Reconnaissance (1:20,000) Fish and Fish Habitat Inventory:

Reach Information Guide

Prepared by

BC Fisheries
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for the
Resources Inventory Committee

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Preface

The Resources Inventory Committee members are resource specialists from a number of professional disciplines and represent Provincial, Federal, First Nation and private sector agencies and other resource interests. RIC's objectives are to develop a common set of standards and procedures for provincial resource inventories, as recommended by the Forest Resources Commission in its report 'The Future of our Forests".

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For further information about the Resources Inventory Committee and its various Task Forces, please visit the RIC website at http://www.for.gov.bc.ca/ric

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Introduction

The Reconnaissance (1:20,000) Fish and Fish Habitat Inventory includes a pre-field component in which information is collected from maps and air photos. Reach information is entered into the Field Data Information System (FDIS) that accompanies the reconnaissance inventory. In the FDIS system, reach data entry involves four main steps:

- Entering planning information for all reaches.
- Choosing reaches for field sampling.
- Viewing the sample totals.
- Entering reach card information for field sampled reaches.

The Reach Information Guide provides definitions, methods, and recording procedures for parameters that are associated with entering reach planning information and reach card information.

Further information regarding reach planning and the reach card can be found in *Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures*, RIC (1998), Chapter 2. Further Information regarding FDIS data entry can be found at the B.C. Fisheries website: http://www.fisheries.gov.bc.ca/

Reach Planning Information

Reach planning information can be entered either in the FDIS Reach Planning Screen or the Excel Reach Table (rplan).

Reference Number:

Definition: A Reference Number is used to keep track of the data entry order of Reaches, Lakes, Fish Cards, Fish Summary and Individual fish records. In FDIS the number is generated automatically. The records can be sorted by Reference Number to compare the data on the screen to the paper forms used for data entry. This is a useful feature when a database has been split for data entry and will be merged together at the end of the project.

Recording Procedure: In FDIS reference numbers are entered automatically with a default starting value of 1. On the User's Preference screen you can change the starting value for the Reference Number. In the excel reach planning table the reference numbers are entered manually.

Project Watershed Code:

Definition: A 45-digit, unique number assigned to the watersheds in British Columbia. This is the watershed code of the highest order stream in your project area. e.g., if all your reaches are in the Carbon Creek drainage then the watershed code for Carbon Creek will be the Project WS Code.

Method: WWW, GIS Watershed Atlas. See *User's Guide to the British Columbia's Watershed/waterbody Identifier System*, RIC (1997).

Recording Procedure: Select the appropriate code.

Note: **Project ID, Project Name** and **Gazetted Stream Names** (if they exist) are automatically entered into FDIS. They can be viewed by using the scroll bar at the bottom of the Project Watershed Code pick-list.

Watershed Code:

Definition: A 45-digit, unique number assigned to the watersheds in British Columbia. This is the watershed code of the stream in which the reach is located.

Method: WWW, GIS Watershed Atlas. See *User's Guide to the British Columbia's Watershed/waterbody Identifier System*, RIC (1997).

Recording Procedure: Select the appropriate code.

Note: In FDIS use the scroll bar at the bottom of the Watershed Code pick-list to view any Gazetted names.

Interim Locational Point Map Number (ILP Map #):

Definition: The mapsheet used to assign ILP numbers.

Method: Read from the map. See *User's Guide to the British Columbia's Watershed/waterbody Identifier System*, RIC (1997).

Recording Procedure: Record the mapsheet number. It must be in TRIM format (e.g., 092P**.**005).

Interim Locational Point (ILP) Number:

Definition: A number, unique to any particular point on the mapsheet, used to identify waterbodies lacking a watershed code. In this case a 1 to 5 digit number representing the stream that the reach is on.

Method: Refer to *User's Guide to the British Columbia's Watershed/waterbody Identifier System*, RIC (1997).

Recording Procedure: Record the five digit ILP number (e.g., 00091).

NID Numbers

Assigning NIDs is a method of identifying features on a mapsheet. They are used to link features and maps in the mapping process. Each feature identified on a mapsheet is assigned a five-digit number, unique to that mapsheet, such as 00001, 00002, etc. The mapsheet number followed by this feature identifier number forms a complete NID reference code that is unique to the project. However, only the unique five-digit feature identifier is marked on the mapsheet, adjacent to each feature. On the data forms both the mapsheet number and the feature identifier are recorded in their respective, corresponding columns, as explained below.

NID Map Number (#):

Definition: The number of the mapsheet on which the specific NID number occurs.

