

A Summary of The
Moricetown Falls Steelhead Release Project.
A Co-management Initiative
August 24 - September 16, 1992

J.R.C. Lough

B.C. Environment
Fisheries Branch
Smithers, B.C.

Skeena Fisheries Report #SK84
October, 1992

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LOUGH, J.R.C.
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FALLS STEELHEAD RELEASE
CPLB c. 1 mm SMITHERS

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Acknowledgements

All steelhead captured for this project were courtesy of the dedicated fishermen at Moricetown Falls. Gorden Madam, under direction of Adam Gagnon of the Skeena Fisheries Commission, enumerated the steelhead catch and assisted in the daily tagging operations. Additional assistance with steelhead tagging came from Ministry of Environment, Lands, and Parks employees Gord Wolfe and Scott Morgan.

Introduction and Objectives

Moricetown Falls is the site of a substantial fishery conducted by Native people. Traditionally the target species were chinook and sockeye but coho, steelhead, and pink salmon are also harvested. In recent history fishing methods have focused on gaffs and jigs for the majority of the season. However, in recent years, some effort has been directed toward the use of dipnets, especially during the latter stages of the fishing season when coho and steelhead are more likely to be captured.

Steelhead returning to the Bulkley and Morice rivers pass through Moricetown between late July and early October. The earlier component of the run is depressed as a result of exploitation in commercial fisheries in Southeast Alaska and along the Canadian approaches to the mouth of the Skeena River. These "early" fish are assumed to pass Moricetown before late August. Conservation of this component of the run is vital to its continued existence and to sustaining the non-consumptive sport fishery in upstream waters. The harvest fishery at Moricetown was not compatible with either.

In the spring of 1992 an arrangement was made with the Skeena Fisheries Commission to live capture and tag adult steelhead at Moricetown Falls. The steelhead were to be captured in dip nets and held alive in a holding pen until they could be tagged and released daily by B.C. Environment personnel.

Steelhead capture and tagging commenced on August 24 and finished on September 16. Tagging was generally not conducted on weekends although some live capture was occasionally done on Sunday afternoons for tagging on Monday morning.

The original objectives of this project were to i) encourage live capture fishing techniques and to ii) gain additional information on Bulkley and Morice River steelhead migration patterns and run timing.

Methods

An informal proposal was made with a Skeena Fisheries Commission (S.F.C.) representative in the spring of 1992. A contract was then written with terms of reference shown in Appendix I.

A holding pen (Fig 1) was designed to allow fishermen to deposit captured steelhead and hold them safely until the following day. Some final touches were made to the pen prior to its deployment. Vexar (plastic mesh) was affixed to the inside of the pen to reduce abrasion to the holding fish, and tubular foam floatation was strapped to the outside of the pen to keep the depository from submerging (Fig. 2).

The holding pen was initially placed in a side channel adjacent to the fish ladder on the west bank of the falls. This site proved to be unsatisfactory due to the difficulty of getting the fish

