

MANAGEMENT PLAN

Log Tie Up Teakerne Arm

File No. 2411926

Her Majesty the Queen in Right of British Columbia (the "Province") and the Gowlland Towing Ltd (the "Licensee") hereby agree that this document is the Management Plan for File No 2411926 and that this document supersedes any earlier Management Plans.

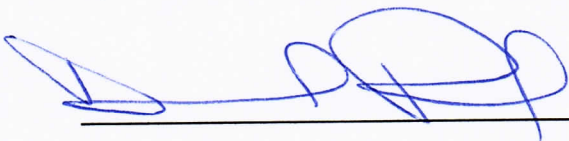
The signature of the Province's authorized representative is solely for the purpose of acknowledging the Province's acceptance of this document as the Management Plan for the purposes of the tenure document and does not represent a certification by the Province or its signatory of any factual content or acceptance of professional responsibility by the Province's signatory for any advice or analysis contained in this document.

ACCEPTED BY:

Ministry of Forests, Lands and Natural
Resource Operations

Date

SIGNED on behalf of Gowlland Towing Ltd.
By a duly authorized signatory



June 12/17.

Date

**MANAGEMENT PLAN - LOG HANDLING LICENCE APPLICATION
GOWLLAND TOWING
TEAKERNE ARM WEST REDONDA ISLAND**

Foreword: This management plan is subject to refinement based on the outcome of agency and First Nations reviews.

Plan prepared by: John Peebles AACI P. App. (RPF Ret.) Agent for Gowlland Towing Ltd.

Purpose: Commercial – Log Handling Licence of Occupation

Site Plan: See sketch to follow

Legal: Unsurveyed Portion of District Lot 1203 Group 1
New Westminster District.

Location: Teakerne Arm, West Redonda Island.

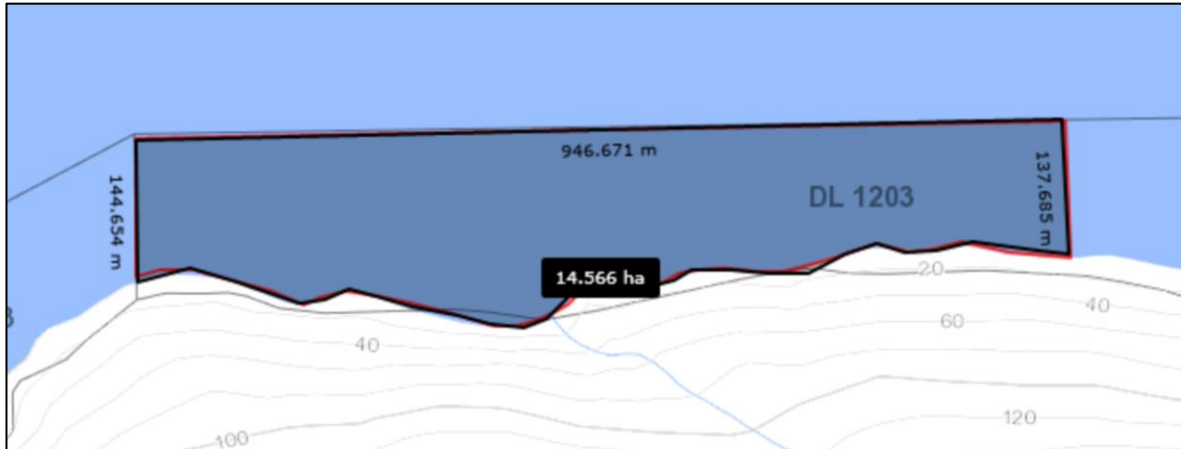
Purpose: A licence tenure is required for temporary log boom storage. DFO refers to this use as an *Intermediate Tie-Up*. Refer to the Operations discussion to follow.

Overview: Gowlland Towing tows logs from the Mid and Lower Coast to forest industry processing facilities on Southern Vancouver Island and the Lower Mainland. Typically, a tow will consist of a series of log rafts picked up at coastal logging camps and log dumps for transportation to processing facilities.

