# Beaver Dam Removal in the Omineca Region
# Ecosystem Standard Operating Procedures

Issue**:** The control of beavers and removal of beaver dams and has been a long-standing issue within the Omineca Region of Ministry of Water, Land and Air Protection. With many pieces of legislation and regulations pertaining to the protection of fisheries, water quality, property, wildlife and wildlife habitat values associated beavers, clear guidance is need by ecosystem staff for the removal of beaver dams.

Background**:** A beaver dam may be modified or removed only in order to protect property (e.g. a road base, flooding building), as per Section 9(2) of the BC Wildlife Act. A "Habitat Officer" of the Ministry Water, Land and Air Protection (WLAP) establishes terms and conditions associated with the removal or modification of beaver dams, pursuant to Part 7, Sections 42 and 44(1)(v) of the BC Water Act Regulation and Section 9 of the BC Wildlife Act.

Recommended Practices**:** Terms and conditions associated with the control of beavers and removal of beaver dams in the Omineca Region.

- Modifying or removing beaver dams requires “legal authority” which the Regional Environmental Stewardship Manager considers to mean Wildlife, Fisheries and Ecosystem staff. Also, as this activity is considered “works in and about a stream” there is a requirement to notify a Habitat Officer.

- Upon receiving a notification, a Habitat Officer has the authority to add specific conditions to ensure the protection of fish and fish habitat. Notification is required in writing, using the "**WLAP - Beaver Dam Notification Form**" (see attached) and a Habitat Officer has 45 days to respond. If no response is received within 45 days, the proponent may proceed with the work in compliance with the Water Act regulations.

- In locations where beaver activity occurs, bridges or oversized culverts should be used to reduce maintenance requirements, to ensure fish passage and to reduce downstream habitat damage resulting from dam removal. If non-oversized culverts are used where signs of recent beaver activity are present, measures should be taken (e.g., “beaver stops”) to reduce the chance of beavers damming the culvert. Fish passage (where required) will still have to be facilitated with non-oversized culverts. The Fish Stream Crossing guidebook provides advice on achieving fish passage.

- After notifying a Habitat Officer and receiving authorization, possible implications associated with removing the dam (i.e. washing out the culvert, damaging downstream habitat or property) should be considered before removing the dam. Authorization does not remove any liability associated with actions taken to remove a dam.

- Culverts that have been plugged by beavers (these are not considered “dams”) within approximately one year of the date of the inspection and where there is no evidence of occupation (no lodge present) can be maintained without the need for authorization under the Wildlife Act Permit Regulations. However, notification of a Habitat Officer for

"works in and about a stream" is still required. For emergency situations, or when licensees are in the field and a situation requires immediate action (whether a plugged culvert or beaver dam), a phone call to a Habitat Officer will be accepted as notification. Notification in writing is preferred.

- Opening plugged culverts or removing beaver dams and draining ponds between September 15th and March 15th can result in mortalities of both beavers and fish. Opening plugged culverts or removing beaver dams during this winter period will not normally be accepted, but special circumstances may warrant dam removal during this time. As with <u>all</u> beaver dams, WLAP must be notified before dam removal, and approval <u>may</u> be given. WLAP must also be notified before unplugging culverts.

- Beaver dam modification or removal between April 1 and July 14 is normally not accepted on known or default fish streams as defined by the Forest Practices Code of BC Act (FPC), in order to minimize adverse impacts on fish. Unplugging a culvert during this time however, may facilitate the passage of spawning fish. As this is a sensitive time for spring spawners, requests to modify or remove beaver dams, or unplug culverts during this time period must will be dealt with on a case-by-case basis.

- Any requests for killing or removing of beavers should be directed to the registered Trapline Holder for removing nuisance beavers. Second consideration should go to a contractor previously identified for dealing with nuisance beavers. Names of contract problem beaver trappers are available from the BC Trappers Association (c/o Wayne Sharpe, Trappers International (250-561-1602)) Final consideration will be for affected parties (eg licensees) to remove nuisance beavers. Registered Trapline Holders will require a permit to remove nuisance beavers if outside of the trapping season. Nuisance beaver contractors and licensees require a permit at all times of the year. A permit can be issued by the Fish, Wildlife Science and Allocation Section Head if the request is supported by a reasonable rationale. All permit holders are required to comply with any relevant legislation or regulations (i.e. Firearms Act, Wildlife Act, Water Act, Fisheries Act).