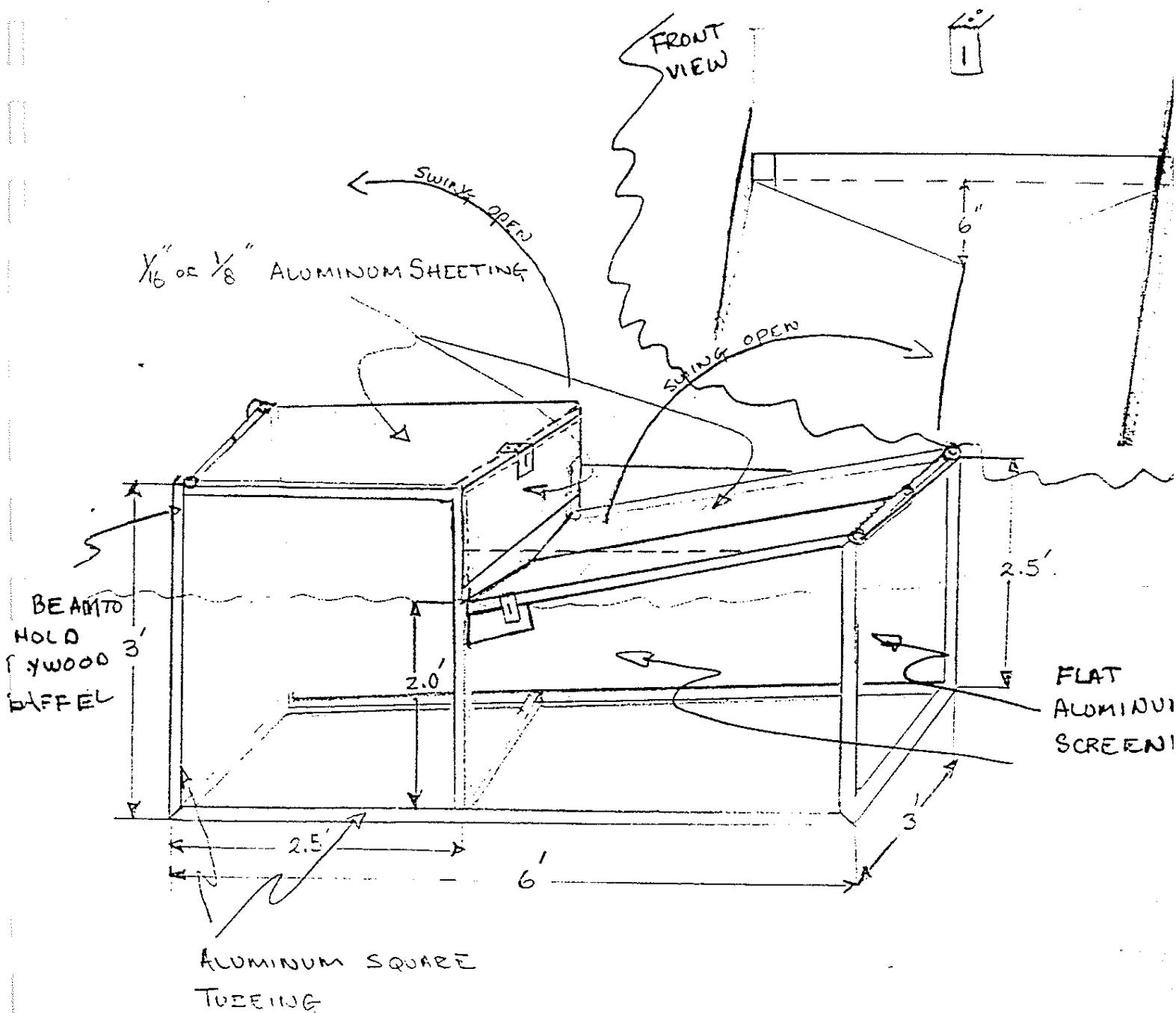


Figure 1. Diagram of steelhead holding pen prior to manufacturing.

