INTRODUCING CO-MANAGEMENT AT NITINAHT LAKE, BRITISH COLUMBIA

by

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ABSTRACT

Conventional fisheries management has appeared to be at odds with the rights of Native people in the Province of British Columbia. At the same time many Native Bands want to focus on the salmon fishery for economic and cultural revival. The combination of these two factors with growing management problems for the Federal Department of Fisheries and Oceans (DFO) has, for some Bands resulted in efforts toward cooperative management (co-management) of the resource.

This thesis analyzes the outcomes of efforts towards co-management of one Band (Ditidaht, at Nitinaht Lake), and evaluates its effectiveness in the early stages of implementation. The thesis includes both a literature review and a case study that describes the Band’s efforts at local control in light of their developing property rights, made stronger by recent court cases. It also describes how the DFO has responded to these developments, and how both groups attempted to keep the process directed toward improved fisheries management.

The literature review reveals that while there are a number of advantages to the practice of co-management over conventional systems, there also a number of challenges that face local groups attempting this practice. The case study focuses particular attention on how the Ditidaht Band has responded to these challenges.

Strategies used by the Ditidaht Band and the DFO, in response to increasing property rights of the Band, to better manage the salmon fishery and to overcome barriers to the exercise of co-management are documented and analyzed. These strategies have generally evolved from concern for the conservation of salmon on the part of both parties.
For the Ditidaht these strategies also involved a search for economic development opportunities.

Outcomes of the efforts of the two parties are also analyzed in terms of propositions about co-management set out in the literature.

It is concluded that the DFO has been reluctant to grant the Ditidaht control over fisheries management functions and appear to have done so done so reluctantly, and only as a result of recent court cases. Because of this Ditidaht input has been kept to a minimum and basically only involves enforcement. As for the Ditidaht Band, it has not taken full advantage of alliances with other parties as a mechanism for enhancing its control over the resource. The Band has also generally not responded to the importance of internal cohesion by establishing a forum for solving disputes over allocation.

They have also failed to see the importance of using public concern for conservation as a strategic tool. The case study highlights the importance of looking beyond short-term interests, in this case economic development, in order to become self-sufficient in the long-term.
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1.0 INTRODUCTION

1.1 PURPOSE AND OBJECTIVES

Conventional fisheries management methods in British Columbia (B.C.) appear to be at odds with rights of Native people in this province. (Richardson and Green, 1989). B.C. Native people have traditionally relied primarily on the salmon fishery for survival and some bands have recently focused on the salmon fishery for economic and cultural revival. The combination of the struggle for self-reliance among B.C. Natives on one hand, and chronic management problems for the federal Department of Fisheries and Oceans on the other has, for some bands, resulted in efforts towards cooperative management (co-management) of the salmon fishery. Co-management is defined and discussed further in chapter three.

This thesis considers a case study of the evolution of co-management in one Native community on the West Coast of Vancouver Island. The community is Ditidaht, at Nitinaht Lake. The purpose is to analyze the preliminary outcomes of efforts toward the development of co-management and to evaluate its effectiveness at these early stages. Since most co-management agreements within B.C. are in formative stages, little can be determined about the long-term outcomes of these agreements at any of their respective present stages.

I will use two sets of criteria in evaluating the Ditidaht situation:

conservation and;

the quality of the relations among the users of the resource.
The thesis comprises both a literature review and a case study. The literature review provides the theoretical context for the case. It covers two levels of co-management theory. At a fundamental level, it discusses the basic attributes of co-management as seen by various authors. At a more specific level, it examines the conditions that some authors believe must be present for co-management to succeed. The case study examines the preliminary outcomes of efforts of the Ditidaht Band and the Department of Fisheries and Oceans (DFO) to establish co-management of the salmon fishery. These outcomes are analyzed in light of the concepts set out in the literature, and with due recognition of the fact that the efforts are still in the formative stages.

The management approach taken by the Ditidaht Band and the DFO involves numerous strategies. These strategies have evolved along with, and largely depend upon, the development of property rights for fisheries of the Ditidaht people and Native people in general. The case study describes and analyses these strategies in terms of how they took advantage of opportunities, responded to obstacles, and kept the process directed towards the goals of improved management of the salmon fisheries and greater control over the resource by the Ditidaht.

The specific objectives of the case study, generally designed to gain insight into the nature and initial outcomes of the process of establishing co-management, are to answer the following questions:
What were the assumptions of the various key interested parties, the Ditidaht, the DFO and others, regarding co-management?

What were the respective goals and strategies?

What was tried?

What opportunities and constraints did they face?

What were the outcomes in terms of:

- original goals

- unplanned outcomes (spin-offs)

What could the parties agree upon

1.2 RATIONALE

It has been recognized that the way the salmon fishery in B.C. has been managed, up to the present, has led to serious problems both with the status of the local salmon stocks and the relationship between the groups of fishermen. (Meggs, 1988). Native bands in B.C. and the D.F.O have been participating in a larger effort aimed at the implementation of a new approach to resource management in B.C., one which would address the problem of how to regulate decreasing resources among a potentially increasing number of users (Robertson, 1994).

Generally, recent literature argues that co-management would benefit fisheries management in a number of ways. (Pinkerton, 1989). Some of these benefits are said to be greater legitimacy, more effective enforcement and monitoring, and better relations between competing groups of fishermen. These will be discussed further in Chapter Four.
In their concern over salmon fisheries depletion and their recognition of the cultural importance of salmon on the West Coast, many Native bands in B.C. have been pursuing co-management as a way to buttress salmon stocks and maintain a cultural heritage through involvement in such management.

If it is assumed that:

there is a need to find new avenues to protect salmon stocks in B.C., and

co-management can help to provide such an avenue,

then the study of initial attempts made at co-management in a specific community can be instructive about the opportunities and constraints other Bands (and the D.F.O) might also face.

Although examples of successful fisheries co-management in B.C. have been well documented, there has been little written that analyses the effects on future success of the initial stages of co-management in a specific area. In particular, little research has been done to analyze the management problems that arise at these stages in B.C. (Cohen, 1989).

The outcomes of co-management will not be the same with any two bands since practices will evolve differently because of differing internal and external conditions. The thesis does not ask how to approach co-management. Rather, it describes what happened when certain approaches were applied in a particular situation. This experience provides an opportunity for adaptively learning about what has worked, what has not worked, and why.
In sum, by analyzing the attempts of one community and the D.F.O at co-management, this thesis will contribute to a better understanding of the initiatives, strategies, and processes through which co-management can be developed.

The Ditidaht Case

Several factors make Ditidaht an appropriate case for study. The Ditidaht people share many of the constraints and aspirations of other Native Bands in the Province. They have less economic opportunities, lower education and health standards, a lower employment rate (and so forth), than the average Canadian. The Ditidaht have also had many particular opportunities:

• They are isolated, and are generally not as constrained as urban bands by close scrutiny and hostile attitudes of non-Native fishermen who feel that their own right to the resource is in danger of being compromised by the evolving rights of Native people.

• The Ditidaht took initiatives to self-control relatively early (through the successful passing of a Band fisheries bylaw that allowed, at least for a time, for the sale of food fish).

• The Ditidaht are part of a larger community, represented by the Nuu-cha-nulth Tribal Council, that has helped enhance and protect the property rights of the Ditidaht with added political strength.
The Ditidaht have participated in the management of every species of salmon and utilized diverse fishing methods.

1.3 STRUCTURE OF THE THESIS

The remainder of this thesis comprises six chapters.

Chapter two outlines the approach taken to the research and the methodology used. It discusses how information was collected and analyzed.

Chapter Three reviews the theories relevant to the analysis and identifies broad goals, challenges and opportunities that are involved when an Indian band and the government pursue the co-management of the salmon fishery in the band's traditional territory. The chapter begins by defining and elaborating the concept of co-operative management and identifying its general characteristics as seen by various authors.

Chapter Four provides background information on Ditidaht band and their dealings with the Department of Fisheries and Oceans (D.F.O). It starts by describing a brief history of the Ditidaht people. It defines the evolution of the Ditidaht people from their societal groupings at the time of contact into what is presently known as Ditidaht. The chapter also describes other players in the area of Nitinaht Lake in terms of their relationship to fisheries.
Chapter Five deals with the goals and strategies of the Ditidaht band and the D.F.O., in terms of fisheries management in general and in terms of co-management. It also describes the opportunities and constraints both parties faced in their specific attempts at reaching these goals and strategies.

Chapter Six analyzes the outcomes of the actions described in chapter Five, both in terms of the expectations of the parties and in terms of unexpected outcomes or spin-offs. The chapter also describes what the parties could agree upon.

Finally, Chapter Seven summarizes the implications of the findings and what these mean in terms of lessons for bands and governments.
2.0 APPROACH TO RESEARCH

This chapter provides the rationale for adopting a case study approach and outlines the methods used to collect and analyze information.

2.1 THE CASE STUDY APPROACH

The need to document and observe the specific outcomes of attempts by government and Native bands has been established above. The use of a case study will serve to move beyond abstract concepts and allow us to see how implementation of co-management affects a particular community.

Since lessons learned from particular case studies are not necessarily transferable, adequate detail in a case study must be provided so that readers can judge what might apply elsewhere.

Being done by a Native person from Nitinaht Lake, this case study will be vulnerable to biases different from those of researchers who are "outsiders looking in." Rather than expressing views limited by a lack of connectedness to the issues, I must deal with being very close to the case. I perhaps hold more sympathy for the views and aspirations of the group under study than other researchers might. On the other hand, I may be less prone to make unwarranted assumptions about the community that an outsider might make on the basis of general sympathy for Native communities or rural life.

My approach is to attempt to be objective by:
1. being complete in describing the factors that have affected the practice of co-management at Nitinaht Lake and; 2. where possible using multiple sources in an effort to achieve balance in considering viewpoints on a topic.

2.2 DATA COLLECTION

Correspondence among the D.F.O, the Nuu-chah-Nulth Tribal Council (N.T.C) the Department of Indian Affairs (D.I.A) and the Ditidaht Band was analyzed.