Method: Read from map.

Recording Procedure: Record the mapsheet number. It must be in TRIM format (e.g., 092L.005).

NID Number (#):

Definition: A unique one to five digit number that identifies the feature, in this case, the upstream reach break.

Recording Procedure: Record the five-digit NID number unique to mapsheet in the corresponding NID Map No. column (e.g., 00012).

UTM:

Definition: The Universal Transverse Mercator (UTM) coordinates that identify the location of the point in question, in this case, the upstream reach break.

Method: Interpret from maps or airphoto, or record from GPS.

Recording Procedure: Record UTM (Zone/ Easting/ Northing), to metre level, at the upstream end of the reach. Also record the code for the method used to determine UTM coordinates in the corresponding UTM *method* section.

UTM Zone: 2 digit field for numbers between 7 and 12.

UTM Easting: 6 digit number representing metres from western boundary of the zone.

UTM Northing: 7 digit number representing metres from the equator.

Method	Code
Geodetic survey grade (differential correction applied)	GP1
Survey grade GPS (differential correction applied)	GP2
Recreational grade GPS (differential correction applied)	GP3
GPS, uncorrected	GPU
Geographic Information System	GIS
Aerial photo	AP
Map interpretation	MAP
Other	O

Reach Number (#):

Definition: A reach is a channel segment with relatively repetitious and homogenous sequence of physical processes and habitat types (e.g., homogenous slope, discharge, habitat, channel type, and riparian features); lakes and wetlands are also considered reaches for the purpose of planning. Reach number is the number given to individual reaches.

Method: The reach number is assigned to the reaches in a sequential, upstream, ascending order, starting at (1) at the downstream end of the stream. See *Figure 2.3, Chapter 2, * FRIM.*

Recording Procedure: Record the reach number in the following order: reach no. – subreach no. (if sub-reaches are used). For data collection, record only the reach no. (not the subreach) on the forms. If additional reaches are identified during fieldwork (after planning has been completed), they are recorded as (1.1 –), (1.2 –), etc.

Line Number (#):

Definition: The air photo flight line number recorded on the air photo. This is an optional entry in the planning stage. However, either the line and photo number, or the map # will be required in the reach card.

Recording Procedure: Record the air photo flight line number (e.g., BCB90015).

Photo Number (#):

Definition: The air photo number recorded on the air photo. This is an optional entry in the planning stage. However, either the line and photo number, or the map # will be required in the reach card.

Recording Procedure: Record the air photo number. (e.g., 82).

Date:

Definition: This is the date that the planning was done.

Recording Procedure: Record the date in the following sequence: year (YYYY)/month/date (e.g., 1996/06/21).

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* FRIM = *Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures*, RIC (1998).

Map Status:

Definition: Define the stream reach location with respect to provincial/federal boundaries as shown on the map; or identify if the stream is unmapped.

Method: Visually estimate from mapsheet. For more information consult the Technical Information Notes for Reconnaissance (1:20000) Fish and Fish habitat Inventory (Technical note # 2) through the B.C. Fisheries website: http://www.bcfisheries.gov.bc.ca/

Recording Procedure: Record the appropriate code.

Code	Description
IN	The reach occurs on a part of the stream that is inside BC before the stream crosses either a provincial or national border. Upstream and Downstream elevations are mandatory.
OUT	The reach occurs outside of BC borders. In this case, the entire portion of the stream occurring outside of BC is considered to be one reach. Few mandatory fields. This record will be excluded from the Random Sample selection.
BORDER	The reach occurs inside provincial borders after a stream, originating in the province, crosses back into BC from outside its borders. Upstream and Downstream elevations are mandatory.
UNMAP	The reach occurs on a stream that is not on a TRIM mapsheet. Few mandatory fields. This record will be excluded from the Random Sample selection.
FCM	The reach occurs on a Forest Cover Map but not a TRIM map. Requires all mandatory fields to be filled on this screen.

Order:

Definition: Order describes the relative size and topology of a stream in a network.

Method: Determine from TRIM maps. See *Figure 2.4, Chapter 2,* * *FRIM.*

Recording Procedure: Record the stream order.

Upstream Elevation:

Definition: The elevation of the upstream end of the reach.

Method: Determine from TRIM maps.

Recording Procedure: Record the elevation in metres. For steep to moderately steep slopes, interpolate to half the contour interval. For gentle slopes, interpolate to a one-fourth of the contour interval.

* FRIM = *Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures*, RIC (1998).