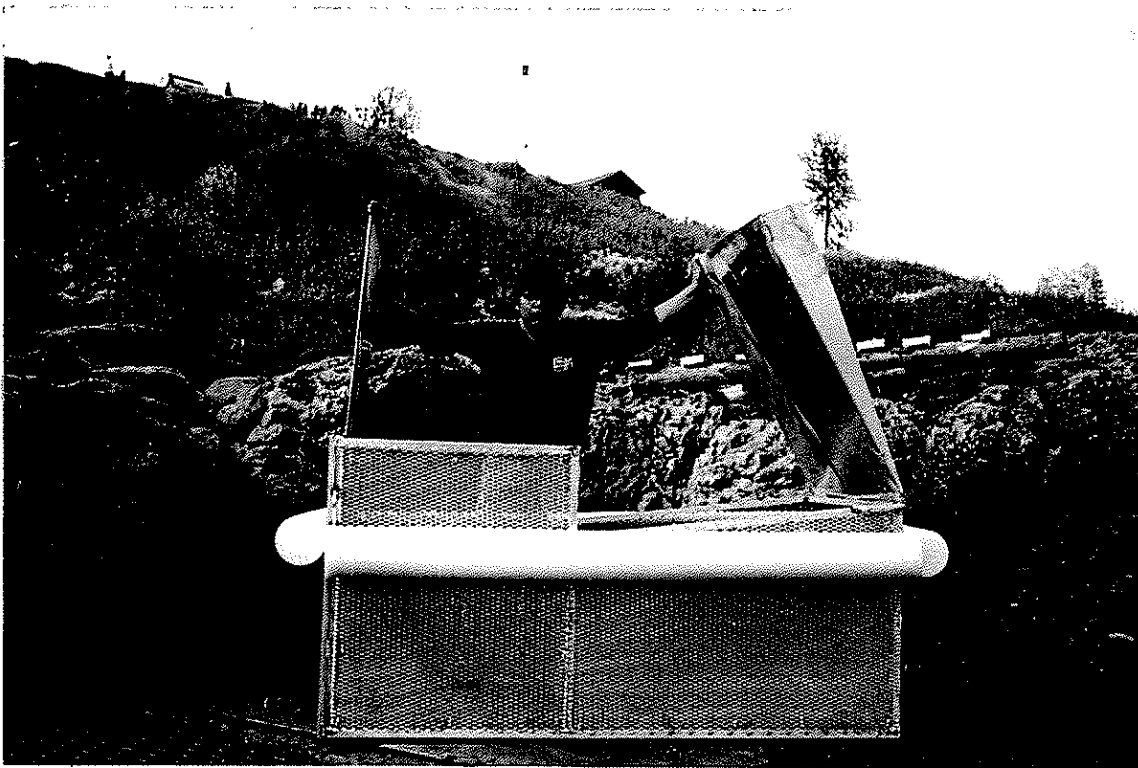


Figure 2. Completed holding pen ready for deployment at Moricetown Falls.

into the box after capture. The box was finally secured near the upstream outlet of the fish ladder on the west bank of the falls. This site was relatively close to the dipnetting area and also had adequate flow for the recovering fish.

Fish were captured live using modified salmon landing nets with knotted, 10 to 15 cm mesh, polypropylene bags. The fish were dipped out of the river immediately below the falls (Fig. 3). After catching a steelhead the fishermen climbed a wooden ladder and placed the fish in the holding pen (Fig. 4). Once a day a project technician would travel to the falls, tag, and release all the steelhead. The fish were removed from the box using a dip net with a soft marquisette bag which reduced further abrasion. The steelhead were then tagged with florescent orange spaghetti tags and released in calm water at the top of the fish ladder.

Moricetown fishermen recapturing tagged steelhead or salmon were encouraged to report the tag data (tag colour, and number) to the Fish and Wildlife Branch. Quality hats were offered as an incentive.

Results and Observations

Between August 24 and September 16, tagging occurred on 13 days. During this period 187 steelhead were captured and placed in the holding pen. Of these, one small steelhead was "gilled" by the large mesh dipnet died the following day. The remaining 186 of the captured fish lived to be tagged and released above the falls (Table 1).

Of the 186 steelhead tagged and released at Moricetown Falls, ten were recaptured and reported to the Fisheries Branch (Appendix III and V). Seven of the ten Moricetown steelhead recaptures occurred in the Bulkley River. Two of these had dropped back below the falls; one was recaptured by a dipnetter on its second attempt to jump the falls, while the other was recaptured by a local angler approximately 500 metres downstream. The remaining five recaptures were by anglers fishing upstream. Two were near Smithers, two near the Bulkley River/Trout Creek confluence, and one near Telkwa.

Three of ten Moricetown steelhead recaptures were in the upper Morice River. One of these was a hatchery fish recaptured by a guided angler, and the other two were recaptured during a Fish and Wildlife population estimate of the Morice River in April 1993.

During the study period, a total of five hatchery marked (adipose clipped) steelhead were captured. Of these, two were tagged and released and three were sacrificed to retrieve coded wire tag (C.W.T.) information. Only two of the three fish yielded C.W.T.'s. The first (code 12/23/27) was captured at the falls August 25 and was returning from 46,840 fed fry released in the Morice River in October 1988. The second (code 12/23/11) was caught August 31 at the falls and was returning from 39,982 fed fry released in the Upper Bulkley River in October 1988.

