




YOUR FILE .....

OUR FILE ..... 73.0/Ducks Unlimited  
Coffin Lake 

October 10, 1985

Mr. Fred Simpson  
Ducks Unlimited  
#2 - 9208 National Place  
PRINCE GEORGE, B.C.  
V2N 2K8

Dear Mr. Simpson:

Re: Coffin Lake Fisheries Evaluation

On June 24, 1985 we set an overnight gill net in Coffin Lake and captured the following fish species:

- 251 - suckers (longnose and coarsescale) up to 35 cm length.
- 13 - red side shiners.
- 4 - rainbow trout up to 26 cm.
- 5 - cutthroat trout up to 25 cm.
- 1 - Dolly Varden 13 cm.

Because of the preponderance of coarse fish and the relative scarcity and small size of sport fish (rainbow trout, cutthroat trout, and Dolly Varden) we have concluded that Coffin Lake provides a very marginal sport fishery. Therefore, we have no objection to your plan to construct a dam on the outlet of the swamp and raise the lake level.

From a fisheries point of view, the ideal dam structure would be one which provides the option of either allowing for fish passage or being a complete barrier. If future observations showed there is significant movement of sport fish between the lake and outlet stream, we would want the fish passage way open. If 5 or 10 years from now, a decision was made to chemically rehabilitate the lake, then we would want the dam to be a barrier to prevent re-infestation of coarse fish from the Bulkley River.

If you require any further information, please do not hesitate to contact me.

Yours truly,



Sig Hatlevik  
Fisheries Technician  
Norther Region (Skeena)

SH:ak

cc: Mike Whately  
Allan Edie

PRELIMINARY DEVELOPMENT PROPOSAL

PROJECT NAME: Coffin Lake

LOCATION: 39 km southeast of Smithers, B.C.. Located within Sec. 15, 16, 21 and 22 in Tp 8, Range 5, Coast Land District.

U.T.M. 9.6346.60509

ACCESS: From Smithers drive east on Hwy. 16 to Quick Road (23 km). Turn right and proceed on road (crossing Bulkley River) to the Telkwa-Walcott Forest Road (5.5 km). Turn right and proceed for 6.5 km to Hydro R/W. Turn left on logging trail and proceed 1.3 km then take left fork and proceed for 2.0 km. Take left fork of trail to log landing site (1.5 km). Outlet of basin is < 100 m southwest of landing.

PROJECT

<u>PARAMETERS:</u>	<u>Area</u>	106.6 ha.
	Within 1 m of N.O.L.	53 ha.
	Within 2 m of N.O.L.	95 ha.
	Under Agreement	106.6 ha.

Shoreline

At N.O.L. 5.4 km.

IMPROVEMENTS: Earthen dam structure with a variable crest weir. Excavated level ditching 1.8 km.

HISTORY &

DESCRIPTION: Coffin Lake is a shallow, permanent basin located within the gently rolling conifer and aspen covered Terrain of the Bulkley River Valley. Located within the migratory corridor of the Bulkley River, this basin provides habitat for a moderate number of nesting and migrant waterfowl. The adjacent upland has been actively logged within the past 10 years, while the uplands adjacent to the Bulkley River has been cleared for hay and pasture. Active clearing of uplands in the area for agriculture will continue to provide additional attraction for geese and dabbler species of waterfowl.

HISTORY &

DESCRIPTION:

(cont'd)

Ducks Unlimited has approached the Fish and Wildlife Branch regarding the potential of this wetland for an enhancement program. Response has been positive towards the enhancement proposal and potential coordinated program which would benefit both fisheries and wildlife (ungulate) management of the wetland.

This wetland consists of a shallow open water basin maintained by a beaver dam. A sedge-willow shrub covered basin is situated immediately downstream of the open water basin. Beaver dams have occasionally backflooded the sedge-willow area resulting in extensive shallows (42 ha.) associated with the main open water basin. At present the beaver dams have been breeched, thus allowing encroachment of willow shrub. Two creeks supply adequate water to maintain the proposed N.O.L.. The water quality within the basin indicates a moderate alkalinity as noted by a pH of 7.8 and hardness value of 51.3 mg/l.