Circulars and news releases by the DFO pertaining to the Aboriginal Fisheries Strategy (AFS) were examined in order to show the development of DFO involvement in co-management. These documents trace the history, evolution, strategies and outcomes of the D.F.O’s bid for co-management.

Interviews with the Chief councilor, the Band’s fishermen, the Band’s fish guardian and the band manager, all of whom were active in the process of discussion about co-management, were undertaken in order to clarify information in the documents. One limitation on the information collected from interviews was that interpretations of the documents discussed may differ depending on the views of, and information available to, the interviewees. Since interviews were held informally and “squeezed into” people’s schedules, information may have been colored by the day-to-day events experienced by them. For example, the band chief and council were in the midst of the treaty negotiation process. With the desired results of this process ever present in their mind, subtle differences in priorities for co-management between now and times
past would be difficult to distinguish. The tendency was to say “we have always felt this way”
even though records show that with the evolution of opportunities and constraints, and a net
increase in information available to the Ditidaht, these priorities also have evolved.

While research was undertaken with “detachment” as an ideal, there has been a “forward
looking” attitude in the village resulting from treaty negotiation preparation that can increase the
likelihood of the research being “captured” by the points of view that the people involved feel
would be beneficial to the treaty process. I have tempered this likelihood by cross-referencing,
where possible, information obtained on-reserve with information and documentation from off-
reserve sources. This is especially important since this author is likely more susceptible to such
biases.
3.0 CO-MANAGEMENT: CHALLENGES AND OPPORTUNITIES

This chapter establishes the broad context from which to view this case.

3.1 CO-MANAGEMENT OF NATIVE FISHERIES

3.1.1 Definition of Co-Management

The term co-management has been defined in many ways. It has been used to describe a whole range of relationships between governing bodies and local interests. Pinkerton, (1994). defines co-management (of fisheries) as:

\[ \text{Power-sharing in the exercise of resource management between a government agency and a community or organization of stakeholders, in this [the Washington State] case, Indian tribes with treaty rights. Co-management arrangements are not confined to Aboriginal groups with special management rights although they may occur more frequently among such groups, especially where management rights have been clearly delineated in court decisions. Co-management agreements may be more or less comprehensive, covering one or all aspects of management activity.} \]

John F. Kearney also recognizes the ambiguity of the term but reduces it to three basic categories on a continuum of the extent of local control (Kearney 1989):

1. a consultative process in which fishermen and other interest groups provide systematic advice to federal government officials, who remain the sole decision makers;
2. the implementation and enforcement by fishermen of government policies and regulations which are widely accepted as beneficial to fishermen and;
3. a comprehensive participation by fishermen in fisheries decision-making at the levels of policy-formation, acceptance and implementation.

Kearney suggests that if co-management is distinguished from more hierarchical forms of management by its greater capacity to promote self-determination for fishermen, then category (3) represents a more self-determining approach than categories (1) and (2).
For the purpose of this thesis, the term is broadened still further since in the Ditidaht case, there have been, and still are, elements of local control without an actual co-management agreement. I will treat these elements as co-management, even though the term may not have been used to define the management activity taking place some time in the past. The thesis will also examine situations involving the Ditidaht case that might lead one to conclude that co-management was not working the way some authors suggest it should.

Obviously, in the Ditidaht case Pinkerton's phrase “treaty rights”, with notable exceptions, must (for now) be replaced with the phrase “aboriginal rights”.

3.1.2 Characteristics

Characteristics of the Fisheries Resource: A Common Property Resource

Co-management has been defined as an effective way to manage common property resources. These include fisheries, wildlife, surface and groundwater, range, and forests.

The following is adopted from “Tragedy of the Commons: Twenty Two Years Later” (Feeny et al., 1990) and supplemented by other authors as indicated.

Common property resources share two important characteristics: Excludability and subtractability.
Excludability

Excludability means control of access. Low excludability means that controlling access to the resource is very costly. In the fisheries, excludability is hampered by logistical problems. It is very difficult to see where fish are, let alone see how many there are and who may be “accessing” them. Furthermore salmon are a migratory species. Even if one knew where they were it is difficult to know who has the right to control access to them since they are oblivious to inter-jurisdictional boundaries.

Subtractability

Subtractability means that each user is capable of subtracting from the welfare of other users. Even when users co-operate to enhance a resource, it is still a zero sum game, where one user’s gain automatically becomes another’s loss. In sum, common property resources are “a class of resources for which exclusion is difficult and joint use involves subtractability” (Berkes et al., 1989).

It is important to distinguish between the intrinsic nature of the resource and the property-rights regime under which it is held. (Ostrom, 1989). Here as in Feeny et al. we use the term “common property” to define the resource and communal property to define the “property rights regime” under which co-management is subsumed.
Property Rights Categories

There are four basic categories of property rights under which common-property resources are held. Categories are usually not clear cut, and are sometimes even internally conflicting.\(^1\) Nonetheless it is important to distinguish the four basic property-rights regimes. (Ciriacy-Wantrup and Bishop, 1975)

*Open Access*

Under open access there are no well defined property rights. Access to the resource is unregulated and is free and open to everyone. Pre-twentieth century offshore ocean fisheries and “air”, and in some places water, are examples. This is what Garrett Hardin was describing, which he mistakenly called a “commons” (Hardin, 1968).

*Private Property*

The rights to exclude others are vested in the individual through “ownership”. These rights, where recognized are usually enforced by the state. These rights are usually exclusive and transferable and include any resources that are privately held, such as private ranches and forests. (Regier, Grima, 1985).

*Communal Property*

Under communal property, the resource is owned and controlled by a specific group of users. these users exclude others and manage the resource by placing controls upon themselves. Within the community of users, rights are unlikely to be exclusive or transferable but are often rights of equal access and use. These rights may be legally recognized but may also be de facto.

\(^1\)For example there are still directives handed down from D.F.O to tribes that helped to forge them in the first place.
State Property

Under state property, rights to the resource are vested exclusively in the government which makes the decisions about the level and method of exploitation. Examples of state property include forests and rangeland owned by the government and fish in wildlife that are held in public trust. State property also includes non-subtractable resources such as parks and highways. State property differs from other regimes in that the state has coercive powers of enforcement.

3.1.3 Characteristics of Conventional Fisheries Management

The Tragedy of the Commons: Garrett Hardin's Influence on Conventional Fisheries Management

In 1968 Garrett Hardin (1968) wrote an article whose main idea "......was to become the most widely accepted explanation for over-exploitation of resources that are commonly held." (Feeney et al. 1990)

Using herdsmen as a metaphor, Hardin asked the reader to imagine what would happen to a village commons if each herder were to add animals to his herd. It was more profitable to graze more animals than the pasture would support, since he kept all the profit but bore only his share of the resulting environmental degradation. The result, in the readers imagination, was supposed to be that the "commons" was able to support less and less livestock as a result of the individual greed of the herdsmen. To avoid such a tragedy Hardin suggested that there were only two alternatives: 1. Privatize the property 2. Institute socialism or public property, where government can control entry.
Two contradictions are readily apparent: First Hardin was not talking about a commons, but “open access”. The difference is that in a commons there are community sanctions against misuse of the resource that Hardin didn’t account for. Second, in many situations where there are *de jure* government controls there is often *de facto* open access. The conventional fisheries management system then, which has been basically government controlled, may in some ways represent the open access that Hardin feared. Furthermore communal property, such as is the arrangement in co-management, may actually have the positive features he thought only could only exist in systems run by the government or the private sector.

### 3.1.4 Characteristics of Co-Management

An important characteristic of co-management, (one that shapes most other characteristics), is the fact that the legal rights upon which local stakeholders (especially Native stakeholders), often depend for the power that they bring to co-management arrangements, do not necessarily translate into management practice. (Pinkerton, 1992). This is especially true where these rights run counter to prevailing power relationships and are resisted politically. This fact makes defining the characteristics of co-management a very complex one, since there is always a potential for instability. As well, motivations and attitudes of key individuals can determine the success or failure of co-management. Even so, there are generalizable conditions that increase the likelihood for success of co-management arrangements, and identifiable characteristics of co-management systems that allow them to succeed.
Preconditions for Co-Management and Requirements for Success

Many authors, (eg. Feeny et al., 1989) have written articles that advocate, for various reasons, the use of co-management. Few have examined why such uses face varying degrees of success.

Evelyn Pinkerton (1989) has noted that this has led to unwarranted criticism towards its use, by proponents of more conventional management systems, whenever co-management fails.

Pinkerton has shown that co-management does not necessarily succeed merely as a function of the collective will of those wishing to practice it.

The following propositions, adopted from Pinkerton (1989) suggests why co-management sometimes fails or why fishermen experience varying degrees of success.

The following conditions are associated with successful co-management initiatives:

Favorable Preconditions

Co-management is most likely to develop:

1. out of a real or imagined crisis in stock depletion, or problem of comparable magnitude.

Governments become upset when they believe a resource is being depleted, while fishermen are equally upset when there’s a closure at a time when they believe there’s plenty of fish.

2. when fishermen show a willingness to contribute financially (or recruit other sources of support) to the rehabilitation of the resource, and / or contribute to other management functions when there is an opportunity for a negotiation process and / or experimental co-management of one simple function, which may later be expanded to other functions.
Best Mechanisms and Conditions Supporting Co-Management

Co-management operates more favorably:

1. where agreements are formalized, legal and multi-year.

2. where there is a mechanism for recirculating back into the communities some of the wealth generated by more intensive, superior management.

3. where the mechanisms for conserving and enhancing fishery can at the same time conserve and enhance the operation of a cultural system.

4. where external support can be recruited (university, non-government scientists, credible organizations) and where external forums of discussion (e.g. technical committees) including more than fishermen and government members can be involved in co-management concerns.

The Best Scale for Co-Management

Co-management operates most favorably:

1. where there is the area is not too large, that is, where benefits may be linked to watersheds or local waters.

2. where the number of fishermen or communities is not too large for effective communication, or where there are well organized sub-groupings (villages, kin-groups or organizations) which communicate well with each other, or have effective umbrella organizations.

