

Crown Pastoral Land Tenure Review

Lease name: THE LAKES

**Lease number: PC 073
-Part 1**

Fish & Game Report

As part of the process of Tenure Review Fish & Game councils may provide advice on significant inherent values within the pastoral lease, and the information may be incorporated in the Conservation Resources Report. The advice is part of the information gathered and assessed for the development of a preliminary consultation document.

The report attached is released under the Official Information Act 1982.

December

05

Fish and Game Resources of the Lake Station Pastoral Lease, North Canterbury

Prepared by the North Canterbury Fish and Game Council as a Contribution to the Drafting of a Preliminary Proposal for a Tenure Review Project Plan.

March 2002

Preamble

This report has been prepared under the provisions of the Crown Pastoral Lands Act (1998), Part II, Tenure Review, on behalf of the Crown by the North Canterbury Fish and Game Council

Part 1 - Background

1.2 Lakes Station Pastoral Lease - Overview

The Lakes Station pastoral lease comprises a number of significant habitat areas for sports fish and game birds. The lease borders Lake Taylor, a regionally significant brown trout fishery. Within the lease itself lies Lake Sheppard, another regionally significant brown trout fishery. The eastern boundary of the lease abuts the Hurunui River, a nationally significant brown trout and chinook salmon fishery.

The northern boundary of the lease includes approximately 1½ kilometres of the foreshore of Lake Sumner and a large portion of the Loch Katrine lake shore is also within the lease. Lake Sumner is a regionally significant lake fishery, while Loch Katrine is of local importance. Finally, a portion of leased run-hold land abuts the northern portion of Lake Mason. This lake is a regionally significant brown trout fishery.

The numerous lakes, ponds and wetlands on the lease harbour a number of game bird species. Those of note on the lease include Canada geese, paradise shelduck, and mallard and grey ducks. Black swan numbers are growing on the lease with birds trading between Lake Sheppard and Lake Taylor. Populations of pukekos exist along the wetland margins of Lake Mary and the Sisters Stream.

Lake Sumner

Located in the upper Hurunui catchment, the lake is drained by the north branch of the Hurunui River. The lake itself is surrounded by a combination of the Lakes Station pastoral lease and Department of Conservation land (mainly as part of the Lake Sumner State Forest Park). The lake is approximately 1389 hectares in size, with a depth of around 134 metres. From a geological perspective the lake was formed by glacial processes which excavated the basin in which the lake now lies. Moraine deposits have contributed to the height of the lake.

Several streams flow into the lake, apart from the Hurunui River itself (northern end). These include Three Mile, Marion, Evangeline, and the outlet from Loch Katrine, plus a

number of creeks draining the surrounding hills of the Brothers (1265m) in the south, Mt Longfellow (1898m) and Mt Edison (1805m) to the east, Mt Emerson (1836m) and Niggerhead (1391) to the north, and Macs Knob (1428m) in the west. Surrounding vegetation varies from the montaine beech forest of the State Forest Park, to modified matagouri tussock lands and exotic grasses along the farmed portion of the lake margins and associated terrace lands. The water quality of the lake is considered oligotrophic, although silt inputs from the northern inlet of the land do cause its discoloration.

Significant Inherent Values Requiring Recognition in the Crown's Proposal

- * Access to the lake shore and along its margins.
- * Protection of lake water quality from impacts of land intensification

Loch Katrine

The loch (actually a small lake) is situated about 1 kilometre to the south of Lake Sumner, alongside the Lake Sumner vehicle access road. The Loch's outlet stream runs three quarters of a kilometre northwards before it enters the western arm of Lake Sumner. Loch Katrine sits in a narrow steep sided glacially-formed valley with hills to east (The Brothers range) and west (Woodshed Ridge) of it; these are interspersed with native bush (montaine beech forest), matagouri tussock lands and semi-extensive exotic pasture land, to the north and south.