- Permits can be issued for individual nuisance beaver sites or for sections of roads where there are multiple nuisance beaver sites. However, blanket permits will not be issued for dealing with nuisance beavers over large geographic areas or for long periods of time.

- To ensure the protection of other water users, all conditions of Part 7, Section 43 of the BC Water Act Regulation must be met in the modification or removal of a beaver dam.

- The federal Department of Fisheries and Oceans (DFO) **must** also be notified prior to the modification or removal of any beaver dam on a fish bearing stream, and any conditions established by this agency adhered to.

- Where private land will be crossed, permission in writing must be obtained from all property owners prior to dam modification or removal.

- A beaver dam that is located on a known or default fish stream as defined by the FPC can not be breached or removed using explosives.

- Every reasonable effort must be extended to prevent deleterious substances, including sediment, from entering a stream. All equipment used on site should be in good repair and free of excess grease and oil. Machinery must work from the stream bank or naturally dry channel rather than within the wetted perimeter of a stream. Only the digging bucket from machinery should enter a stream.

- Where two or more dams in succession will be modified or removed, the dam furthest downstream must be modified or removed first, and its associated pond allowed to drain to the target level, before the next dam upstream can be modified or removed.

- Dam removal must occur slowly, a bit at a time, in order to minimize scouring and the addition of silt to downstream areas. Water flowing through a dam breach should normally not exceed 0.2 square metres in area (i.e., a typical breach could measure 1.0 metre x 20 centimetres in size).

- All material removed from a beaver dam must be side-cast in such a manner that it cannot re-enter the stream.

- If an area is de-watered as a result of dam removal or modification and results in the stranding of species of fish listed for a "fish stream" in Operational Planning Regulation 1 of the FPC, then such fish must be salvaged and returned to the stream.

- All reasonable care must be exercised to avoid damaging any land, works, trees, stream-banks or other property during the course of beaver dam modification or removal. Full compensation to the owners must be made for any such damage or loss that is unjustified.

- Significant damage to a stream channel or fish habitat, or the introduction of significant quantities of a deleterious substance to a stream as a result of beaver dam modification or removal, must be reported to WLAP or DFO immediately.

Credit**:** The ecosystem section would like to acknowledge the extensive work by Don Cadden (Section Head Fisheries - Omineca Sub-Region), in the development of these terms and conditions. The Procedure Tree matrix was developed by Jocelyn White and is attached to provide an example of a management process that a forest licensee could adopt for road right-of-way maintenance associated with problem beaver dams.

Term**:** This direction remains in place until revoked or amended by the Omineca Ecosystems Section Head or is reaffirmed at the periodic 5 year review.