Seven steelhead, originally tagged at other times or locations were recaptured by dipnetters



Figure 3. The most successful dip netting site located on the west bank of Moricetown Falls.



Figure 4. Carrying steelhead up the ladder from the dipnetting site to the nearby holding pen.

Table 1. Summary of steelhead captures at the Moricetown dipnet fishery, Aug. 24 - Sept. 16, 1992.					
Date	No. Captured	No. Tagged	Project Recaptures	Other Recaptures	Comments
Aug 24	0	0			
Aug 25	58	56	4		1 hatchery marked sacrificed, 1 mortality
Aug 26	41	39	3	2	
Aug 27	16	14	1	1	1 hatchery marked sacrificed
Aug 28	8	8			
Aug 29	0	0			
Aug 30	0	0			
Aug 31	9	8			1 hatchery marked sacrificed
Sep 1	0	0			
Sep 2	6	6			
Sep 3	5	4	1	1	
Sep 4	9	9			
Sep 5	0	0			
Sep 6	0	0			
Sep 7	0	0			
Sep 8	2	2			
Sep 9	5	4		1	
Sep 10	27	27	1		
Sep 11	9	8		1	
Sep 12	0	0			
Sep 13	0	0			
Sep 14	0	0			
Sep 15	0	0			
Sep 16	2	1		1	
Totals	197	186	10	7	3 hatchery marked sacrificed, 1 mortality

during the study period (Appendix IV). Of these, three were tagged on board a steelhead holding barge located at the Skeena River mouth, two were tagged by tidal commercial gillnetters in Area 4, and two were originally tagged by guided anglers on the Bulkley and Morice Rivers in the 1990 fishery. The latter two fish were on a second spawning migration.

During this project Ministry staff received several reports of Natives gaffing and selling steelhead at Moricetown, but during our presence at the falls no gaffs were observed. With the low water conditions which persisted throughout the project, gaffs were not required to catch the targeted coho and steelhead. During the 13 days when Ministry staff were present at the falls, eight steelhead were observed harvested.

High water starting on September 16 substantially reduced the dipnetting success so the contract was terminated.

Discussion and Recommendations

The initial co-operative tagging project was considered a major success in terms of opening lines of communication between managers and the Native community. For the first time fishermen and technical personnel were able to discuss directly their mutual concerns about the Bulkley/Morice steelhead stocks and measures which might be implemented to improve

their status. Native participants developed an improved understanding of basic steelhead lifehistory and biology and a new appreciation of the impacts of the various fisheries while Ministry staff gained useful timing and migration rate data plus a broader appreciation of the aspirations of Native fishermen. Perhaps most importantly, the project demonstrated that live capture techniques could be employed to replace the non selective fishing methods.

The co-operative atmosphere which developed bodes well for similar projects in the future. In this context a number of improvements should be considered. These include:

- Moricetown fishermen reported catching and releasing "hundreds" of steelhead prior to our involvement on August 24. These run timing reports are supported by observations made by Fisheries personnel in the past (Beere, M.C. 1991 and Palmer, R.N. 1967). With this in mind, it would be beneficial, in the future, to start this type of project during the first week of August. This would increase our information base on run timing and stock status in addition to reducing the harvest of earlier migrating summer run steelhead.

- To reduce abrasion, gilling, and additional stress, knotless mesh nets should be encouraged and/or supplied. These nets are available in various mesh sizes and they should not reduce capture efficiency.

- To increase the total number of steelhead tagged, a second holding pen should be placed near the east bank fish ladder for steelhead that are captured on that side. The Moricetown catch recorder reported that a significant number of steelhead were caught and released on the east side of the falls during the 1992 project period.

- Modify the contract payment schedule. Although some of the fishermen's interest in this project stemmed from conservation of the resource, much of the participation was due to the income potential. If a portion of the contract cannot be payed out sooner than six weeks after contract completion, participation from the dipnetters may be reduced if not terminated. Many of the fishermen stated they could receive ten dollars immediately if they harvested the fish and sold it.