The popularity of the area for anglers is reflected in the presence of 52 semi-permanent huts/caravans at the southern end of the Loch. This 'informal' settlement is a popular destination for a number of anglers and boat owners, who have developed the huts as holiday retreats. These huts, however have an uncertain future, as all structures (other than approved by the Department of Conservation) are required to be removed by the end of 2002. The Lake Station lease abuts the Loch to the east, north and north-west.

The Loch is 80 hectares in area (1.8 x 0.5 km) and about 28 metres deep. Several unnamed streams flow into it from surrounding hills and valley flats, while the outlet stream is of sufficient size to enable angling and the navigation of power boats through to Lake Sumner. The outlet stream is also used by salmonids for fish passage. The water quality of the Loch is described as oligotrophic.

Significant Inherent Values Requiring Recognition in the Crown's Proposal

- * Access to the loch's shore and along its margins.
- * Access to the outlet stream and along its margins.
- * Alignment of public road from the Loch Katrine Huts to Home Bay (Lake Sumner) with the formed road.
- * Protection of the outlet stream (exiting into Lake Sumner) from the impacts of livestock

Lake Mason

This lake is situated 3 km south east of Loch Katrine on the other side of the Woolshed Ridge. Lake Mason is in reality two lakes, Little Lake Mason and Big Lake Mason, with a land isthmus (formed by an old shingle slide) of 100 metres separating the two bodies of water. The two lakes are connected by a two metre wide shingle bottom stream. The

lakes were formed by enclosed moraine and contemporary out-wash deposits causing the damming of water in the Valley. An inlet stream flows from the north into Big Mason, while the Mason outlet stream has cut a course through thick matagouri vegetation to meet with the South branch of the Hurunui River. The lakes, like Loch Katrine, are situated in a narrow, steep-sided, glacially formed valley. The Mason lakes are confined on their east and west shores by steep valley sides within the Lake Sumner State Forest Park, rising to the Crawford Ridge (1800 metres) in the west and the Woolshed Ridge (1500 metres) in the east. To the north and south they open out onto undulating flat and hill lands.

The Big Lake Mason is 52 hectares in size (1.3 x 0.4 km), with a depth of 38 metres. Water quality of the lake is described as oligotrophic. Little Lake Mason is 20 hectares in area (0.7 x 0.3 km) and comparative shallow, at 2 metres depth. The water quality of this lake is described as oligo-mesotrophic. The Lakes Partnership currently lease a portion of land that extends around the upper half of Big Lake Mason (Run 142A).

Significant Inherent Values Requiring Recognition in the Crown's Proposal

- * Alignment of public road access from Home Bay (Lake Sumner) with the formed track leading to Big Lake Mason.
- * Marginal strips for access around Big Lake Mason

Lakes Sheppard, Lake Taylor & Sisters Stream

These two lakes are grouped together because of their close proximity to each other, being 1 km apart and separated by Conical Hill (854 metres). Both are formed by enclosed glacial moraine and are roughly rectangular in shape. Each of the lakes has an outlet, which meet after a half a kilometre to form the Raupo Pond, which is a 2-3 hectare wetland that outflows into the Sisters Stream. The Sisters Stream subsequently flows about 8 km along the valley floor before it exits into the North branch of the Hurunui River, on the eastern side of the Little Sisters hill.

Lake Taylor is approximately 214 hectares in size (3 x 0.7 km) and 40 metres deep. Lake Sheppard is 115 hectares in size (2.8 x 0.4 kms) and 21 metres deep. Water quality for both lakes tends towards oligo-mesotrophic as a result of nutrient inputs from the surrounding developed farm land (cropping and green-feed) and the associated uses of applications of artificial fertiliser.

Significant Inherent Values Requiring Recognition in the Crown's Proposal

- * Access to Lake Sheppard from the pastoral lease boundary to the lake
- * Access around the margins of Lake Sheppard
- * Access to the margins of Lake Taylor that reside in the lease.
- * Protection of the Sisters Stream from the effects of cattle and deer (including impacts of sedimentation).