3. where the size of the government bureaucracy is small and its mandate is regional or local.
Favorable Characteristics among Local Groups

Co-management operates most favorably:

1. where a group already has a cohesive social system based on kinship, ethnicity or at least has a homogenous gear type.
2. where a group or community can effectively define its boundaries so that membership is clear and allocations and regulations can be effectively (and efficiently) applied.
3. where crew are involved as members of the managing body as well as skippers.
4. where higher (possibly citizens') authority can act as an appeal body on local equity questions.

Where more than one group of stakeholders is involved co-management works best:

1. where technical concerns such as health of stocks are separated from allocation decisions.
2. where there are opportunities for creative, informal problem-solving among stakeholders (possibly without government present).

Where one large group only is involved co-management operates best:

1. where decisions about harvest levels, regulations and allocations are made on the same level (not centralized away from) as the level on which information is collected on technical concerns such as health of stocks.
2. where a culturally cohesive group practices self-regulation, the use of individual quotas may be an acceptable management tool, if accepted cultural mechanisms rather than the market are used for allocating and transferring quotas.

3. Co-management is more likely to develop if there is an energy center, a dedicated person or a group who applies consistent pressure to advance the process.

Pinkerton (1991) suggests the following are likely to be outcomes of successful co-management.

**Relationships Among Actors**

*Successful co-management (or co-management that achieves its goals) creates or enhances:* 

1. co-operation among individual fishermen and local fishermen’s groups in planning the improvement or conservation of local fish stocks.

2. the commitment among local fishermen to share the benefits as well as the costs of efforts toward enhancement and conservation.

3. an appropriate vehicle of conflict resolution among fishermen and increases motivation to negotiate sharing of access which is perceived as equitable.

4. an equal negotiating arrangement between local fishermen and other water resource users.

5. a higher degree of organization and mutual commitment among fishermen which enhances their bargaining relationship with fish buyers.

6. a willingness among both fishermen and government to share data about the resource.
7. a willingness among fishermen and government to explore options which reduce inefficiencies for fishermen.

8. greater trust between fishermen and government in the management system such that motivation to invest in competitive gear is reduced.

9. an ability to develop and implement enforcement regimes that fishermen perceive as appropriate and legitimate.

10. a willingness on the part of government to allow greater range of self-management responsibilities to be assumed by fishermen.

The following propositions are also summarized from Evelyn Pinkerton and resulted from an analysis of phase two of US v Washington, known generically as the “Boldt decision” in 1980 and are concerned with “permitting conditions” for co-management and discuss overcoming barriers to co-management (adopted from Pinkerton, 1992).

1. Barriers to negotiating and implementing co-management agreements are greater in proportion to the power of other parties affected and the extant to which these parties have captured relevant government agencies.

2. Barriers to implementing co-management are more easily over-come through alliances of stakeholders, non-governmental organizations and agencies with complementary resources, especially when parties form issue networks which generate new technical information and alternative models.
3. Barriers are more easily overcome through the use of multiple sources of power such as courts, legislature, public boards and citizens initiatives at strategic times, creating a spill-over effect from one to another.

4. In situations where there is considerable difference in power between parties, implementation of co-management agreements may be furthered by an appeal to the general public interest.

5. The composition of the courts and the particular political climate in any given period may influence the degree to which court action is preferred over political action.\(^2\)

It is important to note that "permitting" conditions denoted as the power of other parties, appeal to the public interest, and the composition of courts and the political climate, are largely outside the control of any local group attempting co-management. Furthermore, "empowering" conditions can only be effective if the first conditions favor the group. Co-management may not be effective even if a local group does everything correctly according to these propositions. If the power of other parties is so great that their wishes always appeal to the public and to the courts, co-management will likely not be effective.

**What can be co-managed?**

Evelyn Pinkerton (1989) identifies seven management functions that can be carried out jointly:

\(^2\) It should be noted that if neither court nor political action are an attractive alternative the nature of the agreement will be very ineffective for the Native parties.
1. Data gathering and analysis; 2. logistical harvesting decisions such as licensing, timing, location, and gear type; 3. allocation; 4. habitat protection; 5. enforcement 6. enhancement and long-term planning and; 7. broad policy decision-making.

### 3.1.5 Why Co-Management a Native Community?

The history of property rights and resource management in Native communities is a complex one. Co-management has been attempted as a way to address various problems in Native communities. Different strategies are adopted according to local situations (McLeod 1989, Green and Richardson 1989, Morrell 1989).

Miles Richardson from Haida Gwaii and Bill Green, formerly of the Nuu-chah-nulth Tribal Council identified the following problems with the conventional fisheries management system as reasons why co-management would provide a more effective alternative. (Green and Richardson, 1989). These problems might very well apply at Nitinaht Lake as well:

- Major management decisions are made in Ottawa, far removed from the resources and communities dependent upon them. Inappropriate decisions can result from the lack of knowledge of local conditions.

- Because of the size of the management bureaucracy, it is sluggish and can't move as fast as rapid changes in fish stocks and market-led fishery development.
• Government officials in Ottawa don’t bear the ultimate responsibility for stock collapse, the community in question does, so its only just that fisheries management functions and responsibilities be shared with them.

• The federal government considers the fisheries resource a common property resource. Because of this it manages for large scale. Thus it is almost impossible to harvest small local stocks without over-harvesting.

The following section outlines more fundamental theoretical propositions that support the idea that co-management may be an attractive alternative to the conventional management system.

3.2 Theoretical Support For Co-Management Effectiveness

3.2.1 Values

Values have an extremely powerful influence on the effectiveness of natural resource policy. Yarborough notes that values may be seen in several senses. (Yarborough, 1987). They may be viewed as causal or motivating factors in historical circumstances; as a way to interpret what one perceives; or as indicators of community preference;

3.2.2 Legitimacy

Standard fishery management methods as tools are not new. Time and area closure, gear restrictions and size restrictions all have historically been at least acceptable to fishermen. With the new reality of resource depletion however, these approaches began to have unacceptable
consequences. Long seasonal closures evolved into short seasonal openings that necessitated fishermen working in dangerous conditions, high prices and low quality. (Retig et al., 1989).

Fishermen have been receptive to new management approaches when it becomes clear that standard approaches no longer work, and especially when faced with stock depletion. There are an increasing number of forums where fishermen are discussing alternative approaches.

Recurring themes of these forums are:

- new approaches need to be examined;
- fishermen should be consulted;
- consultation should be on-going to monitor unanticipated problems.

If a legitimate policy is one that is accepted with little criticism and reflects the wishes of those whom it effects, then a legitimate fishery policy is one where the call for change, in particular more input and monitoring - must be respected.

3.2.3 Conservation

Fishermen are understandably concerned about whether or not the resource will continue to sustain their way of life. Furthermore, it is often the concern from fishermen themselves about the health of stocks that lead to demands for greater input into management. (Pinkerton, 1991).
3.2.4 Political Theory

Democratic Theory

"Democratic theory states that the ultimate political authority in a society is vested in the people." (Yarborough, 1987) It embraces several principles: personal freedom, political equality, public participation, majority rule, representative government, freedom of information and legitimacy of political conflict and opposition to the government. Yarborough suggests that the following two ways which North American policy makers put these principles into practice are important:

- the belief in the importance of local autonomy and local approaches to problem solving;
- the endowment of public opinion with ethical status.

Morris and Rein note, "nothing should be done for people that is not also done with them" (Morris and Rein, 1969).

Local Autonomy

Political obstacles to social reform are rooted in the traditional commitment to localism. Programs which are broad in scope often depend on local actors for implementation. Effective government must be reconciled with a tradition of democracy which believes in local autonomy as an expression of personal freedom. Localism leads to fragmented authority so that the whole society is seen as "...a complex of local difficulties" (Morris and Rein 1969). Yarborough points out however, that the principle of localism cannot be ignored because it is part of the basic value structure of American (and in our case Canadian) polity and that it is a given political limit within which resource management must work.
Another point is the contradiction between the reductionism which is inherent in localism and an eco-system perspective which would call for holism. Democratic tradition demands discrete and discontinuous management while the ecosystem perspective requires integrated and management based on ecosystem goals. In this way, localism “severely constrains resource management.” (Yarborough, 1987).

3.2.5 Property Rights: Evolution of Options

As mentioned above, the salmon fishery is an open-access resource. Fish that stay in one place, such as clams and oysters can be more easily managed by the allocation of property rights. (Retig et al., 1986) These are often managed under collective ownership or private ownership. (Angello and Donnelly, 1975).

Cristy has suggested that territorial use rights in fisheries, or TURFs, as found in many societies, might be an excellent management option for salmon fisheries. (Cristy, 1987). The key to success has been local customs and local-level regulations aimed at effort control. (Johannes, 1978) Under these regimes, management is generally free of open access problems. Northwest Coast groups never had access problems because tribal custom delineated access rights, allocation, distribution of benefits and authority to limit harvests. (Newell, 1993). These measures aren’t limited to traditional cultures of the past, but exist in the modern non-Native context. (Acheson 1975, 1987; Kearney 1989, McKay 1989, Amend 1989).
On a global scale, one of the most dramatic changes in property rights over fish took place in the mid-seventies began extending jurisdiction over marine resources to 200 nautical miles off-shore. This extension was rationalized on the grounds that freedom on the seas (open access) had permitted the rapid depletion of many fish stocks. While it is too early to judge whether this measure was successful, it has opened the door for coastal nations to develop and assign rights of access to fishery stocks. The emergence of individual, transferable rights would likely depend upon the costs and the political acceptability of enforcing those rights. (Mollet 1986). Cooperative management seems to make sense where greater control is desireable but where private property rights is not administratively feasible or politically and / or socially acceptable.

