until Planned Industrial use	Hazard (L, M, H and Stability vs. Erosion)	Resources Impacted		
0931004											
LM 7	2.6 km	CP(EXP)	Unknown	ATV	Un-Known			Low		No	
LM 8	6.8 km	FSR	2x4	2x4	I,R	I,R	1-3	Low		No	
LM8-1	0.8 km	Non - Status	4x4	ATV	I	I	3-20	Low		No	
LM 8-2	0.2 km	Non -Status	Unknown	ATV/None	Un - Known		3-20	Low		No	
LM 8-3	0.15km	CP(EXP)	2x4	4x4	I	I	1-3	Low		No	
LM 8-4	2.0 km	Rd Permit (EXP)	2x4	4x4	I	I	3-20	Low		No	
LM 8-5	0.6 km	CP(EXP)	2x4	ATV	I	I	3-20	Low		No	
LM 8A	4.8km	Rd Permit (EXP)	2x4	2x4	I,R	I,R	1-3	Mod	F	Yes	
LM 13	3.6 km	Proposed FSR	2x4	2x4	I	I	1-3	Low		No	
		Non - Status									
LM 13-1	0.8 km	Non - Status	4x4	ATV	I	I	3-20	Mod	F	Yes	
LM 8-6	1.2km	RP/CP(EXP)	2x4	4x4	I,R	I,R	1-3	Low		No	
LM 9	5.6 km	Rd Permit (EXP)	2x4/4x4	4x4	I	I	1-3	Low		No	
LM 9-1	4.1 km	Rd Permit (EXP)	4x4	4x4	I,R	I,R	1-3	Low		No	

Road Name or Map Ref. #	Road Length (km)	Tenure (CP, RP, SUP, Non-Status)	Access		Road Use			Risk		Level 2 Assessment	Prof. Perscrip. Req'd?
0931.004			Current	Proposed	Current	Planned	Years Until Planned industrial use	Hazard (L, M, H and Stability vs. Erosion)	Resources Impacted		
Page 2											
LM 9-1-1	1.6 km	Rd. Permit (EXP)	Unknown	ATV	I	I	3-20	Low		No	
LM 9-1-2	0.5 km	CP(EXP)	Unknown	ATV	I	I	3-20	Low		No	
LM 11	1.9 km	Non-Status	Unknown	ATV	I	I	>20	Low		No	
LM 12	0.2 km	CP(EXP)	2x4	4x4	I	I	3-20	Low		No	
LM 5	4.0 km	Rd Permit (EXP)	2x4	4x4	I	I	3-20	Low		No	
LM 3	0.8 km	CP(EXP)	Unknown	ATV	I	I	3-20	Low		No	
N	0.8 km	Non-Status	4x4 /ATV	ATV	I	I	3-20	Low		No	
LM 6	1.4 km	Rd Permit (EXP)	4x4	ATV	I	I	3-20	Low		No	
LM 1	0.8 km	Rd. Permit (EXP)	2x4	4x4	I	I	3-20	Low		No	
LM 2	2.8 km	FSR	2x4	2x4	I, R	I, R	1-3	Mod	F	Yes	

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01Date: 96/01/22 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: NANIKA

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/22 Page: 1

Forest District MORICE Watershed Name: MORICE Subasin: NANIKA

Subasin: NANIKA

[illegible]



# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/22 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: McBRIDE / LAMPREY[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/22 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: NANIKA

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DMO-WR01

Date: 96/01/22 Page: 1

Forest District MORICE

Watershed Name: \_\_MORICE\_\_

Subasin: NANIKA

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/22 Page: 1

Forest District MORICE Watershed Name: MORICE Subasin: NANTKA

[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

Date: 96/01/22 Page: 1

Forest District MORICE

Watershed Name: MORICE

Subasin: NANIKA[illegible]

# Access Management Plan For the Watershed Restoration Program

Table #2A of Level 1 Assessment Contract # FRP96DM0-WR01

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Forest District MORICE

Watershed Name: MORICE

Subasin: NANIKA[illegible]

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Forest District \_\_\_\_\_ MORICE \_\_\_\_\_  
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