**Chris Ritchie**
**Omineca Ecosystems Section Head December 24, 2004**

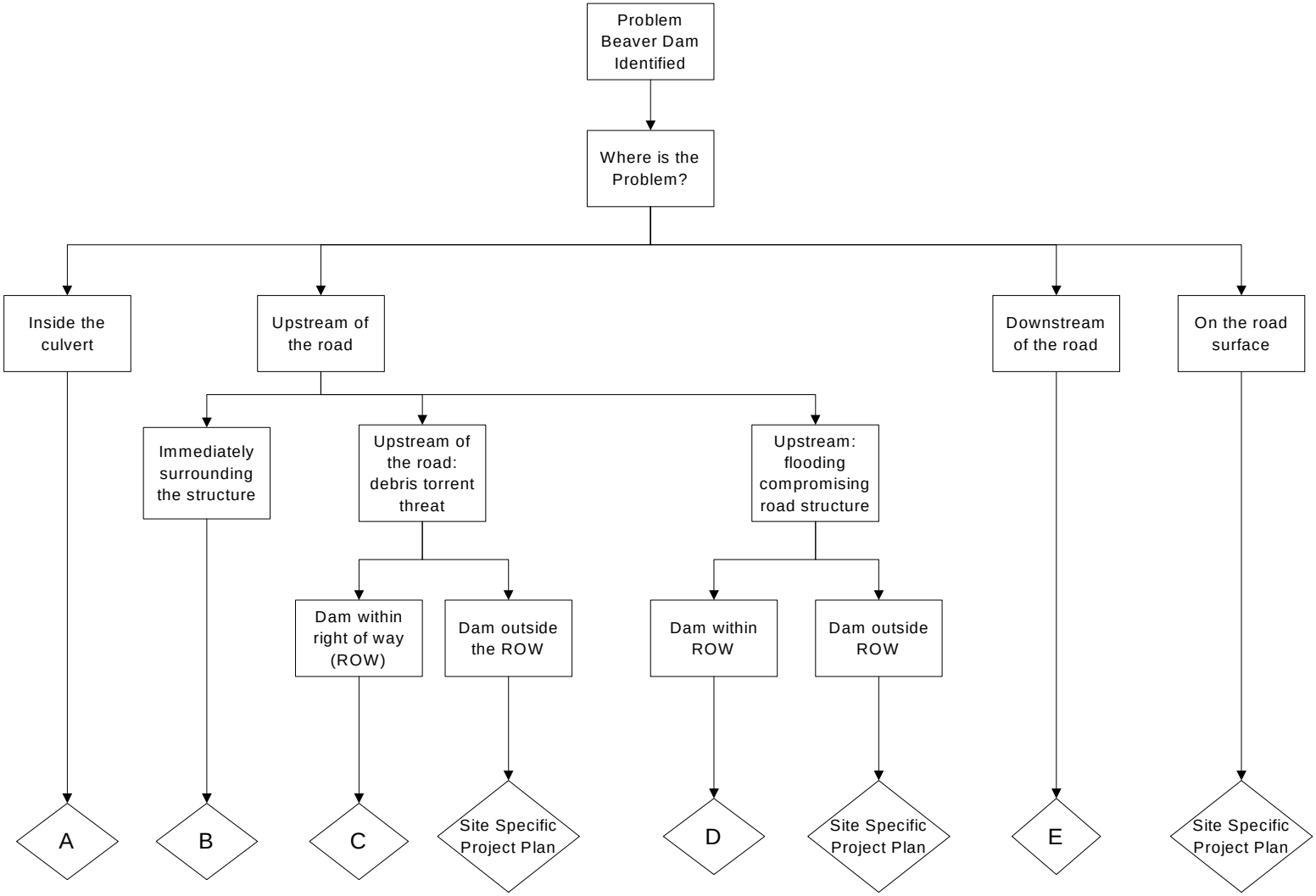
## *APPENDIX*

**Procedure Tree – Management process