

**Lake Information Summary for:
McQuarrie Lake (460-7449-03)**

April 1997

Prepared by

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for

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EXECUTIVE SUMMARY

Twenty-four lakes in the Bulkley Forest District, with various levels of fisheries and wildlife information, were selected for lake classification. McQuarrie Lake, located in the Bulkley watershed is one of these 24 lakes. Various types of information available for McQuarrie Lake are summarized within this portfolio to aid the Lake Management Committee in classifying this lake, and managing its resources.

Information compiled for McQuarrie Lake includes:

- General lake data
- Recreational values
- Fisheries values
- Wildlife/biodiversity values
- References
- copy of the reconnaissance survey report
- Air photo
- Forest cover map

The purpose of this summary and the preliminary ratings is to aid the Lake Management Committee classify the lake. These ratings are a guide and are meant only to supplement the expertise of the Committee. Inventories used to rate the resources are in various states of completion, and the locations of rare, threatened and endangered elements (e.g. species) have never been systematically inventoried in the Bulkley Forest District.

The wildlife/biodiversity and fisheries attributes of McQuarrie Lake were rated as medium. The lake is located in a core ecosystem (Figure 1) and a riparian management zone within the integrated management zone of the Deep Creek planning unit (unit 6). rainbow trout (*Oncorhynchus mykiss*) were captured at the lake, justifying a fisheries rating of medium. A public recreation rating of medium is suggested in the report, based on recreation information available. The lake is utilized for angling, ice-fishing, hunting, ski touring, trail riding, and backpacking/hiking. Recreation feature significance and sensitivity is rated as medium, and the visual landscape significance and sensitivity is assigned a rating of “probably medium”.