Lake Mary & Associated Wetlands

Lake Mary is a small (2 hectare approximately, 0.15 x 0.15 km) lake that is roughly round in character. It is situated 200 metres north of Lake Sheppard within a land depression on the southern slopes of the Brothers Range. The estimated depth of the lake

is only 1-2 metres (the lake has an outlet that drains into Lake Sheppard). The lake and wetlands are surrounded by improved pastoral lands that are subject to cultivation and the application of artificial fertilisers. There is no legal access to or around the lake or to its adjacent wetlands. The wetland that surrounds the lake is significant in terms of its overall size and by the fact that few such environments of its quality or size now exist in the Hurunui catchment.

No sports fish are thought to reside in the lake. However the lake and wetland margins are popular with a number of game bird species, including Canada geese, paradise shelduck, mallard and grey ducks. Occasionally numbers of such birds can reach very high concentrations, causing management concerns for the runholder as a result of predation on the lease's improved crop lands. Pukekos reside in the wetland margins surrounding Lake Mary.

Significant Inherent Values Requiring Recognition in the Crown's Proposal

- * Protection of the Lake Mary wetlands from further development and from inclusions by livestock.
- * Access to Lake Mary and the wetlands from the boundaries of the lease.
- * Access around the margins of Lake Mary and the wetlands.

Hurunui River

Approximately seven kilometres of the North branch of the Hurunui River abuts the east boundary of the Lakes Station pastoral lease. The river lies in a valley floor that reflects the impacts of glaciation during the Pleistocene era. Quaternary deposits have, over time, been eroded and deposited as glacial out-wash gravels, terrace deposits and river aggradation gravels. These have formed a veneer over the plains and in the river valleys. This portion of the river has some of the highest densities of large brown trout recorded in New Zealand, as indicated by Fish and Game drift diving surveys (see: appendix 1, figure 1).

The river population of salmonids are dominated by the brown trout species. These fish are avidly targeted over the periods of the season when the river is open. Much of this effort is thought to be focused above the Sisters Stream / Hurunui confluence, the significance of the area being reflected by its popularity with fishing guides.

Gamebird hunting occurs in the upper parts of the river, although the amount of hunting is considered low; with grey and mallard ducks, paradise shelduck and the Canada goose being targeted. Vegetation cover along the valley offer good sites for shooting. Black swan and shoveler duck also frequent the catchment intermittently. High numbers of Canada geese and paradise shelduck can cause problems for the local runholders and occasional control operations are undertaken to cull excess birds. However, it is desirable from a recreational perspective for these birds to be reduced in number by recreational harvest rather than by such control operations. Therefore, provisions provided through tenure review that enhance recreational access to such birds would be desirable and consistent with the recreational values of the lease. They would also provide means for controlling birds that have historically created problems for the runholder.

Draft Hurunui River Recreational Study 2000 - 2001

Compiled in the summer and autumn of 2000 - 2001 this study incorporated the survey and analysis of recreation use across the entire Hurunui catchment. Results from this study indicated that the Hurunui lakes and the portion of the Hurunui River in proximity to the lease were highly valued by users, with the respective water bodies being either of national or regional significance, depending on the activity undertaken and the location. (Greenaway, 2001).

For example, 21% of total visits to the catchment (n = 21,572) were to the Hurunui lakes¹, while 24% were to the section of the river between the Lake Sumner outlet and the Mandamus River confluence. For the Hurunui lakes, the report documented the scale of its significance for trout angling as national. The Lake Sumner outlet to Mandamus confluence stretch of the Hurunui River, meanwhile, was also ranked as nationally significant for trout angling.

These results point to the high degree of significance for the fishery values that arise on the water bodies within and abutting the lease. The period of the survey did not cover the game bird hunting season. However, it is anticipated by the Council that the recreational significance for this activity would probably be local to regional.