3.2.6 Legal and Political Developments of Native Fisheries

Legal Developments that Improved Co-Management Prospects In British Columbia

According to Former B.C. Supreme Court justice Thomas Berger, aboriginal fishing rights is the oldest question of human rights and the most recent. (Berger 1982) In a legal context, aboriginal fisheries is and always was closely linked to aboriginal title or rights. (Newell 1993) The Indians in B.C. have never signed treaties. For millennia before the coming of the Europeans, Pacific Coast Indians, including the Ditidaht, had complex economies that centered on the marine resources, which were at least as important as those on land. There were migrations of salmon to the freshwater rivers of every aboriginal society on the west coast. West coast people harvested large quantities of salmon for ceremonies and for winter use. Such well-managed resources allowed them to support large pre-contact populations.
The state regulators, private interests, and non-Native fishermen held a different view of Native fishermen. They were not resource managers but were a threat to resource management. This attitude is manifest in the present fisheries regulations and policy. Raids on fish-camps, confiscation of gear etc. were carried out without there ever being evidence of large-scale over-fishing. (Ware undated). As well, the federal government, since 1871, has always interpreted the traditional Indian fishery as strictly a subsistence activity, to be continued as a privilege rather than a right. (Hanson 1991) The crown and the courts have also denied the aboriginal right to fish commercially. According to them, Indian rights were extinguished by a century’s worth of federal enactments and regulations imposed to conserve the resources. Furthermore, the argument goes, aboriginal rights reflect pre-contact systems and values and not a market-based system, thus the Indians could not have the aboriginal right to participate in a fishery based on such a system. Therefore, they would argue, when Indians participate in a market system they are in the same legal position as all other Canadians.

With the 1990 decision by the Supreme Court of Canada in Regina v. Sparrow, which recognized the unextinguished aboriginal right of the Musqueum Band in British Columbia to fish for food and for ceremonial purposes and rejected the crown’s standard argument for extinguishment. this decision significantly raised expectations among Native people. It looked as though Indians in Canada would gain a greater role in fisheries management, enjoy a larger share of the catch and sell food fish commercially. In June 1992, the federal government actually
negotiated agreements to allow the sale of food fish. The Fisheries Act itself is unchanged, and there continues to be controversy over the issue.

The Pearse Commission

Although the report of the Pearse Commission came out almost a decade before Regina v. Sparrow, it is instructive to consider why the court case which seemed to proclaim new rights and power for Native people succeeded instead to inflame controversy that already existed (Pearse 1981).

Pearse reported that the situation in the Indian fishery was due to a century of state policy development. More specifically, it was due to the fact that policy was always attempting to reconcile the conflict between Indian fishing traditions and the colonial policies reflected by government responsibilities over Indians and fisheries. These policies were hidden under a facade, portraying governments as benevolent mediators between conflicts. (Newell 1993). Because of this, the hierarchies that exist between groups, and the problems these create, are also hidden.

Allocation

The current heated debate over salmon allocation in B.C. can be attributed to any one of a range of political problems between Natives and Non-Natives. However, the fundamental problem is that for Native people, the fish are encountered in reverse order to legal and political priorities. (Pinkerton 1993). Natives have the first legal priority in the allocation process but generally access the fish last. The problem is not merely between Native and Non-Native fishermen. It
arises between: (a) ocean fishermen and river fishermen; (b) commercial and sport fishermen; (c) river-mouth and up-river Native fishermen. Allocation issues inevitably lead to conservation issues. The debate expands therefore to include discussion as to where strong stocks are best harvested and how much protection weaker stocks should receive.

It is upon this backdrop of legal rights versus prevailing attitudes that Native fisheries co-management is attempted in B.C.

The co-management arrangements in the US are much more developed, that is to say they involve more power for local Native fishermen, than they are in B.C. Because of this, strategies to overcome barriers faced by Washington Natives may be instructive in considering the effectiveness of such arrangements in British Columbia, including for our purposes, those attempted at Nitinaht Lake, as experienced by the Ditidaht people.

**Strategies For Achievement of Management Rights In Washington State**

Evelyn Pinkerton (1992) identified the following five strategies that successfully brought the commercial fishing industry to the table after the Boldt decision in Washington State:

1. **Coalitions and Issue Networks**

Coalitions and issue networks were successful because the tribes, environmentalists and State agencies brought complimentary resources to the coalition: Environmental Groups brought lobbying experience and experience using the courts; the tribes had field biologists, habitat
analysts on staff, and the clearest legal rights to protect habitat; the State agencies had paid staff, access to technical information and an interest in developing rationally defined (as opposed to politically influenced) decision-making procedures. The combination of: a) resources available to this coalition; and b) its ability to form an active issue network, to generate and discuss new models and standards, was the key to its success. These networks are successful because they unify diverse policy actors many sectors in sharing information and exploring alternative possibilities.

2. Legislation and Legislative Amendments

These amendments, given effect by the above coalition, were regarding forest practices. Groups were successful in getting the State Environmental Policy Act (S.E.P.A.) passed. The act required that a range of environmental impacts be analyzed including direct, indirect, and cumulative. A large part of the efforts to protect fish and wildlife centered around enlarging the range of logging activities that are defined as harmful and thus have to be reviewed by the S.E.P.A. process.

3. Threat of Greater Regulation and Public Review

The Forest Practices Board, a citizen’s panel appointed by the Governor and empowered by the Forest Practices Act was responsible for defining what forest practices were potentially harmful. Regulations are adopted under a public review process as part of the Washington Administrative Code, and carry the force of law. Even though the industry held several seats on this board, and originally dominated it, this body eventually provided a forum for citizen’s action.
4. Court Action to Reform Legislation and Amend Regulation

The impetus for the Forest Practices Board to adopt stricter regulations happened in stages. In the first stage (Noel v. Cole) a ruling suggested that the definition of what was potentially harmful to the environment was too narrow. Next, the F.P.B. was required by the court to review the regulations. Finally the F.P.B. identified cumulative effects as an issue that should be included in the definition of environmental sensitivity and started a review of its regulations on the matter.

The significance of the developments in the Washington case to co-management in British Columbia will be discussed further in a later chapter as these relate to what has been tried so far in this Province.

3.3 Co-Management in the B.C. Fisheries

Co-Management on the Skeena River

The foundation for co-management in the Gitksan and wet’suwet’en people is based on their traditional arrangements. (Morrel 1989). they hold title to property according to the traditional political unit of their society, translated into English as the “House”. “Houses” are based on extended family units and have precisely defined resource territories.

Each house is headed by a house chief, who holds ultimate authority in all matters relating to the house and its material and spiritual property. The house chiefs and sub-chiefs are responsible for the sustainable harvesting and equitable distribution of material and spiritual resources. The
Gitksan-Wet'suwet'an must be understood the context of the hereditary house chiefs continuing struggle to defend and maintain their control over their land and resources.

The Gitksan-Wet'suwet'an fishery proposals are based on the principle that the hereditary chiefs must have the final authority for resource management within their territories. The chiefs acknowledge that the salmon migrate outside their jurisdiction and that there is a need to coordinate management inside their territories with management outside. They are prepared to integrate their own management plans with the plans of those who manage outside Gitksan-Wet'suwet'an territory. This integration must be achieved through negotiation among equals. The house chiefs will not accept a subordinate role.

3.4 Goals of Co-Management in the Native Salmon Fisheries

For Native people, including the Ditidaht, co-management represents a first step towards self-determination. While the desire to determine their own future for themselves has always been a top priority for most Native groups, the reality is that if most groups were given such power tomorrow, they would be ill-prepared to proceed. The goal of self-determination would require efforts in many spheres of community life. (Robertson 1994). The goal of self-determination requires a comprehensive approach that must include a strong element of training and education.

In the past, most of the experience for native people has been in dealings with the public sector, and particularly with the federal Department of Indian and Northern Affairs. In order for Natives to become economically independent, they must learn how to deal with private sector interests.
This will involve further training. The problem is that efforts cannot be easily redirected toward such massive training while still maintaining enough economic effort to survive. Co-management offers a way to train and re-educate First Nations people, in such a way as to prepare them for self-determination, while still providing income. Fisheries is the logical choice to concentrate efforts toward self-determination on the West Coast because while little is left of the aboriginal fishing culture, local Natives still have some intimate ties with the fishery.

3.5 SUMMARY

We have seen the forces, both specific to Natives and in general, that surround the present discussion of co-management.

Where co-management has been tried in B.C., none of the efforts can be said to have reached the same stage in their development as those affected by the Boldt decision in the US. (Cohen 1989, Dale 1989, Jordon 1989). There is still much work to be done before it can be said that any group in B.C. is practicing co-management in the same sense that the native people in Washington State are. Because of this, we must be mindful of the fact that what may appear to be failures at the present stages of most agreements may simply represent growing pains. These may or may not be similar to those which were experienced in Washington State. What is important is that such growing pains are not necessarily failures in co-management per se. It should also be recognized that political and institutional arrangements in the United States differ enough from those in B.C. - and in particular, from those at Nitinaht Lake vis-à-vis the Ditidaht people - to render direct comparison of strategies to be of limited value. However enough of the general
themes in the American case are similar to those in British Columbia to warrant general comparisons from time to time. Isolating these similarities may help to identify problems that are not due to the strategies of the Ditidaht people. If problems are the same, despite differences in institutional arrangements, then we can propose that these are very fundamental problems, whose solutions may be less ambiguous than those specific to local conditions. Co-management also must have very fundamental strengths. Steven Langdon (1989) has suggested that experiences in the far north have shown that co-management can operate effectively even under extreme conditions.

In particular, struggles to overcome hurdles between the legal “right” to exercise resource management and the “de-facto” exercise of co-management, at a level that is appropriate to both government and local group, may be similar. While such exercise in Washington State is by no means definitive, (i.e. it is still evolving and there are still hurdles to overcome), similarities in development of co-management are instructive to possible solutions for the Ditidaht people.
4.0 INTRODUCTION TO THE CASE STUDY: THE DITIDAHT SALMON FISHERY

4.1 THE COMMUNITY OF THE DITIDAHT

"Malachan", officially Nitinaht Indian Reserve number eleven, is the present-day primary village of the Ditidaht people. It has evolved out of a much larger community, (See figure 2. p. 40) the complete story for which is outside the scope of this thesis. However, a brief post-contact history of the Ditidaht-speaking community is in order to show the peoples linkages to the land, and by extension, to the fisheries, and the attitudes that evolved out of these linkages.

The Ditidaht people moved to Malachan beginning in 1965 from what was formerly their two main villages: Whyac, at the coastal (south-west) end of the lake, and Cloo-oose (roughly 2 miles to the south-east of Whyac). Aside from the handful of white pioneers who settled on plots of land adjacent to the Villages, the Ditidaht were always somewhat isolated from major non-Indian population centers. There were always other less direct forms of influence brought to bear on the Ditidaht owing to contact with white people. Important among these influences was economic activity.