for Forest Licensee**

**WLAP (Forestry) - Beaver Dam Notification Form**

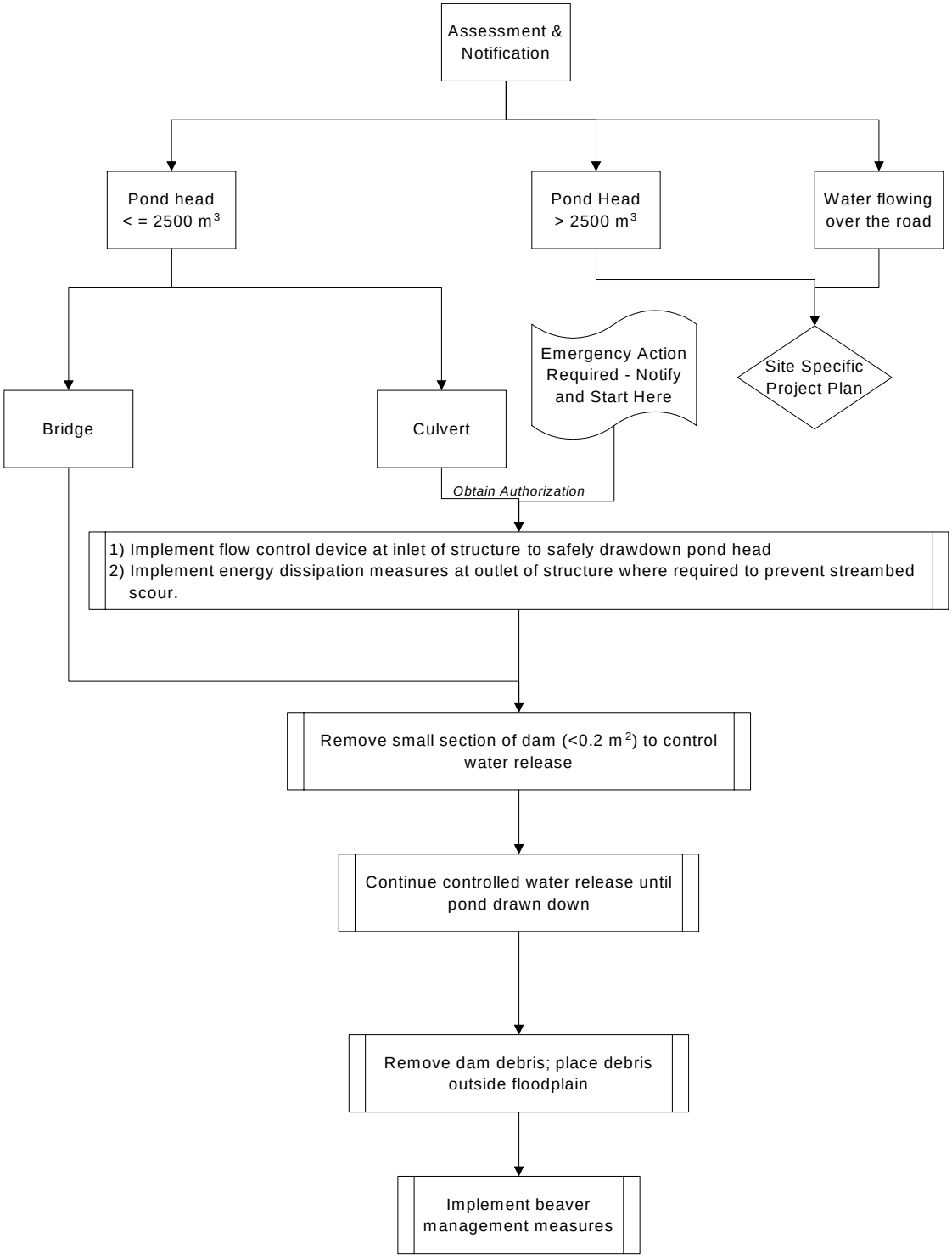
**WLAP (General) - Beaver Dam Notification Form**