Suggested Management Goal : Quality Lake

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Bulkley TSA

Direction to Lower Level Plans

Ecosystem Network

-  Core Ecosystem
-  Landscape Corridor

Legend

- Highway 
- Gravel Road 
- Streams 
- Lakes 
- TSA Boundary 

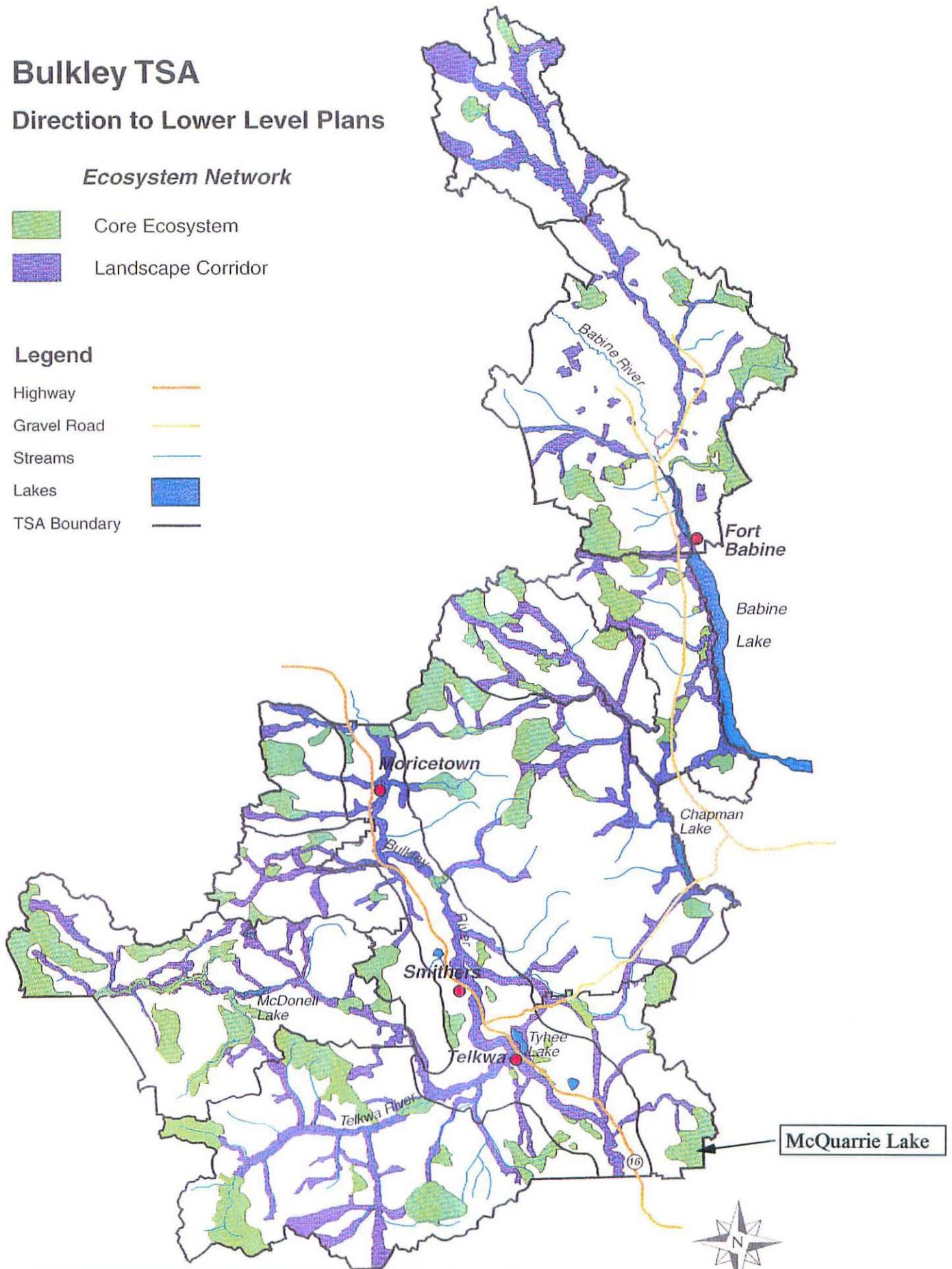


Figure 1. Location of McQuarrie Lake (460-7449-03) in the Bulkley Forest District. (Anon., 1996)

5 0 5 10 15 20 25 30 KM

GENERAL LAKE DATA SHEET

Lake name (g=gazetted, a=alias)	McQuarrie Lake (g)
Watershed code	460-7449-03
Date of most recent lake survey:	Sept. 20 & 21, 1983
Lake survey conducted by:	Webber & Hatlevik (BC Environment)
UTM	9.6047951.651606 (Watershed Code Dictionary)
NTS map number	93 L 10
TRIM map number	93 L .057
Air photo number	30 BCB 94045 No. 123 & No. 135
Polygon number (Forest Cover Map)	094
Lake area (ha)	21.6 ha (Webber & Hatlevik 1983)
Drainage	McQuarrie C. → Bulkley R.
Current access	air
Proposed access	none proposed
Timber type and site class	mainly spruce, lodgepole pine; some balsam (81-100 years; 10.5-28.4 m; 26-55 % crown closure)
Lake shape	complex
Lake grouping	not in lake grouping
Private ownership (%)	0 %
Resource dev. opportunities	<ul style="list-style-type: none">• no mining tenure• guide outfitter territory 609G003• trapline terr. 608T047 (SE) & 609T015 (NW)• fish and wildlife 6402964 (S end of lake)
Forest health	mountain pine beetle; prevention
Facilities	none
Domestic water use (licence #, reservoir)	none noted
Community watershed	no
Fisheries and recreation use (user days/year)	no information
Cultural heritage resources	high archeological potential
Visual absorption capability	no information
Land claim area	Wet'suwet'en, Carrier Sekani
LRMP Planning unit	6 (Deep Creek)
LRMP management zone:	Integrated Resource Management
LRMP Ecosystem Network	Core ecosystem
Natural disturbance type	3
Biogeoclimatic zone	Sub-Boreal Spruce, Moist Cold (SBSmc)
Terrain stability	steep south facing slopes to NE of lake

SUMMARY OF RATINGS

Public recreation	probably Medium
Rec. Feature Significance & Sensitivity	Medium
Visual Landscape Significance & Sensitivity	probably Medium
Fisheries	Medium
Wildlife / Biodiversity	Medium (see comments in section)
Suggested Management Goal	Quality Lake

RECREATION VALUES

Public Recreation rating = probably Medium

Recreation Feature Significance and Sensitivity Rating = Medium

Visual Landscape Significance and Sensitivity Rating = probably Medium

Comments:

- Considerable numbers of submerged and floating windfalls create potential boating hazards near shore (Webber and Grant 1983)
- A crude campsite was noted on the small island in the lake. Otherwise, there is minimal potential for camping due to the large amounts of wetland surrounding the lake and limited beaches (Webber and Grant 1983)
- The lake contains rainbow trout
- The surrounding area is hilly (Webber and Grant 1983)
- Recreation features of the area surrounding McQuarrie Lake include angling, ice-fishing, ski touring, trail riding, backpacking/hiking and hunting according to the resource inventory map and recreation inventory 1:250,000 overlay (MOF)
- According to the recreation inventory overlay, there is a guide cabin along the lake. This cabin was not noted in the Waters and Land Program Status maps
- The area surrounding the lake has:
 - a recreation feature significance and sensitivity of D1
 - a recreation opportunity spectrum classification of semi-primitive, non-motorized (MOF)

FISHERIES VALUES

Fisheries rating = Medium*

* medium rating = lake supports or occasionally supports a regionally important fish species, i.e. rainbow trout are present at the lake

Species present: rainbow trout, longnose suckers

Fish resources

(for more details see Webber & Grant 1983)

- rainbow trout (*Oncorhynchus mykiss*) and longnose suckers (*Catostomus catostomus*) were only fish species captured in lake (2 minnow traps, 2 sinking gill nets)
- 38 rainbow trout were captured in two nets set for 4.5 and 4 hrs respectively. Rainbows ranged in length between 110 and 260 mm and in weight between 12 and 160 g.
- many juvenile trout were observed rearing in the outlet, but no fish sampling appears to have been conducted in the inlets or outlet
- conclusion: rainbow trout appear to be the only game fish, and appear to be relatively abundant at the lake. Stream habitat in the outlet appears to be suitable for spawning and rearing (inlets were not surveyed, however Klohn - Crippen 1997 report that a barrier to fish migration exists in the stream which drains North Lake into McQuarrie Lake).

Fish habitat - lake

(for more details see Webber & Grant 1983)

- over 50% of lake is potentially littoral, and very productive despite low nutrient levels in lake
- invertebrates did not appear to be very abundant
- lake level does not appear to be fluctuating very much
- maximum depth of lake = 11 meters
- Oxygen concentrations good to 6 meter depth (>8mg/L),
- secchi depth = 5.0 m; Nutrient concentrations appear relatively low (total dissolved phosphorus = 0.009 mg/l, total nitrogen = 0.22 mg/l)
- sediment and rainbow muscle/liver tissue was also analysed.

Fish habitat - streams

(for more details see Webber & Grant 1983)

- lake has three inlets and one outlet indicated on the 1:50,000 NTS mapsheet, and five inlets on the Forest Cover Map
- no barriers aside from a persistent debris jam in the outlet were noted. The debris jam is not a barrier to fish migration
- only the outlet was surveyed, and it appeared to support good salmonid rearing and spawning habitat.

WILDLIFE/BIODIVERSITY VALUE

Wildlife / Biodiversity rating: Medium*

* considered medium due to inclusion in core ecosystem of the forest ecosystem network

Wildlife

- rare and endangered species encountered during 1983 lake reconnaissance inventory: none (Webber & Grant 1983)
- species observed during 1983 lake reconnaissance inventory: loons, kingfishers, and gray jays (Webber & Grant 1983)
- within Planning Unit 6, wildlife management emphasis is bears (biodiversity overlay)

Habitat

- wildlife habitat areas: none indicated on 1:250,000 wildlife habitat maps
- biophysical habitat: 80% white-spruce - subalpine fir; 20% white spruce - subalpine fir, moist, receiving sites; Successional stages: 20% mature forest, broad-leaved or mixed (60 to 140 years); 80% old-growth (>140 years) (biophysical habitat maps)
- habitat, special management zones: none noted on 1:250,000 special management zone maps
- Ecosystem network: in core ecosystem network (Bulkley LRMP 1996) and riparian management zone. There are steep south facing slopes northeast of the lake (1:50,000 ecosystem networks, habitat + special management zones overlay)
- biogeoclimatic ecosystem class: SBSmc (Sub-Boreal Spruce, Moist Cold)
- natural disturbance type: 3 (ecosystem with frequent stand initiating events)

Relevant management directions from the Bulkley Land and Resource Management Plan (1996):

- lake is in LRMP planning sub-unit 6 (integrated resource management)

Biodiversity:

- n/a

Wildlife:

- follow general management direction

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