Downstream Elevation:

Definition: The elevation of the downstream end of the reach.

Method: Determine from TRIM maps.

Recording Procedure: Record the elevation in metres. For steep to moderately steep slopes, interpolate to half the contour interval. For gentle slopes, interpolate to a one-fourth of the contour interval.

Length:

Definition: The length of the reach in kilometres.

Method: Determine from TRIM maps.

Recording Procedure: Record the reach length to the nearest 0.01 km (5%).

Gradient:

Definition: The office-generated gradient of the reach.

Method: Calculate gradient by using the given formula

gradient = [upstream elevation - downstream elevation]/channel length

(all measurements in same units, as measured from TRIM maps).

Recording Procedure: In FDIS the gradient is automatically calculated from the data entered. In the excel reach table, (rplan), gradient is calculated using the elevation formula and entered manually.

Channel Pattern:

Definition: The path of the channel banks in relation to a straight line. See *Figure 4.5, Chapter 4, * FRIM.*

Method: Determine from the maps and airphotos.

Recording Procedure: Record the appropriate code.

Code	Description	Code	Description
TM	tortuous meanders	IR	irregular wandering
ME	regular meanders	SI	sinuous
IM	irregular meanders	ST	straight

Confinement:

Definition: The confinement of lateral stream channel movement by valley walls or relic terraces. See *Figure 4.9, Chapter 4, * FRIM.*

Method: Determine from the maps and airphotos.

Recording Procedure: Record the appropriate code.

* FRIM = *Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures*, RIC (1998).

Code	Description	Code	Description
EN	Entrenched	OC	Occasionally confined
CO	Confined	UN	Unconfined
FC	Frequently confined	NA	Not applicable

AN/BR:

Definition: An anastomosing (AN) reach will have continuously overlapping islands with multiple channels. A braided (BR) reach will consist of a number of small channels separated by bars. See *Figures 4.6 and 4.7, Chapter 4, *FRIM.*

Method: Determine from the maps and airphotos.

Recording Procedure: Record AN or BR as appropriate. Leave blank if inapplicable.

Basin Type:

Definition: The basin type of the watershed characterized as type 1 to11. The basin types are described in *Appendix 2, *FRIM.*

Method: Determine from maps and airphotos.

Recording Procedure: Record the appropriate basin type (e.g., 3). Basin type is now a mandatory field. Defaults to 10 where order is 4 or greater.

Sample:

Definition: The reach sample type, selection method.

Recording Procedure: Record the appropriate selection method code. FDIS will apply a formula to your reach data and randomly select reaches according to Order (Size), Gradient, Channel Form and Basin Type.

Code	Description
R	**Random.** In FDIS Selected reaches will be assigned an **R** in the **Sample** column
B	**Biased.** This can be typed in for non-random reaches
U	**Biased site that is not sampled.** Some contract monitors have indicated a desire to track **B**'s that are not sampled. This is optional, but if requested you can change a **B** to a **U** and enter a comment in the Comments section of the Reach Card.
N	**Not Sampled.** Where a reach has been randomly selected but sampling is not done, change **R** to **N** and enter a comment on the Reach card.
X	**Removed from sampling.**

Water:

Definition: Note if water sample for laboratory analysis will be taken.

Recording Procedure: Record yes (Y) or no (N) to indicate if a water sample will be taken.

Voucher:

Definition: Note if fish voucher specimen will be taken.

Recording Procedure: Record yes (Y) or no (N) to indicate if a fish voucher specimen will be taken.

Wetland:

Definition: Wetlands as defined in Appendix 3, **FRIM*. In this case the definition applies to wetlands with a defined channel flowing through them.

Method: Determine from maps and airphotos.

Recording Procedure: Record yes (Y) or no (N) to indicate if a channel flows through the wetland.

Gear:

Definition: The proposed fish collection gear types for the reaches to be sampled. This is an optional entry.

Recording Procedure: Record up to three gear types.

Method	Code	Method	Code
Angler report	AR	Minnow trapping	MT
Angling	AG	Seining	SN
Creel census	CR	Swimming/Snorkeling	SW
Dead capture	DC	Trap net	TN
Dip netting	DN	Visual observation above water	VO
Electrofishing	EF		
Gill netting	GN	Method unknown	UN

Features

Definition: Features are structures (e.g. bridges, culverts), natural landmarks (e.g. cascades, waterfalls) or anthropogenic influences (e.g. hatcheries, fishways) found within the site which may affect fish or fish habitat. This section is for information on a feature you identified from a TRIM mapsheet, an air photo, or a fly over.