Today the Ditidaht band has just under 500 registered members with between 150-180 living at Malachan (I.R. number 11). The band council is elected through a band custom election system (which extends tenure of chief and council to four years rather than the two years otherwise laid out in the Indian Act). This council forms the local government in Nitinaht. However the Ditidaht, like most other Native bands strive to sever links of dependence on the Indian Affairs
Department. And the primary way they feel they can do this is through control and management of their fisheries. (Ditidaht Band 1993).

Malachan Indian Reserve is located on the inland (north-east) end of Nitinaht Lake on the West Coast of Vancouver Island. Nitinaht Lake is a tidal saltwater inlet (see Figure One, p 39). Its mean breadth is more than a kilometer with the widest point being nearly twice that width. and it is 200 meters deep at the midway area. (O’Donnell, 1989). Seventy three percent of the lake is anoxic. Beyond a depth of twenty-five meters, oxygen is almost entirely lacking. This is a severely limiting condition for marine life in the area since below this level are high levels of hydrogen sulfide. Weather conditions have caused the lake to "turn over" periodically which is a deadly occurrence to the species that ordinarily thrive there. Nitinaht Lake is connected to the Pacific Ocean by the Nitinaht Narrows, a tidal passage about a mile long at thirty-six meters wide at its narrowest spot.

Besides Nitinaht Lake, discussion in this thesis will involve Statistic Area 21, which is the Pacific Ocean adjacent to Nitinaht Lake between Bonilla Point and Pacheena Point, and the watersheds that form the rest of Area 22 (see map, Figure Three, p 41) of which Nitinaht Lake is part. (DFO, 1987). It will also include Klanawa River, Cheewat Creek and Walbran Creek.

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3 During such occurrences the perimeter of the lake is cluttered with small marine species such as jelly-fish and skulpins to a depth of six to twelve inches.
4 The Walbran was traditionally part of the Pacheedaht band at Port Renfrew, but they often shared their resources with the Ditidaht
FIGURE ONE: Location of Nitinaht Lake  
Source: Ditidaht Band
FIGURE TWO: Ditidaht Traditional Territories  
Source: Ditidaht Band
Figure 2. Statistical Areas 21 and 22, showing major salmon-producing streams.
At present approximately 150-180 Ditidaht live at the Malachan Reserve. The nearest urban centers are Lake Cowichan about 40 miles away, and Port Alberni, about 49 miles away.

About two-thirds of the Ditidaht people have been living off-reserve in Port Alberni, Victoria, Vancouver Victoria, Nanaimo, Duncan, Seattle besides various other Native villages on Vancouver Island. Recent successful economic development initiatives have raised interest of these members to move home.

4.1.2 A Brief History

While the following information is generally from the Ditidaht document “A Historical Perspective on Lands and Land-Use” written by David Ellis (1995), the information is widely known among the Ditidaht people.

The Ditidaht Nation is an amalgamation of at least ten local groups each centering around a chief and their families. (Ditidaht Band, 1995). The name of the local group was derived from the location of their village. Typically, the suffix “aht” was added to the place-name to denote the local group. For example the term “Ditidaht” means people from “Diitiida”. The extent of independence is not known, but elders believe that pre-contact groups were generally more autonomous and less amalgamated. Cloo-oose for example was in many ways as autonomous as Pacheedaht, which has since been made “more” autonomous by the actions of government. The Ditidaht people were living in an area surrounding Nitinaht Lake at the time of European contact. They are basically the descendants of two groups of people, one of which has probably
existed at Nitinaht Lake since the last glacial flood. The two groups are now indistinguishable because of inter-marriage. No one can accurately claim to have descended exclusively from one or the other.

In modern times, up until the move to the Malachan village⁵, the Ditidaht moved seasonally to different cabins in villages along the lake. This facilitated escaping the harsh winter winds, as well as closer proximity to easily accessed salmon (predominantly sockeye and chum), ducks and deer.

**Ditidaht Concept of Land**

Ditidaht territory is identified by place names in the Ditidaht language. Approximately 250 of these names have been recorded and their location marked on maps of Ditidaht territory. Place names are indications that the locations have cultural significance. Place names also serve as an entity that records events of historical significance. They provide a mental map of Ditidaht territory to those who know them. Assigning names to the land provides useful knowledge for locating resources and as navigational landmarks. Names of physiographic features, major streams and mountains, villages and camps and off-shore fishing locations, found through navigational markers, are commonly known. More specialized knowledge of subsistence areas are held by those who traveled and lived in the local micro-environments.

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⁵ Previous to this move, in 1965 only one family lived on this reserve.
The assignment of names to specific sites does not conflict with the indigenous perspective of the territory’s importance as a whole. From a Ditidaht perspective, both views are important and meaningful.

**Land as Property**

Each local group was associated with a specific territory in which they maintained their winter village and from which they obtained their daily food. The name of the local group was derived from the name of the winter village.

The availability of fresh water and a suitable canoe landing site, as well as protecting from storms and from one’s enemies, made a site appropriate for a camp or village. Each Ditidaht village consisted of one or more cedar plank houses, built in either a gable-roof or shed-roof style. The planks were removable from a permanent framework for transporting to seasonally-occupied sites that were the location of other permanent frames.

Within a village, the site upon which a particular house was built was called *ba’uus* in the Ditidaht language. This site along with canoes, weapons slaves and other goods could be inherited by kin or sold to friends. The building itself belonged to the person who organized its construction.
Collectively the residents of a village took a proprietary interest in the lands and waters in the vicinity of their village and would unite to repel strangers if it was necessary at this scale. More often, the local groups would need to unite against larger enemy forces.

Boundaries were very precise throughout the aboriginal societies of British Columbia. Boundaries were the subject of disagreement and discontent among different groups. Property rights were precise and strict. Punishment for infractions by non-Ditidaht ranged from the death penalty to simple confiscation of contraband, depending upon the seriousness of the infraction. Death penalties were often carried out in such a way as to make a certain impression on those perceived to be potential offenders.

Certain families held private material and non-material property rights. This is called tupaat, or a family's “private ceremonial prerogatives” with supernatural and historical significance. (These are in contrast to European prerogatives of ownership, which are primarily material and economic.) Quite often these would have little or no economic application.

Ditidaht Aboriginal Uses of Land

Nearly all of the material necessities of the Ditidaht were extracted from their own territory. Fin-fish, shell-fish, sea-mammals, game and plant-foods were all bountiful within Ditidaht territory. As well, most of the products necessary for aboriginal technology. Fine-grained cedar for planks, and pliable cedar bark for weaving,----etc., are found locally.

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6 War was usually between different “Nations” or linguistic groups, not local groups.
The Ditidaht economy was extractive. As such, the pattern of food and resource exploitation was affected by the character of the environment and the subsistence strategy was adopted to an environment marked by variation resource types, local diversity, seasonal variation and annual fluctuation. Generally, timing and emphasis of Ditidaht subsistence activities were determined by availability, which was in turn set by resource location, species migration weather, and species maturity.

Most food provisions came from the sea. The staple foods were all species of salmon, halibut and groundfish, as well as inter-tidal foods such as mussels, barnacles and sea urchins. These were supplemented with marine mammals, particularly whale and seal, as well as deer moose and elk from the land. Roots and green plants, fruits and berries rounded out the diet.

Food harvesting became severely limited in the winter when southeasterly winds, known to gust up to 100 miles per hour in modern times, began in November. The Ditidaht survived off the preserved food prepared in the previous summer. Food “surpluses” were exchanged by independent groups and between individuals. Winter villages, using a system of centralized pooling and redistribution, amassed resources for feasting or potlatching. Both food and wealth items were exchanged. Sometimes, depending on the nature of the ceremony, villagers might contribute their economic and spiritual support to the chief when potlatch plans were announced. Without doubt the contact between the Ditidaht people and White people, especially in terms of rapid economic transformation of the Ditidaht, had a tremendous impact on the Ditidaht life.
This transformation caused an almost complete change, in a single generation, of the way the Ditidaht made their living.

The next section will describe, in turn, the attempts that the D.F.O and the Ditidaht Band have made at co-management of the Nitinaht fisheries. The backgrounds of each of these groups, in terms of their respective assessments of, and priorities for the fisheries, will be described in order to establish the context from which co-management was attempted. The backgrounds will also serve to isolate components of fisheries management that might constitute “missed opportunities” for each group once they pursued co-management. These will identified and analyzed in a later section. After the backgrounds, the respective attempts at co-management will be described.
5.0 THE DITIDAHT FISHERY

5.1 What the DFO Has Tried

The DFO fisheries assessments in the period immediately preceding the emergence of the
“Aboriginal Fisheries Strategy” (AFS) did not mention fishermen in terms of their role in the
management process. In fact as the following will show, they are only mentioned as their fishing
activity related to harvest rates.

5.1.1 Background: A History of DFO Management Priorities and Assessments

The following section is adopted from “Salmon Stock Management Plan Discussion Document”
(DFO, 1987).

Most of the salmon production in area 21 originates from the Nitinaht drainage system, which
includes the Hobitan sub-basin, (Hobitan Lake and Hobitan River), Caycuse River, Doobah
Creek, and Nitinaht River. (D.F.O, 1987). Other systems that support salmon are the Klanawa
River and Cheewat Creek, both of which drain into Area 21.

Stock Description

Four of the salmon species (chum, sockeye, chinook and coho) and steelhead occur in area 22.
Chum are currently the most abundant. Pink (or humpback) have not been recorded since 1964 in
the Nitinaht or Cheewat systems, although they were previously found there.
**Sockeye**

The Hobitan and Cheewat Rivers produce sockeye. Sockeye enter the Nitinaht system between March and July and remain in Nitinaht Lake until October before moving into Hobitan Lake to spawn. The Hobitan stock are beach spawners.\(^7\)

The Hobitan Lake sockeye stock has been enhanced by lake fertilization, beginning in 1977. The first returns from enriched stocks arrived in 1981. During this year sockeye escapement was estimated at 13,300. Based on historic escapements the D.F.O set the escapement target for their enrichment program at 15,000 spawners. Returns after the enrichment program has suggested that the capacity of the Hobitan system may be greater. The D.F.O therefore re-set the target at 20,000 spawners.