- Meet with local dipnetters prior to summer fishing to address any concerns and communicate our expectations for the upcoming season.

- Tag and release coho in addition to steelhead. Many of the Moricetown fishermen commented that coho should also be tagged as there appeared to be more steelhead being caught than coho, and that the 1992 coho run was poor when compared to other years. Regardless, the fishermen harvested all captured coho during the our presence at the falls.

References

- Beere, M.C. 1991. Survey of native food fisheries for steelhead in the Skeena River system. B.C. Min. Envir., Fisheries Br., Skeena Fisheries Rep. No. SK 72, Smithers, B.C. 18p.
- Palmer, R.N. 1967. An assessment of salmon migration and the native food fishery at Moricetown falls in 1966. Dep. of Fisheries of Can. Unpublished rep. Vancouver, B.C. 14 p.

Appendix I. Service contract document with the Skeena Fisheries Commission.

Appendix II. Schedule "B" - Fees and Expenses for Skeena Fisheries Commission Contract.

SCHEDULE "B"

FEES AND EXPENSES

1. Fees will be based on the following payment schedule:
 - (a) A fee of \$10.00 will be paid for each steelhead that is successfully live trapped in the on site holding pen and is tagged and released by the Province.
 - (b) The contractor will submit to the Province, upon successful completion of the contract, as determined by the contract monitor, a written statement of account for the full value of this contract.
2. Notwithstanding paragraph one of this Schedule "B", in no event will the fees payable to the contractor in accordance with paragraph one of this Schedule "B" exceed in the aggregate \$5,000.00.
3. Within 60 days of receipt by the Province of any aforesaid written statement of account, the statement of account will be paid to the contractor.

BF AL

Appendix III. Recapture records for steelhead tagged at Moricetown Falls, 1992 - 1993.

FISH TAGGING RECORD

Tag O N03063
As at 93/04/30

FISH Steelhead Female

TAGGED 92/08/26 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet
Group: Moricetown

Moricetown Band
RR#1, Box 1, site 15
Smithers B.C. VOJ-2NO
Stan Nikal. Adam Gagnon
847-3792 Notify? N

RECAP 1 93/04/23 At MO
(in the Morice)
D/S Morice Lake outlet
Jeff Lough
Gear: ANgling Fate: Rel
Group: BC Environment

Jeff Lough

Letter sent: N Ltr? Y Hat? Y

FISH TAGGING RECORD

Tag O N03064
As at 93/04/30

FISH Steelhead Female

TAGGED 92/08/26 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet
Group: Moricetown

Moricetown Band
RR#1, Box 1, site 15
Smithers B.C.VOJ-2NO
Stan Nikal. Adam Gagnon
847-3792 Notify? N

RECAP 1 92/09/02 At BU
(in the Bulkley)
Moricetown Falls
Dropback
Gear: River Dipnet Fate: Rel
Group: Moricetown

unknown native fshmn

Letter sent: Y Ltr? N Hat? N

FISH TAGGING RECORD

Tag O N03113
As at 93/04/30

FISH Steelhead Male 4.5? kg

TAGGED 92/08/27 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet
Group: Moricetown

Moricetown Band
RR#1, Box 1, site 15
Smithers B.C.VOJ-2NO
Stan Nikal. Adam Gagnon
847-3792 Notify? N

RECAP 1 93/04/01 At MO
(in the Morice)
Top end 38.5 km.
Jeff
Gear: ANgling Fate: Rel
Group: BC Environment

Jeff Lough

Letter sent: N Ltr? Y Hat? Y

FISH TAGGING RECORD

Tag O N03138
As at 93/04/30

FISH Steelhead Male 7.3? kg

TAGGED 92/09/03 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet
Group: Moricetown

Moricetown Band
RR#1, Box 1, site 15
Smithers B.C. VOJ-2NO
Stan Nikal. Adam Gagnon
847-3792 Notify? N