Safe, temporary log storage sites are required on the Mid to Lower coast for tows in transit during periods of poor weather.

Area Required:

Portion of District Lot 1203 GRP 1 NWD. Refer to maps uploaded with application. The application may be amended to identify a smaller area within the surveyed lot.



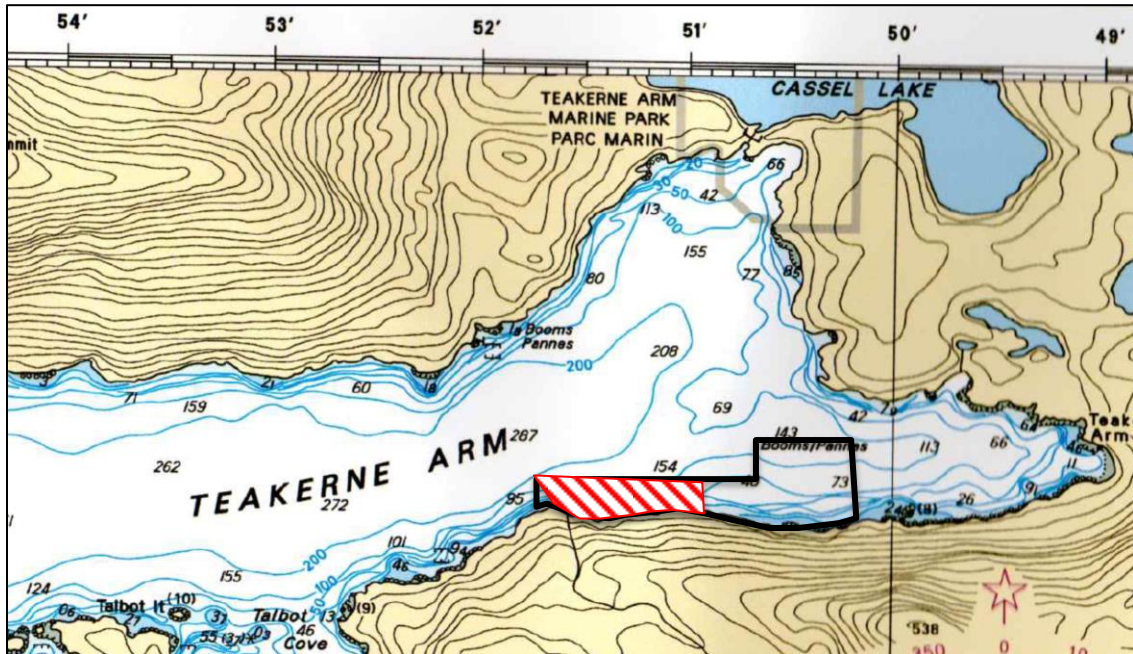
The area is described by metes and bounds as follows.

Commencing at the SW corner of DL 1203 NWD, Thence 167.6 m (550 ft.) North to the NW corner of DL 1203, Thence 946.7 m East (3,106 ft.), Thence 137.7 m (542 ft.) South to the High Water Mark (HWM) of Teakerne Arm, Thence Westerly along the HWM to the point of commencement.

