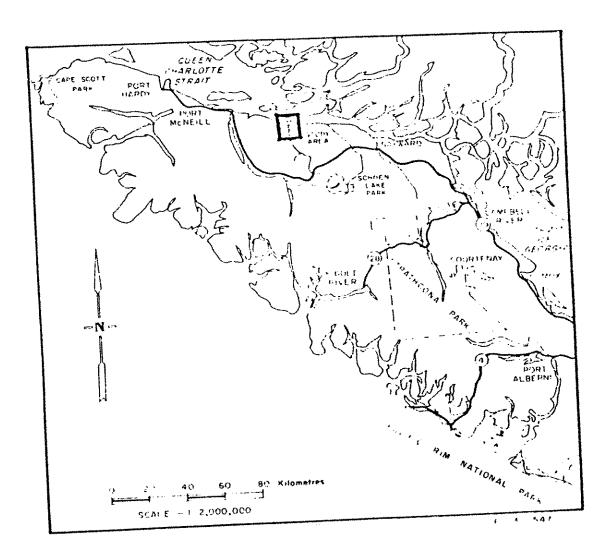


ROBSON BIGHT SUMMARY REPORT



October 1981

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PURPOSE

It has been well established that the uniqueness and sensitivity of the killer whales of the Robson Bight area necessitate special conservation measures. The objective of this report is to identify and to explain the implications of the feasible land allocation options available to the Ministry of Lands, Parks and Housing regarding protection of this significant whale habitat area. Any action(s) recommended or instituted by this Ministry must be based upon the concept of "the best interests of the whales", a principle deriving from earlier 1981 actions by the Province in this matter.

In this respect, this report examines five options: *

- 1) an ecological reserve, combined with forest management.
- 2A a combination provincial park and ecological reserve.
- 2B) a second combination of park and ecological reserve.
- 3) a major provincial park only.
- 4) further study

BACKGROUND

1. Chronology of Events

. 1979-1980:

Conservation of important killer whale habitat at Robson Bight was advocated by public groups.

. Dec. 9, 1980:

the Honourable Stephen Rogers, Minister of Environment, announced the appointment of a special study team to report on a potential conflict involving killer whale habitat in Robson Bight and proposed log handling at the mouth of the Tsikika.

. Jan. 20, 1981:

the Sierra Club of Western Canada proposed that both a park and an ecological reserve be created.

. Jan. 26, 1981:

the Honourable James Chabot, Minister of Lands, Parks and Housing, placed an interim reserve over the area to facilitate current studies of the area.

\$

62/B/3

^{*} It should be noted that, given the federal jurisdictions over navigation and fisheries (including whales), other conservation measures may be available under federal legislation, such as the National Parks Act.

. March, 1981:

in response to the public proposal for a provincial park, the Parks and Outdoor Recreation Division undertook an examination of the feasibility of a provincial park in the Lower Tsitika-Robson Bight area.

. June, 1981:

Ministry of Environments' "Robson Bight Study Team" completed its report.

. June, 1981:

Parks' study completed (internal document).

. June 29, 1981:

the Honourable Stephen Rogers announced that Robson Bight would not be used for log handling and that the Honourable James Chabot will proceed to establish an ecological reserve or a park over the area.

. July 29, 1981:

the Executive Committee of the Ministry of Lands, Parks and Housing requested that the Parks and Outdoor Recreation Division, Ecological Reserves Unit, and the Lands and Housing Regional Operations Division jointly study the issue, prepare recommendations and report to the Ministry Executive on October 2/81.

2. Available Background Documents:

- a) Ecological Reserve Proposal #III, updated 1981.
- b) <u>Tsitika Watershed Integrated Resource Plan</u> Vol. I and II. Tsitika Planning Committee, 1978.
- c) <u>Killer Whales and Coastal Log Management: An Overview of Future Uses of Robson Bight, British Columbia</u>. Robson Bight Study Team. Ministry of Environment, Province of B.C., 1981.
- d) "Tsitika Provincial Park (and) Robson Bight Ecological Reserve No. III". The Sierra Club of Western Canada. 1981.
- e) "Robson Bight-Tsitika River Park Feasibility Study". Parks and Outdoor Recreation Division. Ministry of Lands, Parks and Housing, Province of B.C. 1981.