**Chum**

Chum salmon spawn in all the major streams and rivers in areas 21 and 22. However the majority (95% of the escapement) originate in the Nitinaht River. Despite an apparent gradual increasing trend since 1950, there have been severe short term fluctuations in returns. The target escapement of chum salmon was only reached four times between 1951 and 1983. Environmental factors and intense fishing both played a part in stock depletion. There is some question as to the reliability of the escapement data for this period. Rates of return, age composition and sex ratio are extremely variable for Nitinaht chum. The number of adult runs relative to brood-year escapements averaged 4.71:1 for the years 1968-1981. However in 1972

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\(^7\) As opposed to "river spawners" which spawn in river beds.

\(^8\) It must be noted that there was a marked "decreasing" trend before this period.
the escapement ratio was 0.09:1 and in 1981 the ratio was 19.97:1. The average age composition was of the Nitinaht Lake stock was 34% three year olds, 62% four year olds and 5% five year old spawners in the return years 1971-1982. Significant differences in age composition have been noted between years. Three year old fish comprised 3% of the total returns in 1968 and 93% in 1971. The variability in return rates may reflect uncertainty in the escapement estimates. Variability of return rates and apparent lack of correlation between brood-year escapements and returns make run forecasting almost impossible. Because of this, current escapement targets are based on estimates of spawning capacity and records of historic escapement.

Nitinaht chum have relatively late migration timing relative to other West Coast Vancouver Island stocks. Adults arrive in the streams by early October and are in peak spawning about one month later, and spawning is complete by late November. Migration timing has been based on catch data and spawning records.

Almost the entire land area surrounding area 21 and 22 has been logged extensively causing an extreme amplification of run-off conditions. These erratic conditions generally are not detrimental to the rearing environment for chum salmon. Available data show excellent growth rates for juvenile fish.

Below 20-30 meters the lake is oxygen deficient. Between 1950 and 1987 there have been five documented fish kills resulting from the surfacing of hydrogen sulfide. Factors that contribute to this lake inversion are tide conditions, extreme winds, (south-easterly) storms and low
precipitation. Logging has increased the frequency of these events. (Joseph, B. Sr., Pers. Comm., 1976).

Chinook

The only chinook stock in the Nitinaht system spawns in the Nitinaht River. They are fall run, ocean fish typical of West Coast Vancouver Island stocks. They mature as three and four year old fish.

There is no apparent escapement trend for chinook escapements from Area 22 during the period 1950-1984.\(^9\) Escapement was the highest in 1985, perhaps due in part to the escapement of hatchery fish. The migration timing of chinook follows that of the sockeye in the area. Chinook enter Nitinaht Lake during mid-August and spawning occurs from September through October. (Chart)

Coho

Coho are found in all major watercourses in area 22. However stocks are not abundant. The Nitinaht River is the largest producer in the area.

Running time for coho is later than that of other species. Adult spawners begin entering Nitinaht Lake during September, but they don't arrive at the spawning grounds until October through December.

\(^9\)Elder fishermen have suggested that there was a dramatic decline before 1950.
Due to insufficient data, stock and recruitment relationships are inadequate for management purposes. Inferences must be made from trends in escapement. Coho escapements have declined since 1979. Uncertainty in escapement data makes interpretation of this data difficult.

Further difficulties identified by the DFO (1987) are:

- The migration of coho to natal streams occurs over several months;
- Coho often return late fall early winter when visibility is poor and D.F.O. manpower is reduced;
- Collection of coho escapement data is not given high priority and;
- The number of streams or sections of streams that are surveyed have been inconsistent across years.

These points, particularly number four, render escapement counts unreliable since the spawner counts are not comparable between years.

**Pink (Humpback)**

Nil

**Steelhead Trout**

Area 22 supports both winter and summer runs of steelhead, especially in the Caycuse and Nitinaht Rivers. Information regarding steelhead is poor, but annual returns of adult fish are estimated at 100-300 for each of the two rivers. Winter steelhead return to fresh water from November through April and are the more abundant of the two runs. Summer steelhead arrive in the area from May through August. Elders and any Ditidaht knowledgeable about fishing consider the two runs to be separate species. Summer sport-fishing, incidental Indian food
fishing and commercial net fisheries targeting Fraser River sockeye and pink salmon, have all contributed to the depressed numbers of summer steelhead.

**Fisheries Harvests**

**Sockeye Harvests**

Hobitan sockeye have not been commercially harvested since 1957. The only official users have been members of the Ditidaht band. Since 1982, the fishery has been administered and regulated by the band under a permit from the D.F.O. The Lake enrichment section of the Fisheries Research Branch in Nanaimo provides advice and information to the band regarding stock abundance.

The Indian food fishery primarily occurs at or near the mouth of the Hobitan River. However there are some sockeye harvested from the Nitinaht Narrows and an areas just inside the Narrows known locally as “the flats”. Fishing is predominantly done by hand-powered gill-net fishery, although a hand-powered drag seine method has been used.

Available catch data has indicated that local catches have ranged from 1000 to 3000 fish since the 1950s (DFO, 1987).

**Chum Harvests**

Commercial openings have been sporadic since the 1950's due to reduced stocks. there have been only 13 commercial openings for between 1951 and 1985. Prior to 1984, the chum fishery for area 22 was last opened in 1980. Only half the target escapement was achieved that year. (TABLE)
Fisheries have operated both the inside (area 22) and outside (area 21) Nitinaht Lake. Area 21 is a less practical option since whether conditions in the fall tend to be severe. There are many accounts of sizable fish boats sinking at Nitinaht bar. Even area 22 is dangerous for the uninitiated fishermen because of the severe currents and hidden reefs. Chum are more vulnerable to nets (particularly seine) in the lake since they are forced to the surface by the anoxic layer mention above. As well, the condition of fish, once inside the lake, is deteriorated.

Target escapement for area 22 chum is set at 125,000. Escapement estimates are poor due to infrequent surveys and flooding of streams and the lake itself, which is a normal condition in the area in the fall. The chum are regulated as a single aggregate stock although they spawn in many different steams. Commercial openings are regulated by gear type and usually involve gill-net and seine vessels. The season peaks in the third and fourth weeks of October.

Test fish data is not reliable since large schools of fish that often appear spontaneously are impossible to forecast. (Charts).

Chinook and Coho

Area 22 chinook and coho are managed as part of the West Coast Vancouver Island stock aggregate. Directed harvest include the west coast troll and sport fisheries. Most of the catch is taken in the troll fishery, which is managed to a ceiling of 375,000 chinook and 1.75 million coho for the entire west coast Vancouver Island. The commercial troll harvest takes place outside Nitinaht Lake (at least a half mile off-shore of the narrows). The sport fishery takes place closer
to shore just outside the bar and (by locals) in the narrows itself. Coho is taken at the Nitinaht bar and off-shore (by knowledgeable fishermen) and along the Nitinaht River. The fishery is managed to maximize fishing time, restrict catches to ceiling limits, and to minimize catches of illegal undersize fish. The objective have been accomplished by comparison of actual catches with forecast catches and subsequent area-time closures based on consultation with affected fishermen.

Current Enhancement Activities

Hobitan Lake Enrichment

Hobitan Lake is one of six lakes on Vancouver Island that are under study to determine the effects of fertilization on sockeye growth, survival and production. Treatments of inorganic nutrients were applied to the lake from 1977-1983. Spawner escapement, within lake survival of smolts and smolt size were assessed. Treatment of the lake was discontinued in 1984, but annual monitoring was continued.

Nitinaht Hatchery

Enhancement of area 22 chum stocks occurs at Nitinaht Hatchery which is located at the confluence of the Nitinaht and Little Nitinaht Rivers. This Hatchery was established in 1980 and has the capacity to incubate 28 million chum eggs and rear 20 million fry. At capacity, chum returns are estimated to be about 403,000. The first returns from the hatchery were in 1983, but stock abundance wasn't sufficient for a commercial opening until the following year.
The D.F.O. feel that the hatchery has had no ill effects on the wild stocks and that the rearing capacity for the Lake was under-utilized. (DFO, 1987).\textsuperscript{10}

Chinook reared at the Nitinaht hatchery are used to enhance stock from the Nitinaht and Sarita river systems. Nitinaht juveniles are reared to the smolt stage, while Sarita chinook are released to their natal streams as at an earlier stage. The Nitinaht hatchery was originally designed to incubate 1.5 million chinook eggs. Egg takes beyond hatchery needs can be transplanted elsewhere. More than 2.5 million eggs were have been incubated at the hatchery since 1983.

Coho have been raised at the hatchery since 1982. Egg takes have averaged 80,000. Coho are reared to the pre-smolt stage, and estimated returns from the 1985 brood is 1100 adults.

Colonization of the barren streams of the in the Nitinaht watershed was completed in 1983. (table p 65).

**Habitat Status**

The Nitinaht River system produces the majority of salmon in area 22. There are presently no large communities in this area but much of the area has been logged. Vegetative cover is regenerating, but the over-all impact of deforestation is unknown. Some stabilization of basin hydrology is expected to occur.

\textsuperscript{10} This assessment must be from relatively recent times, since it runs counter to the accounts of elders about early contact and pre-contact periods.
Management Conflicts

Management Uncertainties

Management uncertainties in salmon stocks are the most significant for chum. Of major concern is the inability to predict annual returns, as mentioned earlier. As a result it is difficult to manage the fishery so that the surplus fish is harvested while still achieving target escapement. Production from the Nitinaht hatchery may moderate annual variability in chum returns, but the inability to separate wild stocks and hatchery stocks is a concern for D.F.O.

Mixed Stock Harvest

Mixed stocks are fish from different river systems that mix together and are susceptible to simultaneous harvesting. In area 21, fishing has occurred outside the surf-line where chum from the Fraser River and Puget Sound are thought to have been caught along with Nitinaht fish. Recovery of tagged chum has provided some information about the contribution of Nitinaht chum to the total catch.

There are also incidental harvest of Nitinaht coho, chinook and steelhead in the commercial chum fishery. There has been concern regarding the incidental catch of steelhead by the sport fishery and in the Ditidaht sockeye food fishery.