Size: 14.56 ha (35.99 acres) according to LTSA Cadastre Online

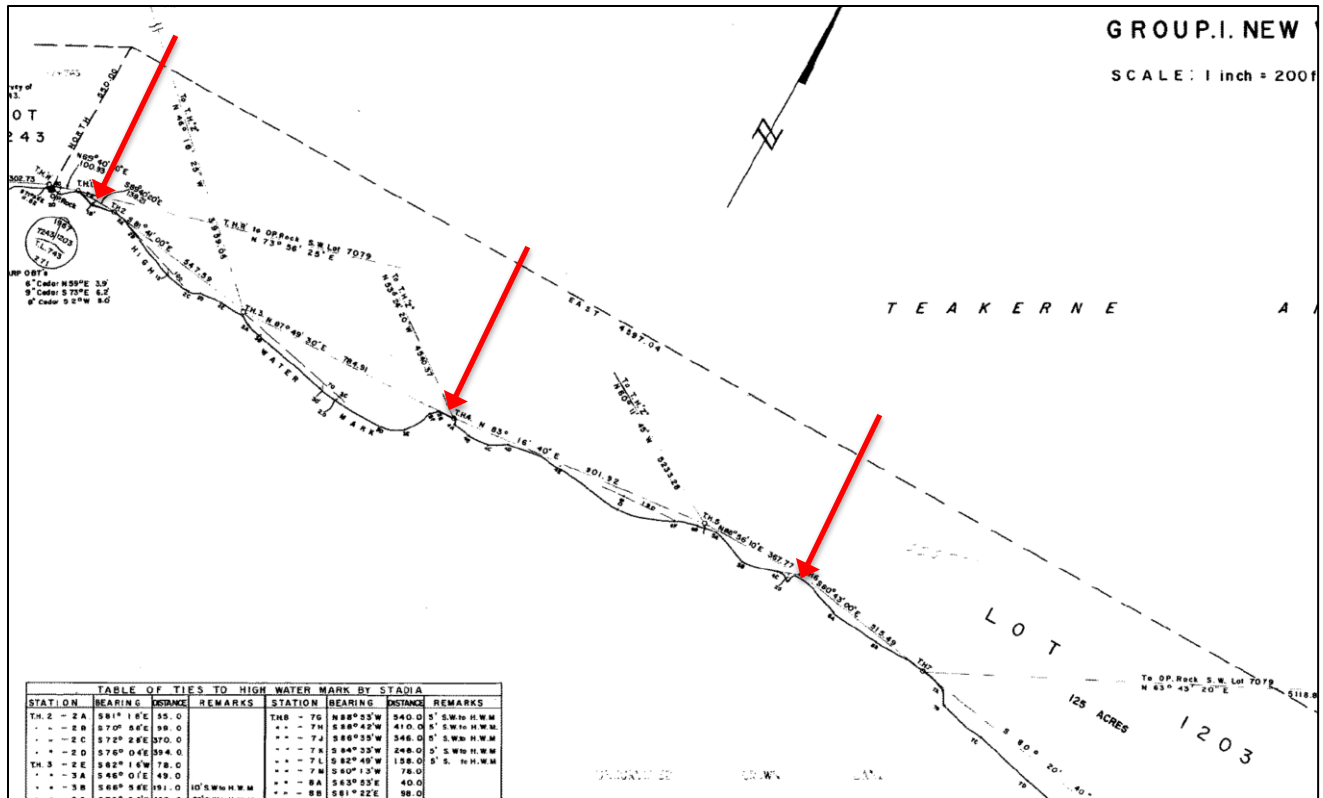
EXCERPT FROM MARINE CHART 3538 DESOLATION SOUND

Application area shown in red hatching.



Operations: Log rafts will be moored within the licence area by tying up with boom chains to existing shore ring-bolts installed by the prior lessee Catalyst Paper. No other improvements are planned.

The location of existing side-ties (shore ring bolts) is shown on map to follow – solid red arrows



There will be no piling or anchoring buoys placed within the licence area. No log sorting or booming will occur on the licence area.

The typical duration of storage on site for log rafts in transit to processing facilities is expected to be \pm 48 hrs. to 71 hrs.

Best Practices:

Gowlland will follow the best practices set out in the April 2003 Guidebook: *Environmentally Sustainable Log Handling Facilities in B.C. (Guidebook)*, authored by the Dept. of Fisheries and Oceans.

On page 24 of this best practices document refers to intermediate or temporary use sites, as follows.

These sites are used for only a short period, so individual booms are not expected to generate much wood waste; however, substantial amounts of bark may accumulate over time (decades in some cases).

Specific best practices for log storage adopted in site selection and management are as follows.

Site Selection:

According to Chart No. 3538 the licence application area, DL 1203, ranges in average depth from 9.4 m to 40 m. – an ideal depth for log storage.

There are no eelgrass or inter-tidal area impacts anticipated.

The application area is 276 m east of an unnamed creek flowing into Teakerne Arm. A minor unnamed creek drains into Teakerne Arm about mid-way along the south boundary of the application area.