Part II

Recommendations

Hurunui River

- (a) Legal walking access from the Lake Sumner Road to the Lake Sumner outlet should be provided in two places. The first is from the Lake Sumner Road, across the Sisters bridge and across the Department of Conservation swing bridge. The second route would take walkers and mountain bikers along the formed track that currently runs off the Lake Sumner Road between the Big Sisters and the Little Sisters. From here access should continue along tracks to the Lake Sumner outlet.

The legal right for Fish and Game motor vehicles (4 WD and motorbike) should also be provided from this access point, where this work is a legitimate part of fish and game management (prior notification of runholder should be a requirement).

Rationale for Recommendation

These legal access routes would provide access to an area of North Canterbury that is highly valued for both its scenic character and its brown trout headwater fishery (see comments from the draft recreational study). Legal access would also provide links to the marginal strips recommended in b. (below) and to the camping sites recommended in c. .

¹ A portion of these visits would have been to parts of Lake Mason and Sumner that are outside of the lease.

Legal vehicle access for Fish and Game staff is recommended so that staff can undertake their management and law enforcement roles. The upper area of the river, for example, is regularly drift dived to estimate fish densities in the river.

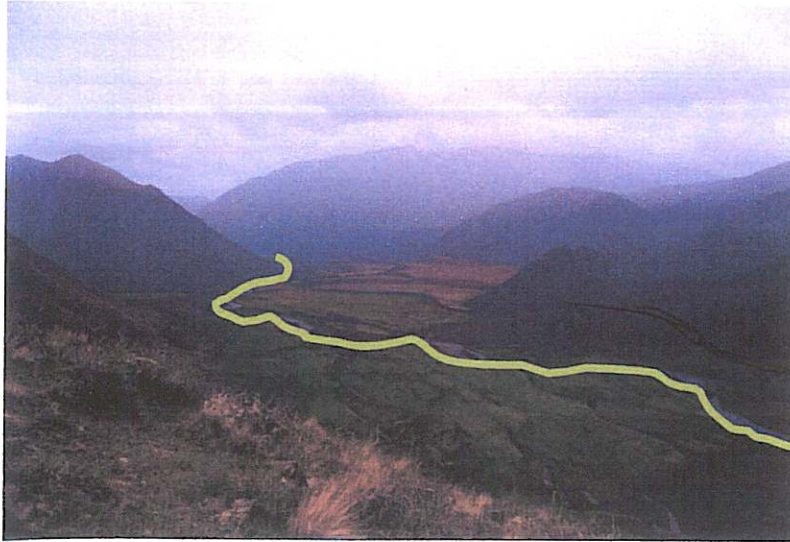



Figure 1.
Hurunui River

Legal public access is requested to and along this water body.

 Marginal strip.

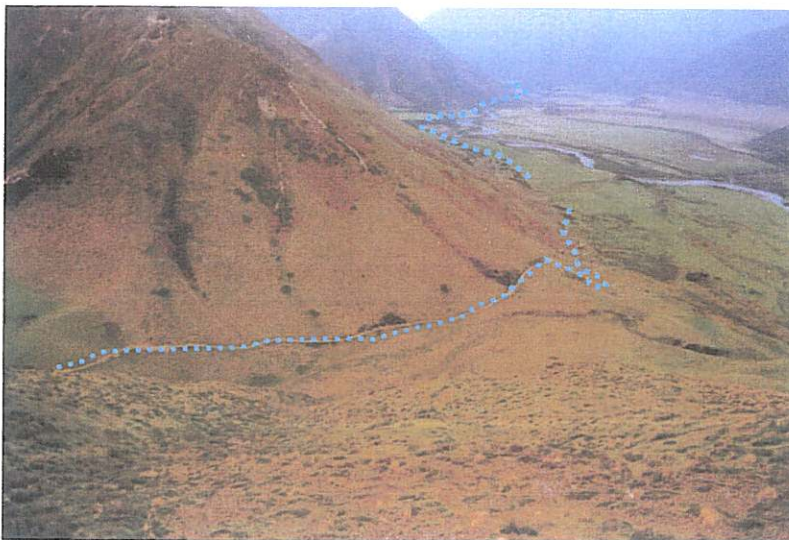


Figure 2.
Access to the Upper Hurunui Valley

Access via the formed track between the Little & Big Sisters is recommended (mountain bike and walking for the public, vehicle for designated Fish & Game personnel).