Soils within the main basin consist largely of organic silts while some sand and gravel material was noted along the shoreline adjacent to spruce-aspen uplands. Organic soil of undetermined depths occurred within the sedge-willow shrub basin, however, gravel and sand were exposed at the downstream outlet. Floating pondweed and clasping leaf pondweed are common throughout the lake, while Calla is restricted to the perimeter of the basin. Bladderwort, spatterdock and duckweed were uncommon within the basin. However, spatterdock was abundant within the downstream channel, while Calla and cinquefoil were common within the adjacent sedge-willow shrub zone. Aquatic invertebrates consisted of amphipods, water beetles, striders, caddisfly larvae, dragonflies (adults) and leeches which provide an additional good source of food for waterfowl.

A narrow band of sedge  $< 5$  m acts as emergent cover about the lake perimeter, while sedge-open willow shrub within the downstream meadow would act as emergent cover when backflooded by beaver activity. Overwater cover can be rated as poor for the open water basin, while good potential exists within the downstream meadow. Loafing sites are restricted to vegetation mats along the channel shoreline and an occasional log along the lake shore, as such, can be rated as poor.

Open willow shrub sedge ( $< 3$  m) occurs along the shoreline of the lake and the meadow, while extensive willow shrub occurs along the inlet drainages. The uplands are covered by mod.-dense aspen-conifer forest with a varied density of shrub understory. Logging has occurred on the north and west side of the wetland. A 100-200 m band of forest cover separates the logged area

HISTORY &

DESCRIPTION:

(cont'd)

from the wetland, except on the west side where clearing extends to the lake shore. Willow shrub and blackspruce are associated with the lowlands adjacent to the upstream drainages, while a zone of blackspruce occurs within the downstream meadow. Good shrub and forb cover occurs within the logged areas. Cover for upland nesting species can be rated as fair, while good potential exists for cavity nesting species.

Moderate use occurs during the spring and fall migration by Canada Geese, Mallard, Wigeon, Teal, Ring-necks and Bufflehead. Broods of Mallard, Ring-necked duck and Bufflehead have been observed on this basin. Moose heavily utilize the willow shrub zone along the upstream drainage and within the downstream meadow during the winter months. Bear are frequently sighted in the adjacent uplands, while beaver and muskrat utilize the wetland. These species will continue to benefit following enhancement of this wetland. Small populations of rainbow, dolly varden and cut throat, while coarse fish (suckers, shiners) are predominant in this wetland.

The major limiting factors presently limiting waterfowl production are:

- a) Insecure water regime due to presence of beaver dam.
- b) Limited secure territorial, loafing and nesting sites.

PROPOSED

IMPROVEMENTS:

- a) Purpose:
  - 1) The proposed improvement will provide a more secure and stable water regime.
  - 2) Improve water/cover interspersion.
  - 3) Provide improved territorial, loafing and nesting sites.
- b) The Proposed Improvements Will Include:
  - 1) An earthen dam 63 m long x 2.3 m high incorporating a variable crest weir capable of a 1.0 m drawdown.
  - 2) Excavated level ditching (1800 m) within the sedge willow meadow to improve territorial and loafing sites.
  - 3) Future: Establishment of floating island within the main lake to provide secure loafing and nesting sites for waterfowl.

LAND:

The proposed works are contained in the Coast Land District.

- 1) N.W.¼, Sec. 15, Tp 8, Range 5 - Crown
  - 2) N.E.¼, Sec. 16, Tp 8, Range 5 - Crown
  - 3) E½, Sec. 21, Tp 8, Range 5 - Crown
  - 4) W½, Sec. 22, Tp 8, Range 5 - Crown
- } Within Smithers forest district.

DONOR SUITABILITY:

Unconfirmed, requires further discussion with appropriate government agencies prior to any firm commitment.

OPERATION &

MANAGEMENT:

1. Water Regime

The goal of water level management on Coffin Lake is to secure and manage water levels to improve cover/water interspersion and enhance waterfowl utilization. The proposed Normal Operating Level will be approximately 1.0 m above the outlet channel level of the downstream meadow. This will backflood the downstream meadow to a level equal to Coffin Lake. An annual drawdown of 0.5 m may be required to maintain willow development about the perimeter of the meadow. This will maintain existing and promote willow development as a source of winter habitat for moose. If an annual drawdown is not required by Fish & Wildlife Branch, a drawdown for biological purposes will be scheduled once in 7 years following completion of construction.

- 2. Ducks Unlimited will be responsible for the maintenance, repair and operation of the water control structure.
- 3. A detailed biological inspection will be scheduled three years following completion of construction. Frequency of further inspections would be based on results of initial inspection, however, they would occur not less than once in five years.