RECAP 1 92/09/03 At BU
(in the Bulkley)
Moricetown, Idiot rock
Turned in to M. O'Neil
Gear: ANgling Fate:
Group: Sport Up Skeena

Louis Wilson
Box 602
Smithers
VOJ-2NO
Letter sent: Y Ltr? Y Hat? Y

FISH TAGGING RECORD

Tag O N03181
As at 92/11/02

FISH Steelhead Unknown sex

TAGGED 92/09/10 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet
Group: Moricetown

Moricetown Band
RR#1, Box 1, site 15
Smithers B.C. VOJ-2NO
Stan Nikal. Adam Gagnon
847-3792 Notify? N

RECAP 1 92/10/19 At MO
(in the Morice)
187 KM.
Female, Hatchery Fish
Gear: ANgling Fate: Rel
Group: Sport Up Skeena

Jim Britton
Box 2771
Smithers
VOJ-2NO
847-4372 Ltr? Y Hat? Y
Letter sent: Y

FISH TAGGING RECORD

Tag O N03009
As at 93/04/30

FISH Steelhead Female

TAGGED 92/08/25 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet
Group: Moricetown

Moricetown Band
RR#1, Box 1, site 15
Smithers B.C. VOJ-2N0
Stan Nikal. Adam Gagnon
847-3792 Notify? N

RECAP 1 92/10/19 At BU
(in the Bulkley)
Bar Opposite Lunan rd.

Gear: Angling Fate: Rel
Group: Sport Up Skeena

Keith Douglas
Comp.11, Site 53
RR#2
Smithers, VOJ-2N0
847-5016 Ltr? Y Hat? Y
Letter sent: Y

FISH TAGGING RECORD

Tag O N03010
As at 93/04/30

FISH Steelhead Female

TAGGED 92/08/25 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet
Group: Moricetown

Moricetown Band
RR#1, Box 1, site 15
Smithers B.C. VOJ-2NO
Stan Nikal. Adam Gagnon
847-3792 Notify? N

RECAP 1 92/09/04 At BU
(in the Bulkley)
Trout Creek
71.0cm.
Gear: ANgling Fate: Rel
Group: Sport Up Skeena

Jim Ismond(Helmut)
Box 2666
Smithers
VOJ-2NO
847-9234 Ltr? Y Hat? Y
Letter sent: Y

FISH TAGGING RECORD

Tag O N03026
As at 93/04/30

FISH Steelhead Female

TAGGED 92/08/25 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet
Group: Moricetown

Moricetown Band
RR#1, Box 1, site 15
Smithers B.C. VOJ-2NO
Stan Nikal. Adam Gagnon
847-3792 Notify? 1

RECAP 1 92/11/14 At BU
(in the Bulkley)
101 km.

Gear: ANgling Fate: Rel
Group: Sport Up Skeena

Gord Wolfe
Smithers

Letter sent: Y Ltr? N Hat? 1

FISH TAGGING RECORD

Tag O N03087
As at 93/04/30

FISH Steelhead Female

TAGGED 92/08/25 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet
Group: Moricetown

Moricetown Band
RR#1, Box 1, site 15
Smithers B.C. VOJ-2NO
Stan Nikal. Adam Gagnon
847-3792 Notify? N

RECAP 1 92/09/06 At BU
(in the Bulkley)
Trout Creek

Gear: ANgling Fate: Rel
Group: Sport Up Skeena

Todd Bresser
RR#2, site 9, comp 22
Smithers
VOJ-2NO
847-4494 Ltr? Y Hat? Y
Letter sent: Y

FISH TAGGING RECORD

Tag O N03043
As at 92/11/05

FISH Steelhead Female

TAGGED 92/08/26 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet
Group: Moricetown

Moricetown Band
RR#1, Box 1, site 15
Smithers B.C. VOJ-2N0
Stan Nikal. Adam Gagnon
847-3792 Notify? N

RECAP 1 92/11/04 At BU
(in the Bulkley)
88 KM.