Methods: Determine from maps and airphotos.

Recording Procedure:

Information for features can be entered in FDIS before and after sample reaches are chosen.

1. Where possible measure height (HT) and length (LG) for the feature to the nearest 1 m. Record these under the HT/LG field.
2. Record any other relevant measurements (e.g. width and gradient) in the Features Comments. Refer to Appendix of Site Card Field Guide for measuring method codes.

3. If you enter Roll# and Frame# here you must also enter it into the Photodocumentation section where additional information is required. In FDIS Roll# and Frame# is used to link the Features section to the Photodocumentation section.
4. Obtain and record the UTM coordinates or assign a NID # to the feature. Record the method used to obtain the UTM. For features with linear distances, obtain the UTM coordinates at the downstream point.
5. If using NIDs, assign different numbers to each feature.
6. Record judgment in the Features Comments on whether or not the feature presents an obstruction to fish passage. If determined as an obstruction indicate the type including:
   - 'Permanent' (e.g. waterfall, cascade).
   - 'Seasonal or low flow' (e.g. cascade, de-watering).
   - 'Temporary' (e.g. LWD jam, beaver dam).
7. Record codes for feature type.

Code	Description	Code	Description
BD	Beaver dam	EOF	Fishway
BG	Crossing, general	E	Enhancement, general unspecified
BR	Bridge	FD	Ford
C	Cascade or chute	F	Falls (> 2m)
CN	Canyon	FLD	Dewatering
CV	Culvert	GE	Groundwater, field evidence
D	Dam, general	HD	Hydro dam
X	LWD jam	LS	Landslide or bank sloughing
ECAC	Spawning channel	XW	Wedge
ECAH	Hatchery	VB	Velocity barrier
FSB	Subsurface flow	TS	Termination of survey
TRB	Tributary	FSZ	Fisheries Sensitive Zone

Photos

Recording Procedure:

Information for photos can be entered in FDIS before and after sample reaches are chosen.

- Record the number of the film roll (R).
- Record the number of the photo frame (F) taken.

- Record the focal length (FOC LG) at which the photo was taken using the appropriate code.

Code	Description	Focal Length
WD	wide	<35 mm
STD	standard	35 - 50 mm
TE	telephoto/zoom	>50mm

- Record the direction (DIR) in which the photo was taken using the appropriate codes.

Code	Definition	Code	Definition
U	Upstream	X	Across the stream
D	Downstream	BD	Towards the stream bed

- Record any additional comments about the photo.

Comments

Definition: Comments are linked to sections on the card not specific fields.

Recording Procedure: The comments section can be accessed in FDIS before and after sample reaches are chosen. The sections can be selected from a pick list available by clicking on the down arrow on the right hand side of the section field.

Reach Card Information

Reach cards are entered, with more detailed information, for each reach that has been selected for sampling. In FDIS the reach cards are broken into sections. Some of the information in the reach card sections is either carried over from the FDIS planning screen, or imported from the Excel reach table (rplan).

Project

Information in the Project section of FDIS is carried over from the reach planning screen or imported from the Excel reach table.

Watershed

Some of the information in the Watershed section of FDIS is carried over from the reach planning screen or imported from the Excel reach table. These fields include:
Reach; Watershed Code; ILP Map #; ILP #; Reach #; NID Map#; NID #; UTM (Zone/Easting/Northing/Method); Air Photo Line #, Air Photo # (Line and Photo #, or Map # are required for the reach card)**; Names (Gaz.)** (if they exist)**; Sample Type; Wetland.**

Local Name (Alias):

Definition: An unofficial or locally used lake name.
Method: Obtain from old summary reports, regional MELP offices, local knowledge, etc.
Recording Procedure: If you have an alias for the waterbody, enter it here.

Survey Info

Date is carried over from the reach planning screen or imported from the Excel reach table.

Agency:

This field is carried over from User's Preferences in FDIS or may be selected from a pick-list by double clicking on the field.

Crew:

Definition: The initials of the planning crew.
Recording Procedure: Enter 3 sets of 3 initials divided by forward slashes to denote the planning crew.

Attributes

Some of the information in the Attributes section of FDIS is carried over from the reach planning screen or imported from the Excel reach table. Attributes carried over from the planning screen include:
Length; Upstream Elevation; Downstream Elevation; Gradient; Order; Confinement; Channel Pattern.