## PROCEDURE TREE

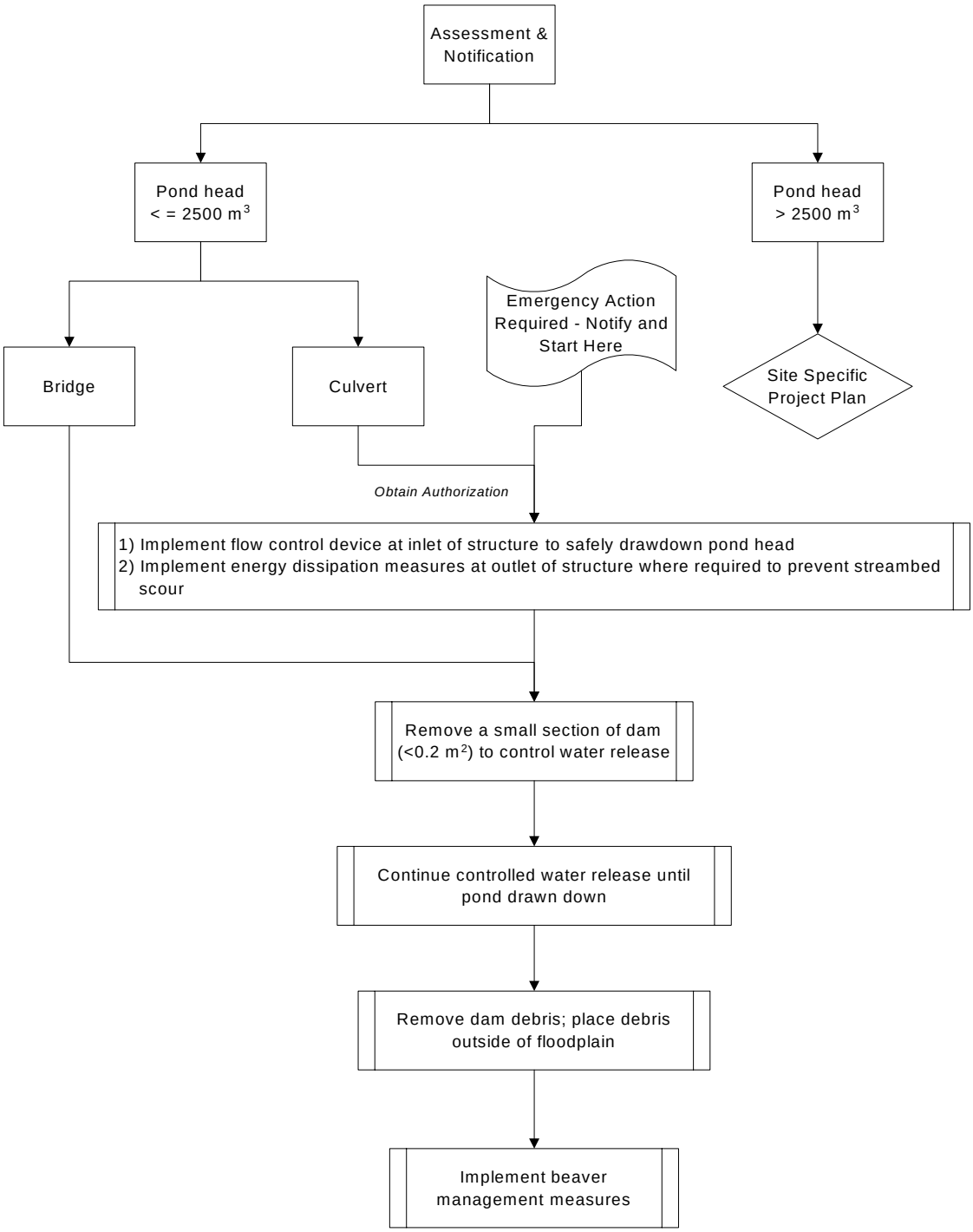


Procedure A: Plugged Culvert - Standing Water or Evidence of Occupation

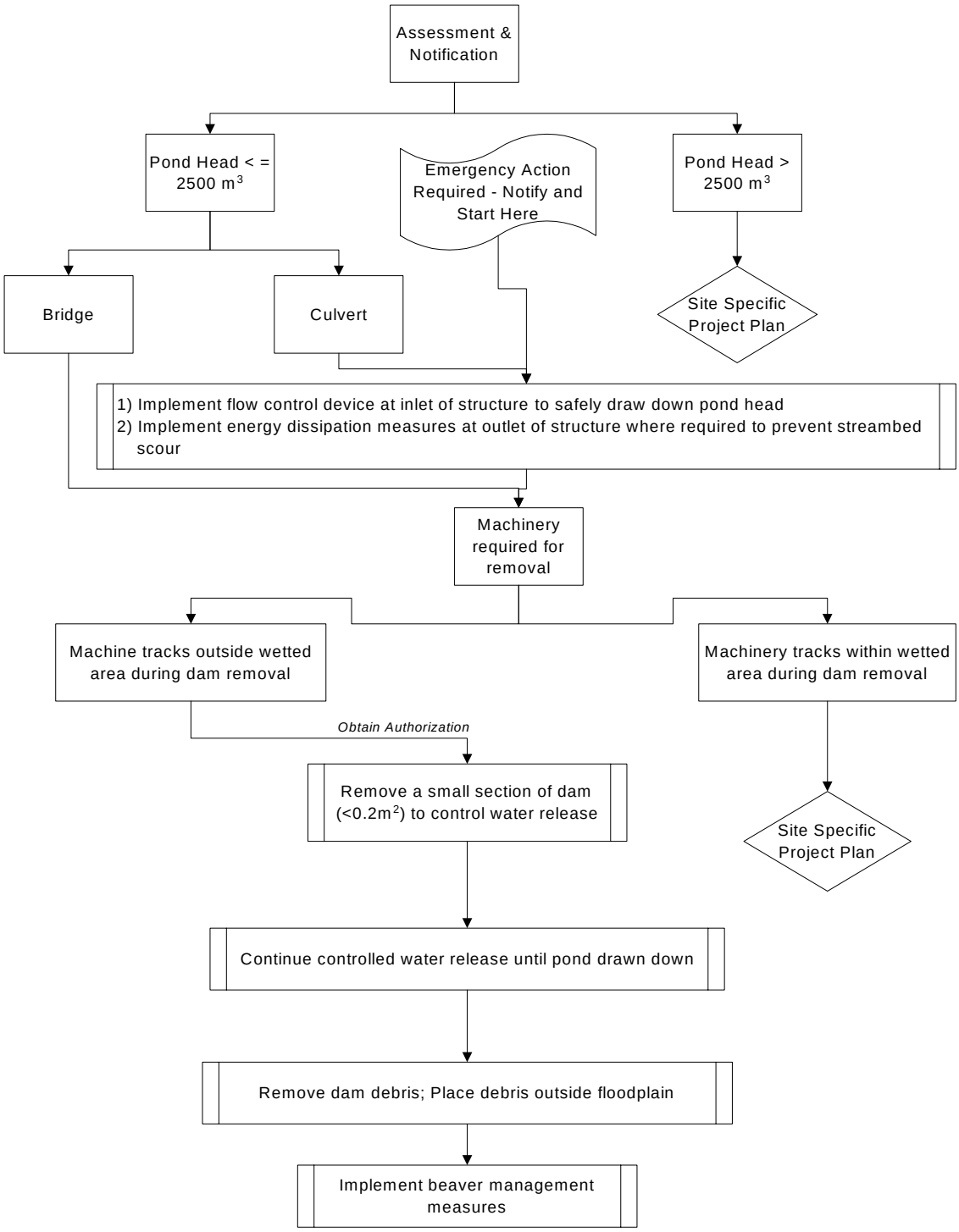
## Procedure B: Immediately Surrounding the Structure