SUMMARY OF KEY FACTORS

- 1. Robson Bight and vicinity is the most significant core habitat area for killer whales on British Columbia's coast; it is the world's most significant known core habitat area for killer whales.
- 2. Robson Bight and vicinity affords the world's best opportunity to enjoy and study the behaviour of killer whales in a natural, largely undisturbed environment.
- 3. The phenomenon of the whales at Robson Bight using beaches and near-shore rocks for rubbing is rare.
- 4. Little is known of the behaviour and life cycle of killer whales.
- 5. International scientific attention is focussed upon the killer whales of Robson Bight and the Province of British Columbia's attempt to reach an acceptable approach to conservation of the habitat.
- 6. There appears to be overwhelming public support for the protection of Robson Bight area and the killer whales.
- 7. The report of the Robson Bight Study Team, coordinated by the Ministry of Environment, concludes that:
 - "Creation of an Ecological Reserve over the killer whale core area would generally benefit killer whales. However, there may be more appropriate legislation than the Ecological Reserves Act for establishing and managing a reserve in this area. It is likely that any form of reserve will attract people and will compound the problem of protecting the whales. A comprehensive management program, backed by combined legislative powers which can control visitor activities on and under the water, as well as on the adjacent uplands, is required."
- 8. The Honourable Stephen Rogers, Minister of Environment, announced on June 29, 1981 that the provincial government would be taking measures to ensure that the whales' habitat is adequately protected. It was also publicly announced that the Ministry of Lands, Parks and Housing would now develop a permanent reserve for the area.

- 9. There will be no log handling in Robson Bight, but other important issues are unresolved:
 - a) How much upland should be included in a permanent park or ecological reserve?
 - b) How should this upland be obtained, given that it involves timber committed to a forest plan?
 - c) To what extent will upstream logging operations cause stream siltation, and to what extent would such siltation impair the whale habitat in Robson Bight?
 - d) Should the public wishing to observe killer whales be encouraged, discouraged, tolerated, or carefully managed at Robson Bight?
 - What intensities and forms of public visitation would have the least impact on the whales?
 - e) What management policies and actions would be best for the area?
- 10. Estimated visitation; summer 1981: 1700 person-days ± 20% (including individuals, tour groups, and commercial film crews)
- 11. Observed incidents; summer 1981:
 - a) float plane landed directly above a pod of whales.
 - b) pleasure boats raced up as close as possible to the whales.
 - c) divers, inexperienced with whales, attempted to get close.
 - d) during July over 100 whales were present in Robson Bight.
 - e) commercial filmmakers operated without guidelines or rules of conduct.
 - f) pods were continually followed by impatient boaters trying to get close for photos; thus denying the whales the rest they needed.
 - g) complaints of whale harassment: 29 complaints about boat traffic.
 - 20 complaints about air traffic.

12. Publicity:

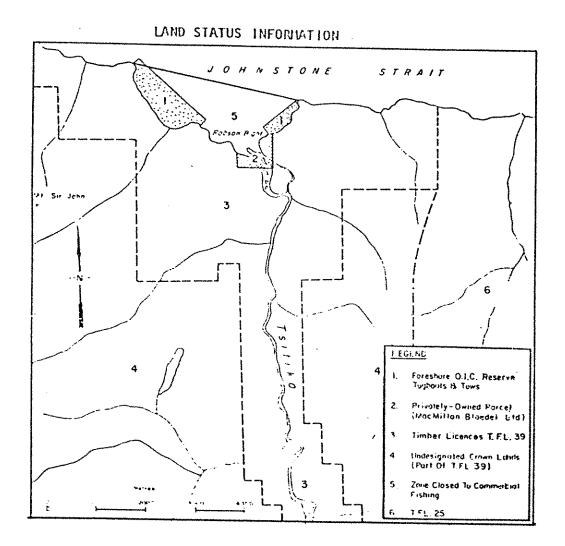
- a) various newspaper stories
- b) CBC's "Fifth Estate"
- c) National Geographic Magazine
- d) ABC's "American Sportsman"

LAND STATUS, ENCUMBRANCES AND JURISDICTIONS Upland:

- TFL 39 Schedule "A" lands, including Lot 223 and Timber Licences T0061, T0066, and T0074 all held by MacMillan Bloedel Ltd.
- . TFL 39 Schedule "B" lands; Crown-owned land with timber committed to a forest plan.
- TFL 25 Schedule "B" lands; Crown-owned land with timber committed to a forest plan.
- Various small sites at nearby points along Johnstone Strait; all Crown-owned.
- . No mineral claims or other encumbrances.

Foreshore/Marine:

- . Strip of land between high and low tides is Crown-provincial land.
- There are two foreshore area within Robson Bight that are reserved under the Land Act (1968) for the use of towboats and their tows during stress of weather or adverse tides. No conflict with whale habitat conservation.
- Marine substrate: Crown-provincial territory; pending an appeal to the Supreme Court of Canada.
- Water column: same as "substrate".
- Water surface: Crown-provincial territory, but the mandate to regulate navigation lies with the federal government.
- Fish, sea mammals, and other sea life: <u>Federal Fisheries Act</u> (includes protection of killer whales).
- . Marine plants: both the provincial and federal governments claim jurisdiction.