Magnitude:

Definition: The number of first order streams draining into the identified location. See *Figure 2.4, Chapter 2, * FRIM.*
Method: Determine at the downstream end of reach using TRIM map.
Recording Procedure: Record the number.

Biogeoclimatic Zone (BGC):

Definition: The biogeoclimatic zone of the study area as identified from the 1992, 1:2, 000,000 BGC map.
Method: Data review, interpret from BGC map.
Recording Procedure: Record the appropriate code.

Code	Description	Code	Description
AT	Alpine tundra	BG	Bunchgrass
SWB	Spruce-Willow-Birch	PP	Ponderosa Pine
BWBS	Boreal White and Black Spruce	IDF	Interior Douglas Fir
SBPS	Sub-boreal Pine Spruce	CDF	Coastal Douglas Fir
SBS	Sub-boreal Spruce	ICH	Interior Cedar Hemlock
MH	Mountain Hemlock	CWH	Coastal Western Hemlock
ESSF	Englemann Spruce-subalpine Fir	MS	Montane Spruce

Setting:

Definition: Setting is the general site where the stream occurs in the landscape, such as a mountain plateau, in a valley, or on a plain, etc. See *Appendix 5 Terrain Settings, *FRIM.*
Method: Determine from maps and airphotos.
Recording Procedure: Record the appropriate code.

* FRIM = *Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures*, RIC (1998).

Type	Description
VF	Valley floor
VW	Valley wall
MP	Mountain plateau
PN	Plain/large plateau
PD	Piedmont

Open water:

Definition: The presence of open waterbodies in the reach.
Recording Procedure: Record "A" if absent, or "P" if present.

Coupling:

Definition: Coupling is a subjective assessment of sediment transfer routes from hillslopes to waterbody. See *Section 4.2.6.9, Chapter 4,* [*] *FRIM.*
Method: Determine from maps and airphotos.
Recording Procedure: Record the appropriate code.

Code	Description
DC	Decoupled
PC	Partially coupled
CO	Coupled

Valley Flat:

Definition: Presence of a valley flat.
Method: Determine from maps and airphotos.
Recording Procedure: Record the appropriate code on the form (*from table V1*). If a valley flat is present then record the appropriate code on the form (*from table V2*).

V1		V2	
Code	**Description**	**Code**	**Description**
N	no valley flat on either bank	C	continuous valley flat (along entire reach)
L	valley flat on left bank		
R	valley flat on right bank	D	discontinuous (only in sections)
B	valley flat on both also, if valley flat present		

[*] FRIM = *Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures*, RIC (1998).

Active Floodplain:

Definition: An active flood plain is any level area with alluvial soils, adjacent to streams, which is flooded by stream water on periodic basis and is at the same elevation as areas showing evidence of:

- flood channels free of terrestrial vegetation.
- rafter debris or fluvial sediments newly deposited on the surface of the forest floor or suspended on trees or vegetation.
- recent scarring of trees by materials moved by water.

The estimated width is an approximate width of the flood plain as estimated from the air photos.

Method*:* Determine from maps and airphotos.

Recording Procedure: Check the box if an active floodplain is visible. Enter the estimated width.

Disturbance Indicators:

Definition: Descriptions of impacts from changes in sediment supply and/or discharge and are grouped into categories of sedimentological characteristics, bank impacts, morphological features, and LWD.

Method: Determine from maps and airphotos.

Recording Procedure: Select the appropriate code.

Code	Disturbance Indicator	Description
Organic		
O1	Beaver dam	The channel had aggraded upstream and/or degraded downstream of a beaver dam. Do not include beaver dams that no longer influence flow or sediment transport.
Banks		
B1	Abandoned channels	Abandoned and/or isolated back or side channels that show signs of colonization by riparian vegetation and have accumulated some forest litter.
B2	Eroding banks	Recently exposed bank material or lack of undercut associated with the bank.
B3	Avulsions	Similar to B1 although mainstem channels are abandoned and/or isolated when the channel shifts laterally.
LWD		
D1	Small woody debris	Abundant small-sized woody debris pieces (commonly logs with saw-cut ends and detached root wads and branches).
D2	Large woody debris	The majority of LWD does not span the channel width as the orientation of individual LWD pieces shifts from perpendicular to parallel (relative to the channel banks).
D3	Recently formed debris jams	Typical of aggrading channels (but can occur in degrading channels) in riffle-pool and cascade-pool morphologies.