## Procedure C: Upstream of the Road - Debris Torrent Threat (within ROW)



## Procedure D: Upstream Flooding Compromising Road Structure (within ROW)



Procedure E: Downstream of the Road

# WLAP (Forestry) - Beaver Dam Notification Form

**To:** (FAX) or VIA E-Mail
(DFO) Fisheries Officer (250) 561-5534
(WLAP - Prince George) Habitat Officer (250) 565-6940
(WLAP - Fort St. John) Habitat Officer (250) 787-3219

**Emergency - Immediate Action Required**
3 Day Response
14 Day Response
not a emergency

1) Road Condition
The road is being washed out.
The road is at risk of being washed out.
The road is saturated and/or water is percolating through the fill

2) Road Use: High Low

3) Where is the problem occurring: General Location _____
(see attached map) or Dam location

| | | | | |
|---|---|---|---|---|
| Dam Location UTM Co-ordinate | Zone Number: | | Easting: | Northing: |
| Stream Classification | S1<br>S3<br>S5 | S2<br>S4<br>S6 | Stream Name: | Forest Road: |

Blockage inside the culvert.
Dam on the road surface.
Dam upstream of the road
Surrounding the mouth of the structure
Upstream of the road - directly affected structure
Upstream of the road - flooding around the dam and compromising other sections of the road
Downstream of the road.

4) Age of Dam < 1 year > 1 year

5) Type of Structure: Bridge Culvert, Size: _____(mm)

Site Sketch

Procedure:
A
B
C
D
E
Project Plan to follow

Contact Name: _____ E-Mail:_____

Contact Number: _____(day)_____(night)

Requested Activity Dates: _____

# WLAP (General) - Beaver Dam Notification Form

**To:** (FAX) or VIA E-Mail
(DFO) Fisheries Officer (250) 561-5534
(WLAP - Prince George) Habitat Officer (250) 565-6940
**or Mail To:** Ecosystem Section, 4051 – 18th Avenue, Prince George, BC V2N 1B3

**Emergency - Immediate Action Required**
3 Day Response
14 Day Response
not a emergency

Where is the problem occurring: General Location and Description, _____
_____
_____
_____

(see attached map 1:50,000 or better) of Dam location

| Dam Location UTM Co-ordinate | Zone Number: | | Easting: | Northing: |
|---|---|---|---|---|
| Stream Name | Width | Depth | Fish Present<br>Yes<br>No<br>Unknown | Access From: |

Age of Dam < 1 year > 1 year
Evidence of Active Beaver Use (e.g. lodge, cuttings, fallen trees) yes no
Beaver Dam Affecting Road: The road is being washed out.
The road is at risk of being washed out.
The road is saturated and/or water is percolating through the fill
Beaver Dam Affecting Other Property (specify): _____

Blockage inside the culvert or Bridge Culvert or bridge size:_____(cm)
Dam on the road surface.
Dam upstream of the road
Dam downstream of the road.
Other location (specify) _____

Site Sketch

Contact Name: _____ E-Mail:_____

Contact Number: _____(day)_____(night)

Requested Activity Dates: _____