Gear: ANgling Fate: Rel
Group: Sport Up Skeena

Gord Wolfe
Box 2993
Smithers
VOJ-2N0
847-4142 Ltr? Y Hat? Y
Letter sent: N

Appendix IV. Moricetown recapture records for steelhead tagged by user groups
downstream of the falls fishery.

FISH TAGGING RECORD

Tag O C02435
As at 93/04/30

FISH Steelhead Unknown s55.9 cm

TAGGED 92/07/28 At 4-15
(at mouth of the Skeena River)
Carlisle
Nishga Prince, good
Gear: Tidal Gillnet
Group: Sthd Barge

Jantz, Les (D.F.O.)
Dept. of Fisheries and Oceans
Rm. 202, 417-2nd Ave.
Prince Rupert, B.C.
624-0457 Notify? N

RECAP 1 92/08/26 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet Fate: Rel
Group: Moricetown

Betty Joseph
RR#1, Site 15, Comp 7
Moricetown

847-9749 Ltr? Y Hat? Y
Letter sent: Y

FISH TAGGING RECORD

Tag O C00083
As at 93/04/30

FISH Steelhead Unknown s76.2 cm

TAGGED 92/07/25 At 4-15
(at mouth of the Skeena River)
Point Lambert
Ocean Freedom, good
Gear: Tidal Gillnet
Group: Sthd Barge

Jantz, Les (D.F.O.)
Dept. of Fisheries and Oceans
Rm. 202, 417-2nd Ave.
Prince Rupert, B.C.
624-0457

Notify? N

RECAP 1 92/09/11 At BU
(in the Bulkley)
Moricetown Falls
Dipnet,
Gear: River Dipnet Fate: Rel
Group: Moricetown

Clifford Joseph
Box 25
Moricetown
VOV-2N0

Letter sent: Y Ltr? Y Hat? N

FISH TAGGING RECORD

Tag O C02890
As at 93/04/30

FISH Steelhead Unknown s86.4 cm

TAGGED 92/08/02 At 4-12
(near Smith & Kennedy Is)
Hamner Island
Moody Blue, good
Gear: Tidal Gillnet
Group: Sthd Barge

Jantz, Les (D.F.O.)
Dept. of Fisheries and Oceans
Rm. 202, 417-2nd Ave.
Prince Rupert, B.C.
624-0457 Notify? N

RECAP 1 92/08/27 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet Fate: Rel
Group: Moricetown

Betty Joseph
RR#1, Site 15, Box 7
Moricetown
VOV-2N0
847-9749 Ltr? Y Hat? Y
Letter sent: Y

FISH TAGGING RECORD

Tag O C00406
As at 93/04/30

FISH Steelhead Unknown s75.0 cm

TAGGED 92/08/18 At 4-09
(at South end Chatham Sound)
Tugwell Area

Gear: Tidal Gillnet
Group: Comm Gillnet

Hawkshaw, Fred & Linda
421-6th ave east
Prince Rupert
V8J-1W6 MV - Tricia Lynn
624-2159 Notify? N

RECAP 1 92/09/19 At
(
Moricetown Falls
Dip net
Gear: River Dipnet Fate: Rel
Group: Moricetown

Betty Joeseeph
RR 1, Box 7, Comp. 15
Moricetown, B.C.

Letter sent: Y Ltr? Y Hat? Y

FISH TAGGING RECORD

Tag O C00900
As at 93/04/30

FISH Steelhead Unknown s71.1? cm

TAGGED 92/07/14 At 4-02
(on West side Stephens Is)
Stevens Island

Gear: Tidal Gillnet
Group: Comm Gillnet

Wing, Ken
#22 Eureka Site, RR#1
Halfmoon Bay
VON-1Y0 MV - HS#25
885-2063

Notify? N

RECAP 1 92/09/09 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet Fate: Kill
Group: Moricetown

Clifford Joseph
Moricetown

Letter sent: Y Ltr? Y Hat? N

FISH TAGGING RECORD

Tag Y 02598
As at 93/04/30

FISH Steelhead Male 63.0? cm

TAGGED 90/09/19 At BU
(in the Bulkley)
BULKLEY, 106 KM.