The application area does not conflict with known spawning or rearing habitat.

The proposed lot storage area in Teakerne Arm is consistent with the *Marginal Go* habitat rating criteria on page 6 of the Guidebook, as follows.

- low productive fish habitat
- absence of suitable spawning habitat
- steep and deep rock faces and cliffs adjoining the submerged lands
- the area has already been disturbed by industrial activity (former log storage lease)
- the log storage area does not conflict with marine protected areas, national or provincial parks, critical or sensitive ecosystems, seabird congregating areas, marine mammal haul-outs or known wildlife migration paths.

Operations:

A best practice is to raft and store logs in waters at least 12 m deep (Chart Datum). In this application the mean depth at low tide varies from 9 to 40 m.

- The focus of the log storage will be periodic use during periods of poor weather (e.g., winter-spring months) as a safe location for tows in transit between the Mid and Lower Coast. The proponents forecast an average of 2 “tie-ups” per month for 40 hrs. to 72 hrs. at one time. It is likely that no use will occur for periods up to 3 to 4 months during better summer-early fall weather.

No log dumping or log sorting will occur. No barge storage is planned.

Log booms will not rest on the sea floor of the application area at low tide.

The log storage area is located in a protected bay within Teakerne Arm and minimal impacts are expected from currents, tides and wind exposure.

The log storage area will be safely navigable for towboats with log rafts at all tides. This location will provide good tidal flushing and exchange by prevailing currents.

Debris Management

Levels of bark and wood waste accumulation are expected to be minimal since logs will not be handled at the storage site and will be stored for short periods of time. A detailed *Debris Management Plan* is not deemed necessary.

Deadheads within the application area are not foreseen given the ocean depth. Deadheads or floating debris that are observed will be secured and collected to avoid navigation hazards.

Log booms and log bundle wires will be inspected prior to towing to secure wires are secured tightly around logs to prevent escape and breakage. Repairs will be completed if necessary.

The duration of log storage at one time will be minimal – meaning log are moved out of assembly and storage areas at the earliest possible time to minimize retention of logs in the water.

Operating Season:

The licence is required for year round operations.

As noted earlier, this is site for transitory storage of log rafts during towing operations. The average duration of stay of a raft at the licence area will be about 2 to 3 days.

No fabrication, repairs, or other work will be completed within the licence area.

Riparian Owners:

The Crown Provincial is the upland owner. The location of the licence area will not likely affect the riparian rights of any upland tenure holders that lease Crown land.

Pattern of Use:

Teakerne Arm has a long legacy of marine and forest industrial activity.

Surveyed log storage water lots are located to east and west.

Teakerne Provincial Park is located about 2 km north of the application area. No conflicts with recreational boat navigation or recreational boat anchorages are anticipated.

Access: No direct access other than marine.

Natural Values:

A self-assessment has been completed under DFO's *Projects Near Water Policy* to determine whether a DFO Review is required. This project falls into the category of Harbours and Marine Commercial Activities – Mooring. As noted earlier, no log sorting or dumping will occur, only moorage.

We conclude that a DFO review is **not required**. Measures, set out in this plan, are intended to minimize and avoid potential impacts to fish habitat.

The application area overlaps with a DFO Rockfish Conservation Area – refer to Marine Chart to follow.



EXTRACT OF CHART NO 3538 ROCKFISH CONSERVATION AREA NO. 15.

Inshore Rockfish are susceptible to over-fishing. Fisheries and Oceans Canada (DFO) has implemented policies to protect inshore rockfish from all mortality associated with recreational and commercial fisheries. The proposal log storage use will be periodic and involve short durations. The impacts on Rockfish resources are likely to be minimal.

Coastal Resource Inventory Mapping System (CRIMS) mapping indicates no significant marine or fisheries resources are located within the application area.

Management Plan prepared by

A handwritten signature in black ink, reading "John Peebles". The signature is fluid and cursive, with a long horizontal stroke extending from the end of the name.

John Peebles AACI P.App. (RPF Ret.)
Agent for Gowlland Towing Ltd.