OPTIONS

The Ministry of Lands, Parks and Housing has been directed publicly to establish either a park or an ecological reserve over the Robson Bight area. The direction given by the Ministry of Environment and E.L.U.C. emphasizes the uniqueness of the whale habitat at Robson Bight and the need for a form of designation that will protect the whales and provide a high level of management capability.

It has been observed that, outside of the limits of this Ministry and the Provincial Government, there may be potential options other than a provincial park or an ecological reserve. It is not within the terms of reference of this study team to search for such options; this study team has been instructed to examine the options available to the Ministry of Lands, Parks and Housing.

Therefore, the first four of the following options (1, 2A, 2B and 3) relate to establishing an ecological reserve and/or a provincial park. The fifth option available is that this Ministry recommend to the E.L.U.T.C. that an inter-agency/inter-government study team be organized with broad terms of reference.

OPTION 1 : ECOLOGICAL RESERVE AND FOREST MANAGEMENT

<u>Foreshore:</u> 864 ha

Description:

An ecological reserve would be established over Robson Bight, the Tsitika estuary, and near-shore portions of the upland, both inside and east of the Bight. The remainder of the area would continue to be managed as part of T.F.L. 39. The upland boundaries of this reserve would be wider than those of the interim reserve, taking full account of the topography as recommended in the Ministry of Environment's report.

Objectives:

- 1. To adequately protect the killer whales and their core habitat, primarily for scientific use.
- 2. To protect estuary eco-systems at the mouth of the Tsitika River (original Tsitika Plan objective).

Management Implications:

- . Management capability under the Ecological Reserves Act is presently very limited.
- . Unpaid, volunteer, ecological reserve "wardens" cannot be expected to perform the required enforcement functions.
- Under forest management, there would eventually be an industrial road to within very close proximity to tide water. This would make the Bight accessible to large numbers of people, but, as an ecological reserve, there could be no significant management of visitors without the special provision of seasonal staff.
- . The whales, the fish and the regulation of boat traffic would remain within federal jurisdiction and management. A management agreement with Fisheries and Oceans Canada regarding fishing, boating, and whale protection would be very helpful.

Financial Implications:

- . This would be a "least cost" option for the Ministry of Lands, Parks and Housing, and for the government as a whole.
- . For adequate protection, funds for two seasonal staff (ahout \$20,000) would be required (annually), in addition to the present Ecological Reserves budget.
- . All land of this ecological reserve proposal lies within Schedule "A" of TFL 39 and therefore compensation for timber and land (Lot 223) will be necessary.

Government Implications:

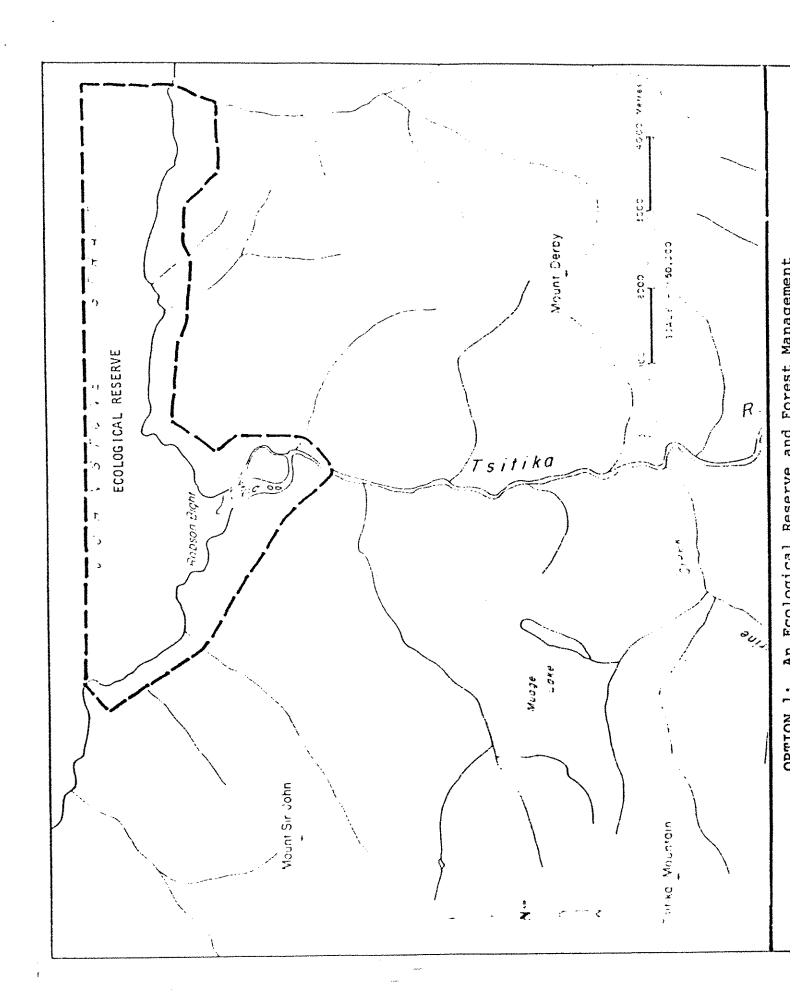
- . Minor impact to Tsitika Watershed Integrated Resource Plan.
- . Federal Fisheries will continue to have jurisdiction over the whales.