Gear:
Group: Sport Up Skeena

MAXWELL, Denise
5169 Joyce Street
Vancouver BC
V5R-4H1
435-7173

Notify? N

RECAP 1 90/11/12 At BU
(in the Bulkley)
119 KM.

Gear: ANgling Fate: Rel
Group: Sport Up Skeena

G. WOLFE

Letter sent: Y Ltr? Y Hat? Y

RECAP 2 92/09/03 At BU
(in the Bulkley)
Moricietown Falls
10-12lbs.

Gear: River Dipnet Fate: Rel
Group: Moricietown

Unknown Native

Letter sent: Y Ltr? N Hat? N

FISH TAGGING RECORD

Tag Y 02693
As at 93/04/30

FISH Steelhead Female 74.0? cm

TAGGED 90/09/16 At MO
(in the Morice)
182 KM.

Gear: ANgling
Group: Sport Up Skeena

BRITTON, Jim
Box 2771
Smithers BC
VOJ-2N0
847-4372

Notify? N

RECAP 1 91/03/26 At MO
(in the Morice)
168 KM. OWEN CAYON

JEFF LOUGH

Gear: ANgling Fate: Rel
Group: BC Environment

Letter sent: Y Ltr? Y Hat? Y

RECAP 2 92/08/26 At BU
(in the Bulkley)
Moricetown Falls

Gear: River Dipnet Fate: Rel
Group: Moricetown

Betty Joseph
RR#1, Site 15, Comp 7
Moricetown
Vov-2N0
847-9749
Letter sent: Y

Ltr? Y Hat? Y

Appendix V. Summary of recaptured steelhead from the Moricetown Falls tagging program,
1992-1993.

Appendix V. Summary of recaptured steelhead from the Moricetown Falls tagging program, 1992- 1993.

Tag Colour	Tag No.	Tag Location	Date	Recapture Location	Date	2nd Recapture Loc.	Date
Orange	N3063	Moricetown Falls	Aug 26, 1992	Up. Morice R.	Apr 23, 1992		
Orange	N3064	Moricetown Falls	Aug 26, 1992	Moricetown Falls	Sep 2, 1992		
Orange	N3113	Moricetown Falls	Aug 27, 1992	Morice R. 38.5 km	Apr 1, 1992		
Orange	N3138	Moricetown Falls	Sep 3, 1992	Moricetown D/S Falls	Sep 3, 1992		
Orange	N3181	Moricetown Falls	Sep 10, 1992	Morice R. 187 km	Sep 19, 1992		
Orange	N3009	Moricetown Falls	Aug 25, 1992	Bulkley R., Lunen Rd.	Oct 19, 1992		
Orange	N3010	Moricetown Falls	Aug 25, 1992	Bulkley/Trout Cr. Conf	Sep 4, 1992		
Orange	N3026	Moricetown Falls	Aug 25, 1992	Bulkley R. 101 km	Nov 14, 1992		
Orange	N3087	Moricetown Falls	Aug 25, 1992	Bulkley/Trout Cr. Conf	Sep 6, 1992		
Orange	N3043	Moricetown Falls	Aug 26, 1992	Bulkley R. 88 km	Nov 4, 1992		
Orange	C2435	Area 4-15	Jul 28, 1992	Moricetown Falls	Aug 26, 1992		
Orange	C83	Area 4-15	Jul 25, 1992	Moricetown Falls	Sep 11, 1992		
Orange	C2890	Area 4-12	Aug 2, 1992	Moricetown Falls	Aug 27, 1992		
Orange	C406	Area 4-9	Aug 18, 1992	Moricetown Falls	Sep 19, 1992		
Orange	C900	Area 4-2	Jul 14, 1992	Moricetown Falls	Sep 9, 1992		
Yellow	2598	Bulkley 119 km	Sep 19, 1990	Bulkley 119 km	Nov 12, 1990	Moricetown Falls	Sep 3, 1993
Yellow	2693	Morice R. 182 km	Sep 26, 1990	Morice R. 168 km	Apr 26, 1991	Moricetown Falls	July 26, 1992