ASSESSMENT OF

IMPACT OF PROJECT:

- 1. Existing Uses By Man:
  - a) Wetland: Maintain existing lake for recreation, hunting and fishing.
  - b) Adjacent Uplands: No significant impact.

COFFIN LAKE

ASSESSMENT OF

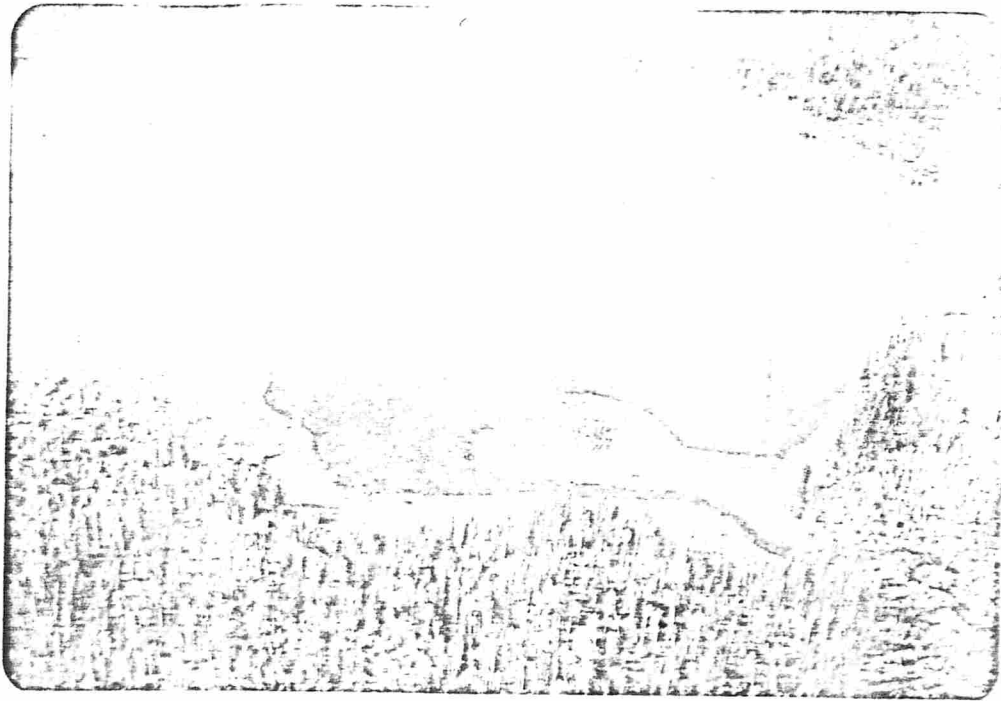
IMPACT OF PROJECT:

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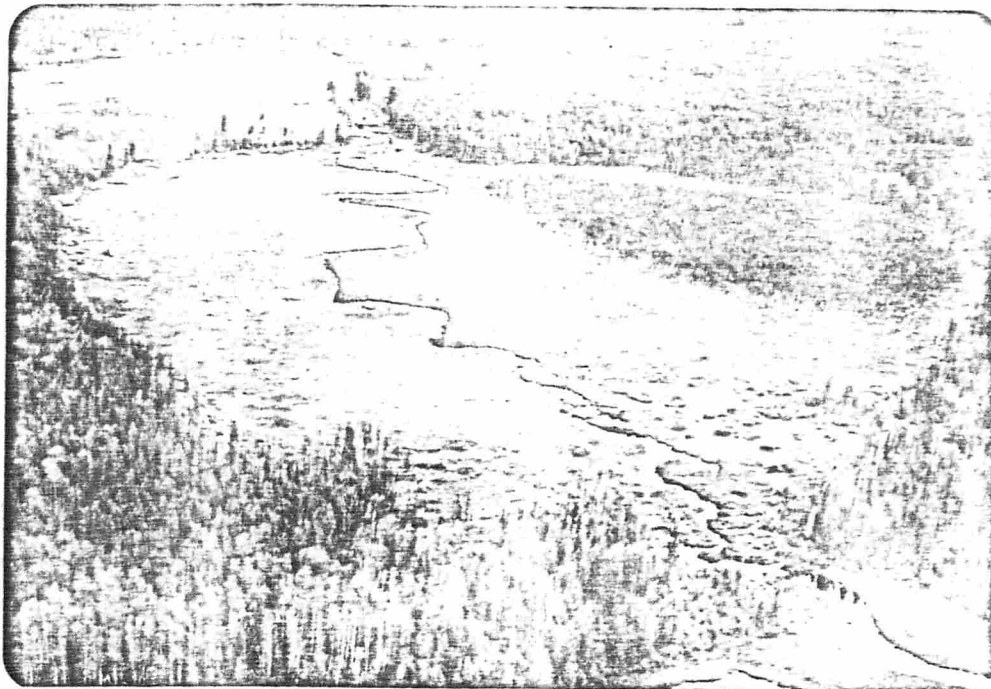
2. Habitat For:

- a) Waterfowl: Secure and maintain existing habitat and improve downstream habitat for breeding and migrant birds.
- b) Ungulates: None anticipated due to annual water level drawdown.
- c) Fish: No significant impact. A fishway may be required for passage of fish in the creek.
- d) Other Species: No significant impact.

COFFIN LAKE



Coffin Lake looking west from west side of meadow. Note: Picture of lake.



Coffin Lake Meadow looking east from east side of lake. Note: Picture of meadow.

WETLAND NAME:

*Wiggin Lake*

FILE #: *93L-20*

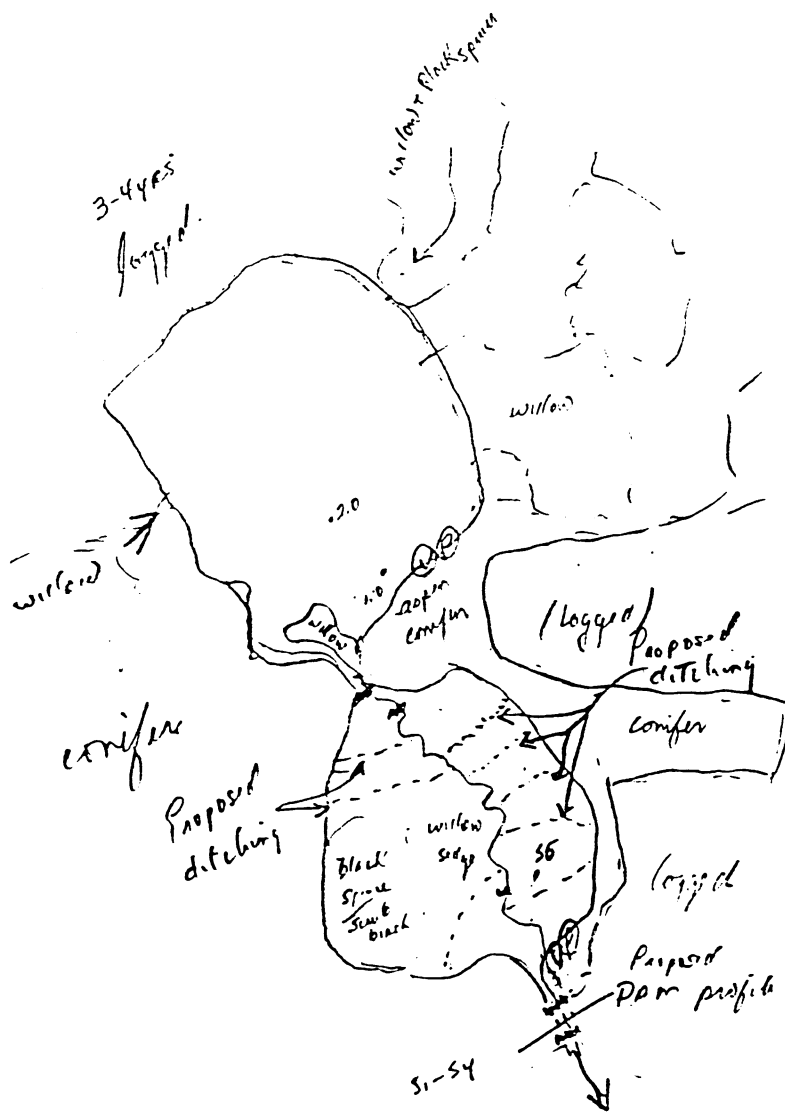
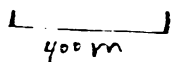
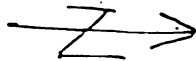
SKETCH MAP (see checklist on reverse): SIZE:

SHORELINE:

*5.6 Km*

AIR PHOTO NOS.:

*7746-105-*



① - Vantage pt

② - Photo-stn

S<sub>1</sub> - Soil sample

2.0 - Water depth