Morphology		
C1	Extensive riffles or cascades	Riffles and relatively shallow pools or glides dominate the channel. In cascade-pool or step-pool morphologies, extensive riffles are replaced with extensive cascades. Do not to confuse this with the extensive riffles or cascades that are created at high flow levels.
C2	Minimal pool area	Pools are limited in frequency and extent and are often only associated with individual pieces of LWD.
C3	Elevated mid-channel bars	Channel bars have aggraded with bar-tops at elevations equal to or higher than adjacent bank-tops. Typically, such bars have relatively steep downstream faces.
C4	Multiple channels or braids	Multiple channels develop as the channel aggrades and shifts from single thread to multiple channels.
C5	Disturbed stone-lines	Steps associated with step-pool morphologies are disturbed (stone lines are no longer intact and water flows around individual stones, rather than cascading over actual stone lines).
Sedimentation		
S1	Homogeneous bed texture	The channel bed and bars exhibit minimal sediment textural variability. (Sediment sorting is influenced by changes in LWD characteristics -- low variability means that sediment is all similarly sized, regardless of actual texture).
S2	Sediment fingers	Long linear fingers or stripes of fine textured sediment (commonly coarse sand in cobble-gravel bed streams) extend longitudinally along the channel bed.
S3	Sediment wedges	The channel develops extensive "wedges" of sediment. In extreme cases, the channel can be completely de-watered. Associated with channel bends, bedrock outcrops, LWD jams, or large pieces of LWD or root wads.
S4	Extensive bars	Areas of bar extend throughout the entire channel reach and consist primarily of bed material with minimal flowing water during low flows (the extreme is a de-watered channel that may develop in association with individual sediment wedges).
S5	Extensively scoured zones (bed)	The majority of bed and bar material is absent due to scouring flows.

Islands:

Definition: Islands are permanently vegetated bedrock, or sediment, deposited within the channel, that support perennial vegetation over at least half of the surface area and are relatively stable (i.e., unlikely to erode during the next high flood). See *Figure 4.6, Chapter 4, * FRIM.*

Method: Determine from maps and airphotos.

Recording Procedure: Record the appropriate code.

Code	Description	Code	Description
N	None	F	Frequent
O	Occasional	S	Split
I	Irregular	AN	Anastomosing

Bars:

Definition: Stream bars consist of exposed bed materials deposited by stream flow within the stream channel. Bars are sparsely to moderately vegetated, and are distinct from islands, which are heavily vegetated and more stable. See *Figure 4.7, Chapter 4, *FRIM.*

Method: Determine from maps and airphotos.

Recording Procedure: Select the appropriate code.

Code	Description
N	None
SIDE	Sediment deposition intermittent along the sides of stream
DIAG	Mid-stream sediment deposition diagonally aligned to stream axis
MID	Mid-stream sediment deposition aligned parallel to stream axis
SPAN	Sediment deposition continuous along the sides of stream
BR	Sediment deposition forms a number of small channels separated by bars

Mass Movement:

Definition: The potential for hillslope mass movement events to impact the channel (Reach Classification).

Method: Determine from maps and airphotos.

Recording Procedure: Record the appropriate code.

Code	Description
L	low or no impact to the channel; debris buffered by floodplain
M	medium impact; some debris from valley sides, including bank cutting
H	high impact; active debris torrent/flows within the channel

* FRIM = *Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures*, RIC (1998).

Riparian Vegetation (Rip. Veg.):

Definition: The vegetation observed on the land adjacent to the normal high water line in a stream channel, and extending to the portion of land that is influenced by the presence of the adjacent ponded or channeled water.

Method: Determine from maps and airphotos.

Recording Procedure: Record the most appropriate code. Choose one only.

Code	Description	Code	Description
N	None	D	Deciduous
G	Grass	M	Mixed C and D types
S	Shrubs	W	Wetland
C	Coniferous		

Exposed/Eroded:

Definition: Signs of erosion, or the potential for erosion on the reach banks.

Method: Determine from maps and airphotos.

Recording Procedure: Record the appropriate code.

Code	Description
N	none
V	visible feature
NV	unknown, not visible

Land Use:

Definition: Dominant land use in the vicinity of the lake.

Method: Determine from maps and airphotos.

Recording Procedure: Record the appropriate code.

Code	Description	Code	Description
NO	none/natural	MI	mining
AG	agriculture	PR	park
FB	logging, to banks	UD	urban development
FR	logging, with reserves	OT	others

Maps

Definition: This section is used to record the types of maps used in the planning process.
Recording Procedure: Record the Map Type: NTS (National Topographic Survey map); FCM (Forest Cover Map); or other. Record the map number (#) and year.