Public Implications:

- Ministry and Provincial Government may be perceived as simply taking a "least cost" option rather than a "best choice" in the case of a rare resource.
- Management problems (ie: visitors) could not adequately be dealt with unless seasonal staff were hired.
- . The area will be intended for scientific benefit rather than public use.

Whale Implications:

- . Least publicity of whales.
- Least management, unless additional staff are supplied to the Ecological Reserve Unit.



OPTION 2A: PARK AND ECOLOGICAL RESERVE

Total Area: Park: 3684 ha (upland); 471 ha (foreshore)

E.R.: 160 ha (upland); 442 ha (foreshore) Total:3844 ha (upland); 913 ha (foreshore)

Description:

An ecological reserve would be established over the eastern side of the Bight, the Tsitika estuary, and a near-shore strip of upland eastward from the Tsitika River. Adjacent to the ecological reserve, a park would be established occupying all remaining upland upstream to approximately Catherine Creek, as well as several small coastal sites along Johnstone Strait in the vicinity of Robson Bight.

Objectives:

- 1. To protect for scientific purposes the most significant whale rubbing beaches within an ecological reserve.
- 2. To protect a large upland tract from industrial development for considerations of (a) the aesthetics associated with a natural feature of world significance and
 - (b) reducing the accessibility of the shoreline via future forest roads.
- 3. To manage public visitation, research and commercial tour operators under the authority of the <u>Park Act</u> and through an agreement between the Parks and Outdoor Recreation Division and the Ecological Reserves Unit.
- 4. To provide public recreation sites at strategic, nearby sites along Johnstone Strait where camping and whale watching may occur without disturbance to the whales.
- 5. To protect the Tsitika River estuary within an ecological reserve for scientific purposes.

Management Implications:

- The whales, the fish and the regulation of boat traffic would remain within federal jurisdiction and management. A management agreement with Fisheries and Oceans Canada regarding fishing, boating and whale protection would be very helpful.
- . A management agreement would be necessary between Parks and Ecological Reserves.

Financial Implications:

- Compensation will be required for the timber and lands (Lot 223) Schedule "A" of TFL 39.
- Schedule "B" lands of TFL 39 and TFL 25 may have to be compensated for depending on the degree the annual allowable cut will be affected by this withdrawal.
- . Options 2A, 2B and 3 have the same implications for the Tree Farm Licences.
- Park management would required \$60,000 in annual operating costs and \$100,000 in development funds (basic management and visitor facilities).

Government Implications:

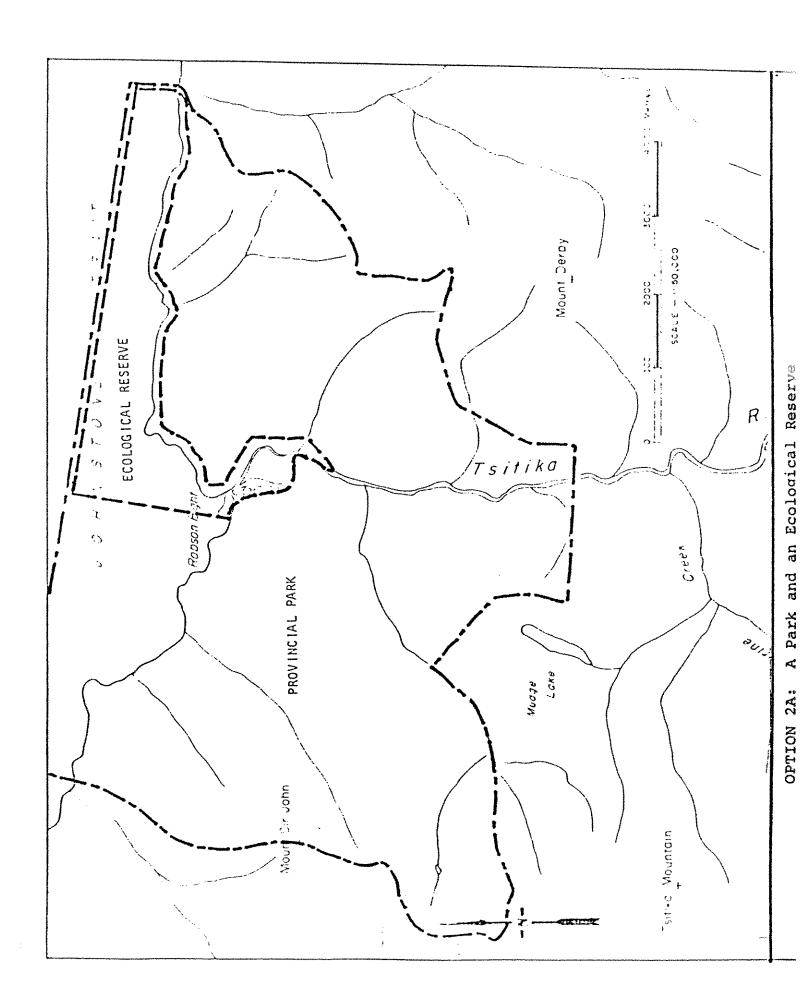
- . Major withdrawal from the Tsitika Watershed Integrated Resource Plan.
- · Federal Fisheries would continue to have jurisdiction over the whales.
- A management agreement between Parks and federal agencies would be sought regarding the enforcement of regulations in the vicinity of Robson Bight.
- . A management agreement between Ecological Reserves and Parks would be advisable.