This access should continue along the track that leads to the Lake Sumner outlet of the Hurunui River.

(b) Marginal strips² should be set aside on any portions of the lease that abut the Hurunui River. These strips should provide for angler access to the bed of the river.

Rationale for Recommendation

The upper Hurunui is a popular fishing area that sustains high usage by anglers, many of whom are drawn by the area's wilderness qualities and the knowledge of the presence of large brown trout in this portion of the river.

(c) Two sites should be set aside on the lease for camping adjacent to the Hurunui River. These are designated on map one as (a) and (b). The sites should be approximately 60 m square in size and be designated for public use. Legal access should be provided from these camping areas to the Hurunui River and to legal walking routes that provide access from the proposed legal routes into the valley (see recommendation a.).

Rationale for Recommendation

Figures from the 2000 - 2001 recreational study identified that angling was of regional to national significance in the Upper Hurunui River catchment. However, the limited number of public sites and access to the lease restricts this activity, especially in the area around the Lake Sumner outlet, where some camping does presently occur at the discretion of the lease holder.

Given that, Fish and Game has recommended walking and biking access for the area (see recommendation a.) and the distances these entail, provisions for camping would seem an appropriate way to ameliorate the issue of time and safety that this recommendation creates.

Lake Sumner

(a) Marginal strips should be set aside on the portions of the lease abutting Lake Sumner. This includes Home and Shoal Bays.

Rationale for Recommendation

Lake Sumner has significant inherent values for recreational users, especially anglers. Public access along the lake would ensure continued access to the area by these users.

(b) The legal road from Lake Taylor to Home Bay (Lake Sumner) should be aligned with the formed road that presently connects the two locations

Rationale for Recommendation

² Fish and Game requests that all marginal strips have a mobile designation, so that the strips will move with changes in the configuration of the river channels.

At present a formed road connects Lake Taylor to Loch Katrine and on to Lake Sumner. The importance of this route is demonstrated by the contribution of money by a number of stakeholder groups (including the Fish and Game Council) to finance the creation of this road. Beyond Loch Katrine, the roading issue is more contentious. However, in both circumstances, to avoid future conflict over public and private rights of way an alignment of the two roads (public and private) is recommended.

Loch Katrine

(a) Marginal strips should be set aside along the portions of the Lakes Station lease abutting the Loch

Rationale for Recommendation

Loch Katrine is a popular access and exit point for boat travel to Lake Sumner, offering a secure harbour for those wishing to boat on the lake. Angling for sports fish also occurs around the edges of the Loch in the summer season (mainly).

Lake Mason

(a) It is recommended that the legal road that travels through the lease from Home Bay to Lake Mason be aligned with the current walking track. This track should be poled.



Figure 3.
Walking & Mountain Biking Route to Lake Mason from Lake Sumner
The aligning of walking route with the unformed legal road that runs between the two lakes is recommended. This route provides ready access into the heart of the North Canterbury sub-alpine wilderness. It is recommended that the route be poled.

Rationale for Recommendation

Lake Mason has significant inherent values as a wilderness lake fishery. Its proximity to the Hurunui Mainland Island, meanwhile, means that there is higher than usual numbers of native birds (eg. parakeets) for such areas. This adds to the quality of the fishing experience in the area.

(b) Marginal strips should be set aside around the portions of Lake Mason that are incorporated in the lease.

Rationale for Recommendation

See above (a)

(c) In the circumstances where cattle are run by the leaseholder, none of these animals should be permitted access to the shoreline of Little Lake Mason or the land area that separates the two Mason lakes.