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\[11\] This would be especially true with seine fishermen since their nets are designed so that nothing except very small objects get through the seine mesh.
Enhanced and wild fish both contribute to natural spawning along the Nitinaht River. There is no means for harvesting natural and enhanced stocks separately, although as of 1987 the Salmonid Enhancement Project has started a mark-recovery program to determine hatchery contribution to naturally-spawning populations.

Re building Potential

Sockeye

The enrichment of Hobitan lake has increased sockeye production above expected levels. Prior to lake fertilization, total returns were estimated at 2,000-10,000 individuals. Initial escapement target was set at 15,000 spawners but with the success of the program, this target was later revised to 20,000. In 1982, total returns to Hobitan Lake were over 76,000 sockeye. Enrichment was discontinued in 1987 leaving only a monitoring program. A regular fertilization program may be implemented in the future.

Chum

The degree to which the chum stock can be rebuilt is uncertain. A target of 125,000 spawners has been set based on historical data. Evidence of the stocks potential to rebuild was apparent in 1985 when there was an escapement of 225,000 fish from the combined return (hatchery and wild) of 2.1 million chum. Due to the variable conditions in the area, the escapement and composition of Nitinaht chum fishery will likely continue to fluctuate dramatically. hatchery production and re-growth of forest on slopes may reduce variability.

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It should be noted that levels, even with enrichment, never returned to “original” levels.

or in 1972 when the “harvest” equaled 2 million
Management Options for Rebuilding

The following section, also from the 1987 DFO document, shows that the DFO failed to recognize the importance of local management input into the process of stock rehabilitation.

Management Uncertainties

In order to achieve a sustainable harvest rate, that is to achieve sufficient escapement while harvesting the surplus, fisheries managers must have knowledge of stock abundance. The D.F.O. recognizes the need to increase the accuracy of escapement information. This improvement would be achieved essentially by increasing escapement counting effort and standardizing techniques. The main constraint is personnel and resources (in other words money). Despite any improvements, forecasts will remain unreliable. because of this it is important to actual returns in-season. A test fishery permits run size to be estimated if harvest effort is strictly controlled. Still, this method has met with only limited success at estimating stock abundance. D.F.O. feels that at least test fisheries reduce uncertainty somewhat, and reduce the risk of over-harvest when stock size is low. Another management option is to open the fishery for a short period and judge stock size based on catch size per unit effort. Obviously, this strategy wouldn't work where stock sizes are known to be low.

Mixed Stock Harvest

The commercial openings in area 22 results in mixed stock harvesting. An opening within Nitinaht lake would avoid this. However fish inside the lake are of poor quality and navigating in and out is difficult. Mixed stock harvesting is unavoidable unless hatchery stocks are developed with a run timing that doesn’t overlap with wild stocks.
Potential Enhancement Activity

Nitinaht Hatchery Expansion Project

This project involves the expansion of the hatchery’s chinook rearing capacity. This will include the construction of extra ponds and a new surface water supply from the little Nitinaht River. The production of chinook will be increased by 60,000 adults.

Side Channel Rehabilitation

Side channel rehabilitation involves the manipulation of habitat to flooded channels separated from the mainstream of the river. Channels are excavated to ensure a steady supply of water and are landscaped to produce a suitable spawning bed and suitable water depths. They are also protected from scouring from mainstream currents, and reduce the impacts of flood events.

Computer Simulation Modeling

has used a computer simulation model to investigate fisheries management options for area 22. The model is intended to show the outcomes of different management strategies. Results of the simulation modeling indicated that enrichment of Hobitan Lake would provide significant improvement in sockeye catches over 1987 levels. The surplus Hobitan fish is thought to be harvested by the offshore troll and net fishery. The simulation modeling also suggests that chum stocks will stabilize quickly and that catches will remain high as a result of hatchery operations. Chum stocks would be seriously affected in the absence of a hatchery. The hatchery also provides for flexibility of management options. Conversely stability of chum stocks would be

14 The Ditidaht were forced to look to fish caught from the Adams River run, as they migrated past Juan De Fuca Strait, when the Hobitan did not produce adequate escapement.
seriously affected by intense harvesting of low stocks, and the absence of a hatchery would mean that an effective management strategy would be inflexible and conservative.

Land-mark court decisions, generally affirming the rights of Native fishermen, have changed the way the DFO approached salmon fisheries management. No longer merely dealing with escapement estimates and so forth, policy had henceforth to deal with the aspirations of user groups. The next section shows how the DFO dealt with this new approach.

5.1.2 Co-Management as Attempted by the D.F.O

The Aboriginal Fisheries Strategy

In British Columbia local input into fisheries management began to be pursued by the DFO as a policy response to the growing political strength won by Native people through the courts. What has come to be known as the Aboriginal Fisheries Strategy began as an initiative by then Federal Fisheries Minister John Crosbie in 1992. ("Crosbie Announces Aboriginal Strategy for BC Fishery" DFO news release, 1992). Initial work began in 1991 with more than 100 agreements worth 9.7 million signed in BC. (see “Aboriginal Fisheries Strategy: Native Groups Participate in Management, Enhancement”, DFO, June 1992). The AFS was to be a seven year program to “....stabilize the fishery and to increase economic opportunities for Native people”. The plan was for this $140 million dollar strategy to have the following highlights:

- Increased Native involvement in cooperative fisheries and habitat management activities;
- economic and training opportunities for Native communities;
- allocations of salmon for Native harvest under communal licenses for 1992;
reallocation of fishery resources to Aboriginal groups through the purchase of commercial harvesting licenses;
a limited number of pilot projects in 1992 to test the commercial sale of Native catches.

The components of the strategy consisted of negotiated one-year and multi-year agreements with Native communities for harvest, fisheries management and development. Projects, submitted to the D.F.O, were to address resource management priorities and were to be managed jointly. It was expected that agreements would be reached covering many fishery related activities that would be tailored to meet the diverse aspirations and opportunities of Native groups. D.F.O provided funds to the independent B.C. Fisheries Commission, itself made up of leaders from the commercial and recreational sectors. This commission was to design and manage a plan to retire commercial fishing licenses so that commercial harvesters would not be negatively affected. An initial amount of $7 million dollars was to be provided for this purpose in 1992. The first agreements to test the sale of Native-harvested salmon was signed with the Sto:lo, Musqueam and Tsawwassen Nations on the Lower Fraser River (DFO, June 29, 1992). Under the program, Native guardians were to monitor these fisheries in cooperation with DFO management and enforcement staff to ensure compliance with the fishing plans. Fish inspection regulations for health and safety would be applied to Native catch destined for the commercial market. Canadian processors were to have the right of first refusal to fish being sold under these agreements. Employment and Immigration's "pathways" program assisted in putting the strategy in place. (DFO, 1992). Other agreements were reached with the Skeena and Haida Native groups.
Public Backlash to the AFS

Much of the general public, not accustom to fishermen being involved with fisheries management, were alarmed by certain aspects of the AFS, especially commercial sale of Native “food fish”.

(See DFO circular “Backgrounder: Aboriginal fisheries strategy: Sale to be tested in 1992”, Lefebvre, M., June 1992). Besides the sale of food-fish, the DFO estimated a sockeye run for the Fraser River of seven million which failed to materialize. There was a short-fall of approximately 600,000 pieces. (DFO, speech by John Crosbie, Sept. 17, 1992). This over-estimation prompted allegations of Native “poaching”, an allegation to which Crosbie responded by promising increased surveillance on the river. All fishing activity on the river was also closed (DFO, August 28, 1992)

Questions about the strategy prompted then fisheries minister John Crosbie to offer the explanation, released to the Vancouver Sun, (February 5, 1993) based on the following themes, (and which are instructive in identifying the fears of non-Natives):

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15 The Nuu-chah-nulth agreement only included the Port Alberni Bands: Opetchesaht and Tseshahnt
1. Definition

Crosbie defined AFS as implementation program for the 1990 Supreme Court of Canada decision guaranteeing the right to fish for food, social and ceremonial purposes.

Implementation

Implementation was to be carried out through negotiation with Bands on issues such as habitat, training and economic development.

Protecting the Stock

Amid public fear that Natives would destroy salmon stocks, Crosbie assured the public that the stocks were actually increasing.

Enforcement Problems

Crosbie explained that the enforcement problems experienced in 1992 were part of a learning process and with feedback from the public, the problems can be solved.

Displacement of Commercial Fishermen

Crosbie pointed out that commercial fishermen have maintained 94% of the total catch with aboriginal and sport fishermen getting 3% each for the 15 years preceding 1993.

Fairness of Reallocation

Reallocation was to be based on the voluntary reallocation of commercial licenses. Voluntary retirement of licenses was designed to neutralize the impacts that resulted from the reallocation

**Land Claims: A Separate Issue**

Crosbie reassured commercial fishermen that they were not paying the cost of settling land claims. (See DFO circular, "Backgrounder: Aboriginal Fisheries Strategy: The Program" P 3, Lefebvre, M.)

**Consultation**

The government held 44 meetings with commercial and sport fishermen in 1992. Crosbie assured them that they will remain involved in implementing the AFS.

**DFO Responsibility**

Crosbie reassured the public that the DFO will remain responsible for the fishery and that in 1993 enforcement will be stepped up.

**5.2 What the Ditidaht Have Tried**

The following is a brief summary of pre-contact Ditidaht fisheries management practices. Note that, in this period, since the act of conservation was carried out simultaneously with fishing, fishermen by definition had input into the management process.
Background: The Values of the Ditidaht People “Ooch-ah-uk”

The Ditidaht refer to their traditional resource management system as “ooch-ah-uk.” The Ditidaht word ooch-ah-uk is analogous to the English verb “to take care of”. If one were to compare the management records of the traditional Ditidaht management of their territory with the relatively short European management system (represented by the D.F.O), one would see that the term is an appropriate name for the model. The historical records show that the Ditidaht management system was more effective at achieving the goal of conservation. (Ditidaht Band, 1995). The irrefutable evidence was the well documented abundance of all species of fish when at the time of European contact. The Ditidaht feel that their model would be effective at achieving their goal of conservation because it shows a great sensitivity to stock levels. When the local salmon fishery was controlled by the Ditidaht, most salmon fishing was done in the terminal areas, using trap and weir technologies that maximized efficiency and quality control. The result was that harvest rates were sustainable for all species. Furthermore, over-escapements were common. Terminal methods were more reliable since data collection and fishing could be done simultaneously. The risk of over-harvest was reduced since the harvest system was also an escapement system.