Public Implications:

Those concerned for the killer whales will be satisfied by these designations, but management will be essential.

Whale Implications:

- Potentially wide publicity.
- . Potentially effective management.



OPTION 2B: PARK AND ECOLOGICAL RESERVE*

Total Area: Park: 3706 ha (upland); 913 ha (foreshore)

E.R.: 138 ha (upland); 0 ha (foreshore)

Total: 3844 ha (upland); 913 ha (foreshore)

Description:

A park would be established over most of Robson Bight and most upland as far upstream as approximately Catherine Creek, but a small ecological reserve would be established over the islands of the estuary and some surrounding upland. Additionally, several small Crown owned sites along Johnstone Strait would also be included in the park.

Objectives:

- 1. To protect and manage the Robson Bight and shoreline (including the whale rubbing beaches) under the authority of the <u>Park Act</u>, allowing scientific and public use within the guiding philosophy of "the best interests of the whales".
- 2. To protect a large upland tract from industrial development for considerations of (a) the aesthetics associated with a natural feature of world significance, and (b) reducing the potential accessibility of the shoreline via future forest roads.
- 3. To provide public recreation sites at strategic, nearby sites along Johnstone Strait where camping and whale watching may occur without disturbance to the whales.
- 4. To protect the Tsitika River estuary within an ecological reserve for scientific purposes.

Management Implications: (Refer to Appendix 2)

- . The Parks and Outdoor Recreation Division would be directly responsible to keep visitors away from sensitive rubbing beaches and rocks.
- . The whales, the fish, and the regulation of boat traffic would remain within federal jurisdiction. A management agreement with Fisheries and Oceans Canada would be very helpful.
- . A management agreement may be required between Parks and Ecological Reserves regarding the small ecological reserve.

^{*} This ecological reserve proposal corresponds to the original proposal advanced during the development of the Isitika Plan before the presence of whale habitat was recognized.

Financial Implications:

- Compensation will be required for Schedule "A" lands (Lot 223) and timber of TFL 39.
- Schedule "B" lands of TFL 39 and TFL 25 may have to be compensated for depending on the degree the annual allowable cut is affected by this withdrawal.
- . Options 2A, 2B and 3 have the same implications for the Tree Farm Licences.
- Management would require \$60,000 in annual operating costs and \$100,000 in development funds (basic management and visitor facilities).

Government Implications:

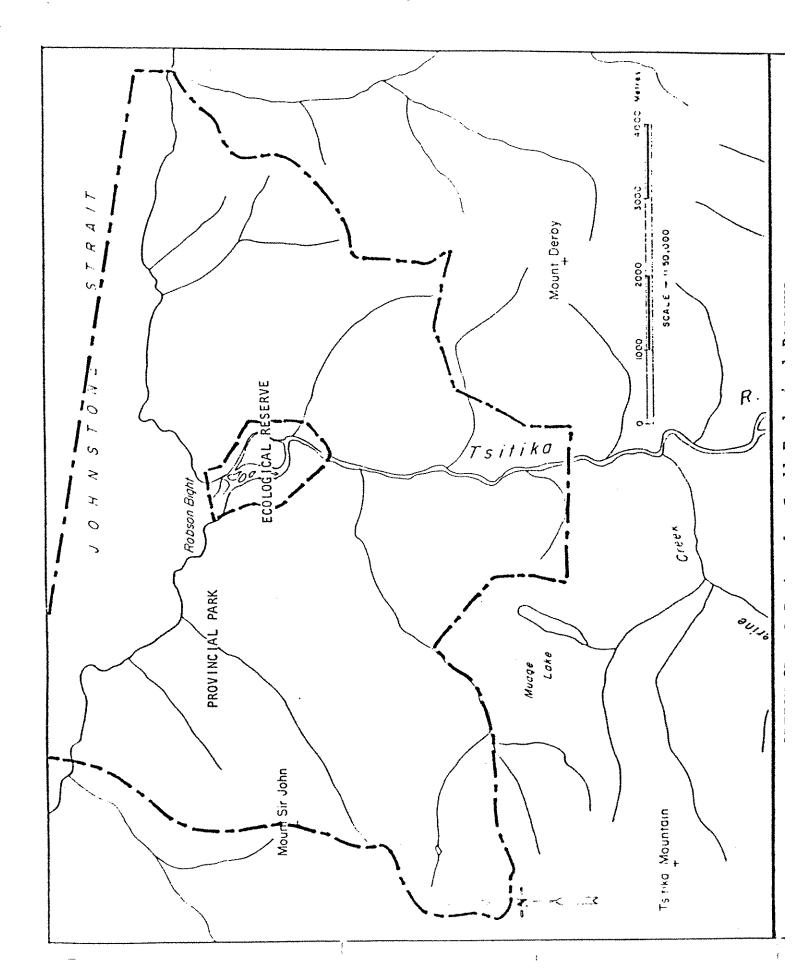
- . Major withdrawal from the Tsitika Watershed Integrated Resource Plan.
- . Federal Fisheries would continue to have jurisdiction over the whales.
- A management agreement would be sought between the Parks and Outdoor Recreation Division and federal agencies regarding enforcement of regulations in the vicinity of Robson Bight.
- A management agreement between Ecological Reserves and Parks would be advisable but not essential.