Rationale for Recommendation

The survey of the shores of Little Lake Mason by Fish and Game staff in 2000 (see Lake Taylor Tenure Review Resource Report, Fish and Game) identified damage by cattle to the margins of this lake as a significant problem, with sediment having effects that are detrimental to the overall well-being of the lake's aquatic system.

Lake Mary

(a) Legal public access to Lake Mary should be provided along the route marked d. and f. on recommendation map 1.

(b) Protection of Lake Mary and its wetland system from the incursion of agriculture and stock (especially cattle).



Figure 4.
Route d. to Lake Mary
Legal public access for walkers and mountain bikers is recommended for the formed track, and vehicle access for Fish and Game designated vehicles.

Rationale for Recommendation

Lake Mary and its associated wetlands are one of the largest remaining undeveloped wetlands in the Hurunui Valley. Access to them for use by hunters (with guns and dogs) would provide for the recreational use of the game bird populations that inhabit this ecosystem.

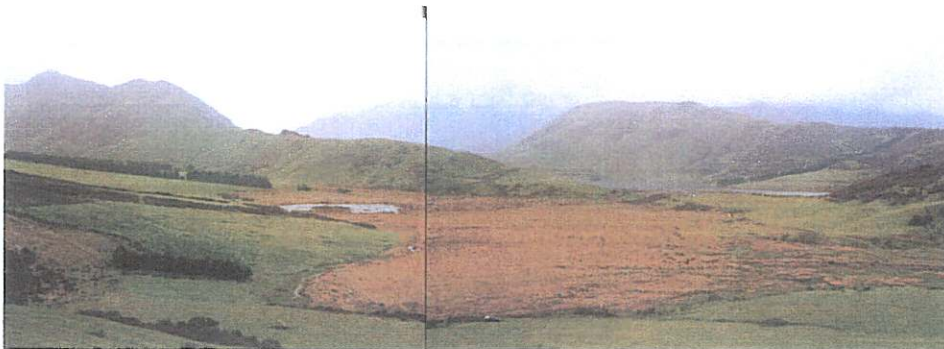


Figure 5.
Lake Mary and Wetland
The largest remaining wetland in the upper Hurunui Valley. Requires provision for public access and protection from agricultural activities.

Unless excluded from the area, stock (especially cattle and deer) have the capacity to cause significant damage to the margins of the Lake Mary wetland.

Lake Sheppard

(a) Legal public access should be provided to Lake Sheppard from two points. The first is via a route that travels from the shore line of Lake Taylor (and its recommended marginal strip) over the rise and across to the Lake Sheppard marginal strip (see recommendation b.)

The second route is via the track from the Lake Sumner Road to the edge of the Lake Sheppard marginal strip (f. on recommendation map 1.).

(b) A marginal strip be set around the shores of Lake Sheppard (20 m width) to provide access for fish and game recreationalists.



Figure 6.
Access to lake Sheppard (a)
The first recommended public access route to Lake Sheppard is suggested to be from the shoreline of Lake Taylor (pictured) over the rise and to Lake Sheppard

Rationale for Recommendation

Lake Sheppard is a highly regarded brown trout fishery. It's 'fly-only' status makes it attractive to those who enjoy this aspect of the sport. Assurance of public access to the lake was a point iterated by several of the attendees at the public meeting that was organised by the Council to illicit information of the resources of the lease. The Canterbury Angler Club regularly organise club-day events at this lake.

Lake Taylor.

(a) The portions of the Lake Station lease that abut Lake Taylor should have a marginal strip (20m) set aside for public access.


(b) Cattle and deer should be excluded from the marginal strip described in a.


Lease boundary (approximately)



Figure 7.

Lake Taylor

A marginal strip (marked ) should be set aside on the lake shore that abuts the entire lease.

Cattle and deer should be excluded from the shoreline (marked ) , whether they are Lake Taylor or Lakes Station animals.