Public Implications:

. The general public would be satisfied by these boundaries but those most concerned about the whales will be apprehensive about the inclusion of the rubbing beaches in the park. Adequate management is essential therefore.

Whale Implications:

- . Potentially wide publicity.
- . Potentially effective management.



OPTION 3: PROVINCIAL PARK

Total Area: Upland: 3844 ha approximately

Foreshore: 913 ha approximately

Description:

A provincial park would be established over the entire area, including the bay, the eastern shoreline, the estuary, the upland to approximately Catherine Creek and several small Crown-owned sites along Johnstone Strait. (Refer to "Robson Bight-Lower Tsitika Park Feasibility Study".)

Objectives:

- 1. To protect and manage Robson Bight and shoreline in its entirety under the authority of the <u>Park Act</u> allowing scientific and public use within the guiding philosophy of "the best interests of the whales".
- To protect a large upland tract from industrial development for considerations of
 (a) the aesthetics associated with a natural feature of world significance, and
 (b) reducing the potential accessibility of the shoreline via future forest
 roads.
- 3. To provide public recreation sites at strategic, nearby sites along Johnstone Strait where camping and whale watching may occur without disturbance to the whales.
- 4. To provide effective management of the entire area under a single provincial statute and management agency.

Management Implications: (Refer to Appendix 2)

- The Parks and Outdoor Recreation Division would be directly responsible to keep visitors away from sensitive rubbing beaches and rocks.
- The whales, the fish, and the regulation of boat traffic would remain within federal jurisdiction. A management agreement with Fisheries and Oceans would be helpful.

Financial Implications: (Refer to Appendix 1)

• Compensation will be required for the timber and lands (Lot 223) within Schedule "A" of TFL 39.

- Schedule "B" lands of TFL 39 and TFL 25 may have to be compensated for depending on the degree the annual allowable cut will be affected by this withdrawal.
- . Options 2A, 2B and 3 have the same implications for the Tree Farm Licences.
- Management would require \$60,000 in annual operating costs and \$100,000 in development funds.

Government Implications:

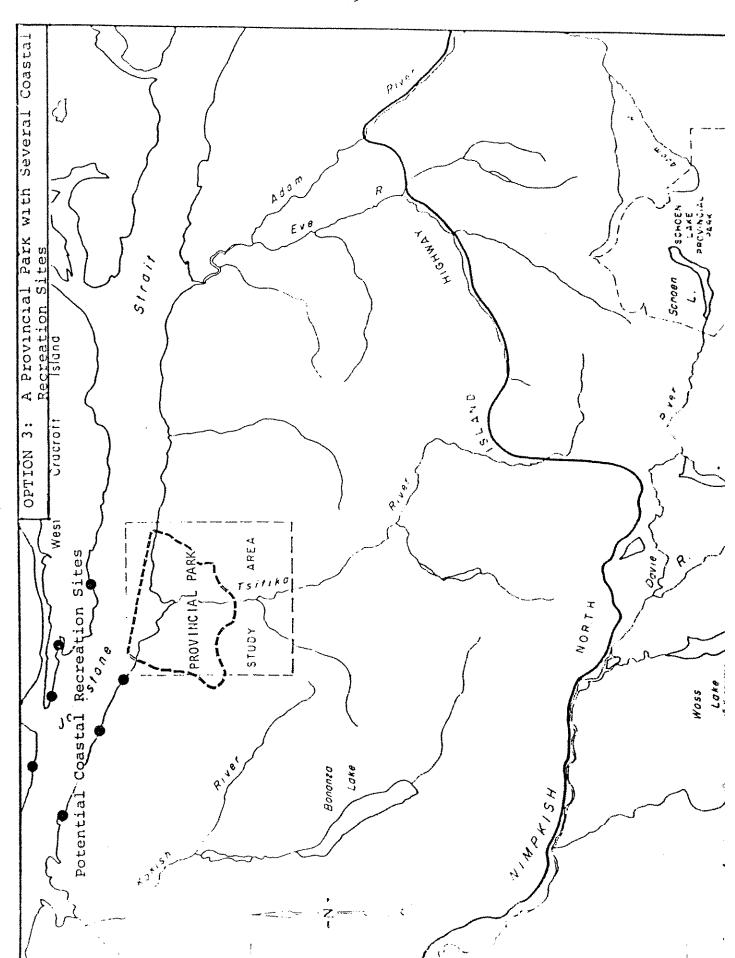
- . Major withdrawal from the Tsitika Watershed Integrated Resource Plan.
- . Federal Fisheries would continue to have jurisdiction over the whales.
- A management agreement would be sought between the Parks and Outdoor Recreation Division and federal agencies regarding enforcement of regulations in the vicinity of Robson Bight.

Public Implications:

There may be some concern that the rubbing beaches, by not having a special legislative status (ie: ecological reserve) will not have a guarantee of high protection from public misuse. Therefore adequate management will be essential.

Whale Implications:

- . Potentially wide publicity.
- . Potentially effective management.



OPTION 4: FURTHER STUDY

Given the complexity and sensitivity of the Robson Bight issue, the Ministry of Lands, Parks and Housing cannot alone examine the full range of potential options.

It has been suggested that a more broadly based study team should be organized, consisting of representatives of: Oceans and Fisheries Canada

Parks & Outdoor Recreation Division
Parks Canada
Ministry of Environment
Ministry of Forests
Ecological Reserves Unit

Implications:

- . The pressure would be off the Ministry of Lands, Parks and Housing to alone resolve a complex issue to everyone's satisfaction.
- . The public/media may be disappointed that yet another study must take place.
- Insight could be gained into the intentions and desires of federal agencies in the Robson Bight area.
- . The Provincial Government may be apprehensive of federal involvement.
- . The whales of Robson Bight warrant national status.
- . There should be a designation, regulations and on-site management in place by June 1982; this may not be achievable if a further study occurs.

SUMMARY OF OPTIONS

2B) Park and Eco. Reserve	+3844 ha upland + 913 ha subtidal and foreshore	High	\$60,000/yr. op. \$100,000 dev.	\$140,000- \$180,000	\$24.6 mill. \$24.6 mill. Stumpage: \$12.3 mill.	.federal responsibilities .P.O.R.D./E.R. agreement .federal/P.O.R.D.	.Positive in lor and short terms may require "selling" to scientific
	i or 6 2001 6		•		\$12.3 mill.	.Federal/P.O.R.D. agreement .Possible major compensation to MB .Major forest plan change	scientific community. .Compensation to MB will be a sensitive issue
3) Park	+3844 ha Upland + 913 ha Subtidal and foreshore	High	\$60,000/yr. op. \$100,000 dev.	\$140,000- \$180,000	Net: \$24.6 mill. Stumpage: \$12.3 mill.	.P.O.R.D./Federal agreement Major compensation to MB .Major forest plan change .P.O.R.D. will have complete responsibility.	.Positive to most but may require "selling" to scientific communityCompensation to MB will be a sensitive issue
4) Study	N/A	N/A	N/A	N/A	N/A	N/A	.May be concerns about further o

RECOMMENDATIONS

The study team has been unable to reach a consensus on a recommended option for the Ministry of Lands, Parks and Housing.

The nature of the decision rests largely upon three variables that the Ministry Executive must evaluate to determine a preferred strategy:

- Is a high or low level of publicity desired? (A low level would be in the best interest of the whales.)
- Is a high or low level of management desired? (A high level would be in the best interest of the whales.)
- 3. Is a high acquisition cost acceptable? (A large upland buffer zone i.e. a high acquisition cost - would be in the best interest of the whales.)

In consideration of the management question, the study team concludes that only Options 1 and 3 (either a park or an ecological reserve, but not both) need be considered:

EITHER: That a provincial park be established over the entire Robson Bight study area, including several sites along Johnstone Strait (Option 3) which will require significant acquisition, operating and development funds in order to be an effective conservation measure.

OR: That an ecological reserve be established at Robson Bight (Option 1), provided there would be special provision of seasonal staff for management.

The choice between these two options depends upon the above-stated variables. Therefore the study team recommends:

 That the Ministry Executive decide between Option 1 and Option 3, on the basis of the best interests of the whales and on the Ministry's preferred strategy.

- 2. That, contingent upon the adoption of any one of the Options, the Ministry Executive commence the following actions:
 - a) Contact Tsitika Follow-Up Committee (T.F.C.), the Regional Resource Management Committee, and the Ministry of Forests informing these bodies of the decision and requesting comment from them.
 - b) Submit its decision as a recommendation to E.L.U.T.C. for review and for a final E.L.U.C. decision.
 - c) Request the E.L.U.T.C. to consider the issue of how government should compensate the forest company.

APPENDIX 1

TIMBER VALUES

(Gross estimates supplied by the Strategic Studies Branch, Ministry of Forests). These figures are considered as "order of magnitude" values only).

1. Average projections

Unit Gross Value:

\$40/cu. metre

for TFL 39

Unit Cost:

\$32/cu. metre

Unit Return:

\$ 8/cu. metre

Average yield/ha:

800 cu. metres/ha

2. Comparison of Options:

	1	2A	2B	3	4
Total Upland Hectares	546	3844	3844	3844	N/A
Gross (Log Market)					
Value:	\$17.5 million	\$123.0 million	\$123.0 million	\$123.0 million	N/A
Costs:	13.9 million	98.4 million	98.4 million	98.4 million	N/A
Het Value:	3.6 million	24.6 million	24.6 million	24.6 million	N/A
Stumpage:	1.8 million	12.3 million	12.3 million	12.3 million	N/A

LAND VALUE

(Estimate supplied by Acquisition and Development Branch, Ministry of Lands, Parks and Housing, without benefit of site inspection).

Lot 223

\$140-180,000*

*"bare land value", i.e. excluding valuable timber (included in above timber values).

APPENDIX 2

PARK MANAGEMENT CONCEPT

Objectives

- 1. To protect the specialized killer whale habitat in the Robson Bight area of Johnstone Strait.
- 2. To manage public viewing and to encourage public understanding of killer whales natural activities in the Robson Bight area within the capability of the whales to withstand such use.
- 3. To encourage appropriate scientific research to increase the knowlegge of killer whale behaviour and environmental needs.

Preliminary Zoning

Prior to the development of a master plan the park will initially be divided into three management zones as follows:

- 1. Nature Conservancy zone
 - it will offer a high level of protection to the whales while they are in their key rubbing, socializing and rest areas.
 - use within the land portion will be controlled by the issuance of Park Use Permits (land area) and rules of conduct.
 - rules of conduct will be established for the water portion for the zone (water area).
 - the zone will extend from approximately 100 m landward of high tide to approximately 100 m seaward of low tide east of the Tsitika River and will include all the water of Robson Bight from headland to headland.

2. Recreation Zone

 It will allow the establishment of park visitor and management services at appropriate locations along Johnstone Strait beteen Telegraph Cove and Robson Bight.

3. Natural Environment Zone

- It will encourage appropriate recreational use while protecting park resource and will occupy areas of the park not otherwise zoned.

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Information

An information program will be established to:

- 1. Inform the public of the purpose and goals of the park.
- 2. Provide information about killer whales.
- 3. Inform the public of appropriate conduct while visiting the park.
- 4. Provide information about location and type of recreational services available to visitors.

The program will make such information readily available at a number of public and private locations and through a variety of media, including in the park and at obvious embarkation points.

Visitor Management

Overall responsibility for visitor management will rest with the Parks and Outdoor Recreation Division. However, day-to-day visitor management, to the greatest extent possible, will be the responsibility of the private sector. The public sector will assume responsibility for any residual day-to-day needs. The vehicle for such management will be as follows:

- 1. Scientific studies and tour or charter operations within the park will require Park Use Permits.
- 2. Park visitors, not part of a tour or charter group, must obtain written permission (letter of authority) to visit the park.

Resource Management

The resource of the park will be monitored and protected from inappropriate uses. The primary consideration will be the protection of the killer whales and their key habitat areas. The Parks and Outdoor Recreation Division will attempt to acquire overall responsibility, or will share these responsibilities through an agreement with federal agencies.

The primary management mechanisms will be public information, on-site management staff and park patrols.

Costs

To manage this park without any recreation services would require approximately \$50,000 annually for auxiliary staff and \$100,000 for the development of on-site visitor and resource management services. An extensive public information program would be an additional cost.

APPENDIX 3

ECOLOGICAL RESERVE MANAGEMENT CONCEPT

Staff:

Two auxiliary staff located on-site May-September annually: \$20,000 (These would have to be hired in addition to the regular Ecological

Reserves Unit program).

Management Philosophy: In general, the public must not interfere with the needs of the whales. Camping could be allowed near the western headland of the Bight but not elsewhere. Scientific and commercial tour use of the area would be controlled by a permit system.

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