What “Ooch-ah-uk” implied in terms of traditional salmon management was that the people only took what the resource would support in a given year. If a run couldn’t support a harvest in any given year, then harvesting efforts were directed to a different species (rather than being simply “scaled back”). Attention was re-directed on a continuum depending on the nature of resource
shortage. If a species was in jeopardy, attention was directed to other salmon species. If all salmon were scarce, then other fish were harvested. If all fish were scarce, then sea mammals were substituted, or if no marine species were abundant, venison was substituted, and so forth.

Under the Ooch-ah-uk system, each family had a set time to use their salmon traps. More male than female salmon were taken to ensure the females for spawning. Most of the harvest of chum, coho and chinook was of fish that was close to spawning.\textsuperscript{16}

The Ditidaht did have interception fisheries, that involved both troll and gill-net methods, but these took a much smaller percentage than the terminal fishery. As well, chinook and coho were the only two species taken in the ocean. The other species were taken in “semi-dark” condition close to the rivers. Returning chum and chinook were taken by spear or dip-net, especially at night by pitch light. They were taken at the narrows (Whyah), the present village of Malachan, near the entrance to Nitinaht River and at many in-river locations.

Sockeye was taken prior to spawning by a selective in-river trap system. At the Cheewat River their were many weirs and traps that often blocked the river completely. The fish were contained in live condition in the traps. Elders have said that the bigger, stronger fish were “freed” or placed over the weir, in order to survive for spawning stock. Only the smaller, weaker specimen were harvested. In the months of December and January some Ditidaht would harvest the spawned out “loolas” for smoking.

\textsuperscript{16}This is because the greater volume of fish was harvested for smoking use rather than for immediate consumption. “Poor” quality, dark, fish are actually superior for this purpose.
Coho were also taken by trap, especially at the Nitinaht River where they were once abundant. A D.F.O. reference suggested that the Chewat River was a good coho producer. (DFO, Sept., 1983). Recent tests have suggested that this is no longer the case.

Traps were often used as “live traps” or storage areas to preserve fish for a later date.

In December and January Ditidaht fishermen would travel up the Nitinaht River by canoe and emerge at Cowichan Lake to harvest spawned out coho for drying, as well as deer and elk.

As each family used the salmon traps they also took part in stream-keeping, clearing logjams and windfalls that obstructed the creek. The Ooch-ah-uk concept implied a holistic, spiritual connection to the rivers. They were sacred places. The elders still don’t approve of the building of public trails along creeks and rivers. Respect was the foundation of salmon harvesting practices. This was reflected in the traditional custom (no longer practiced) of returning all fish bones to the creek of its origin. It was through respect that the Ditidaht felt that the future of the resource was assured.

Ooch-ah-uk can be seen as a community control mechanism which was based on observation of past run sizes and species behavior. These observations triggered a cut-off based on the traditional ecological knowledge (TEK) of the Ditidaht.

In 1897, the DFO took action to stop the trap system and promised to give them gill-nets instead. This promise was subsequently broken and the people had to purchase nets. This illegal action
destroyed the effectiveness of the management system. However the actions were not meant as
an extinguishment of the right to fish:

.....When reserves were laid out by the Honorable P. O'Reilly, the Indian Reserve
Commissioner, it was understood by the Indians that they had fishing rights in all
these streams, principally frequented by Dog Salmon, some of the reserves being
given for that reason only, and that they were allowed to procure fish for their own
consumption with spear, net or trap as they have always been accustomed. The
Indians do not observe any fishing regulations or any closed season. Weirs are still
used on some rivers, but nearly to the same extent as in old times....with regard to the
enforcement of fishery laws, it must be taken into consideration that the Indians only take
what they require for their own and do not, and if traps are put in, they are generally
taken out again when sufficient were taken....

Harry Guillod, Indian Agent, 1898
(from Reuben Ware, undated)

The Ditidaht now wish to take the remaining (rapidly diminishing) knowledge about
management and apply it in the modern context.

5.2.1 The Present and Historical Constraints on the Ditidaht Native Fishery

The Economic Aspect

The constant pressure by the Ditidaht for a greater share of the salmon was not based on greed.

At present, in order for the B.C. aboriginal catches to meet the simple nutritional minimums
established by international standards, these catches would need to be greatly increased. (Hume,
1995). Furthermore as a result of displacement from employment in fishing and in logging, a
state of economic dependency, typical of nearly all Natives, has been created for the Ditidaht
people.
The antagonistic relationship with the D.F.O began with laws forbidding the Ditidaht to sell fish in 1888,

**Fishing by means of nets or other apparatus without leases or licenses from the Minister of Marine Fisheries is prohibited in all waters of British Columbia. Provided always that Indians shall, at all times have the liberty to provide food for themselves, but not for sale, barter or traffic, by any means other than with drift nets or by spearing.** (Government of Canada, 1888).

The imposition of this rule marked the first attempt by the federal government to transfer management of the tribal fisheries from the resource harvesters and processors (Indians) to the state.

In 1894 there was a second major regulatory intrusion to restrict and control the Indian fishery:

**Fishing by means of nets or any other apparatus whatever for any kind of fishing without licenses from the Minister of Marine and Fisheries is prohibited in any of the waters of the Province of British Columbia (a) provided always that Indians may, at any time, with the permission of the Inspector of Fisheries, catch for the purpose of providing food for themselves and their families, but for no other purpose, but no Indian shall spear, trap or pen fish on their spawning grounds, nor catch them during the close season, or in any place leased or set apart for the natural or artificial propagation of fish, or in any other place otherwise specifically reserved.** (Government of Canada, 1894).

These regulations were the first significant attempt to consolidate the regulatory policy toward aboriginal fishing. This regulation forced the Indians to abandon traditional fisheries technologies except with permission. More significantly, with these regulation, the Indian food fishery was invented, and has prevailed, in various forms, up to the (1990) Sparrow decision.

The most significant impact of these regulations was that it made a viable local economy based on traditional techniques and fishing practices not permissible. The only way that Indians could
participate in the commercial fishery was as individuals, if they owned boats, not as communities.

Another impact was that it created an image of Native people as simple-minded subsistence people who had no system of commerce. The traditional systems of barter and trade became criminalized. Since the activities did not immediately cease, the people, especially in isolated places like Nitinaht Lake, the Indians came to be seen as not only “subsistence” people, but also as people who sold fish with no regard for the law.

The Conservation Aspect

Chum Salmon Decline

Since the most significant salmon fishery at Nitinaht Lake has been the massive chum salmon runs, declines in this species represented and continues to represent the most ecologically significant occurrence for the area’s fishery. Officially, the largest commercial chum catch in area 21 and area 22 was made in 1988, when the combined commercial and Ditidaht catches was estimated at 1,843,331 chum salmon. However catch and escapement records for the Nitinaht River date back only as far as 1925, well after the establishment of the Lummi Bay cannery in 1917. There were no records of these early catches, but within ten years of the cannery’s opening, the cannery was almost closed down because of the lack of fish. (O’Donnell, 1989) When record keeping began in 1925, total returns were approximately 300,000 chums, and total escapements ranged from 100-150,000. (Chart ref. p. 100).
Harvest rates continued to rise even as the total number of returns dropped. From 1943-45, escapements averaged only 2,166 annually, but harvesting continued at 16,500 annually. Harvest rates increased in the period 1951-60 and, coupled with the effects of logging had reduced the potential production of the Nitinaht River. (DFO, 1987). The original abundance of chum salmon has rebounded at several points in history despite recurrence of over-fishing and habitat damage. The largest catch recorded before the hatchery was built was in 1972, when 1,290,457 chum were taken. Total escapements for that year were 264,575 ((Chart ref. p. 91.). Ditidaht elders believe that the actual catch was about 3,700,000. Of significance is that this abundance occurred when there was already logging damage to the habitat.

feels that about 300,000 spawners can now use the Nitinaht River to spawn once more as the habitat recovers from the effects of logging.

The elders feel that with a proper spawning habitat, and without the hatchery, the River could produce twice as many chum, or 600,000 spawners. From these spawners and assuming a 50/50 sex ratio, and 2,800 eggs per female, it is reasonable to assume that 76,000 fry would reach the lake. Assuming a 2.6% estimate - or .4% less than the D.F.O's own standards - of fry survival, average returns in ancient times of 1,976,000 annually. Of the 600,000 spawners, the potential average surplus would have been 1,376,000 annually.

17 My personal recollection was that non-Native fishermen were estimating the catch to be at least 2,000,000.
If it is true that a pristine habitat could double the present hatchery production of fry, then habitat damage is primary in necessitating the efforts of the Nitinaht hatchery. A.Y. Federenko (1979) states:

The Nitinaht Watershed was logged extensively from the 1950s to the present. Aerial photographs from 1959 showed recent clear-cut logging right up to the shores of the Nitinaht River from km 4 upstream to km 22. Photographs from 1969 showed logging of the river slopes right to the mouth of Nitinaht River and along the outlet of the lake to the ocean. All areas were clear-cut to the shoreline.

Also note Lightly et al (1985)

The variation in stock size of WCVI [West Coast Vancouver Island] chum salmon seem to be magnified in the Nitinaht area where almost all spawning occurs in the Nitinaht River. This watershed has been almost totally stripped of tree cover over a relatively short period of time, leading to extreme run-off fluctuations during fish spawning and incubation.

From the period 1951-82, wild Nitinaht chum returns displayed the highest degree of variability of any WCVI chum stock. Some of the excess production of the hatchery was probably finding its way into local rivers. (Heitzer, 1993).

While rebuilding natural stock was the original intention of the hatchery, it must be done cautiously to avoid altering the genetic diversity of the salmon and steelhead stocks. (DFO, April 1992).

The Role of The Lummi Bay Packing Company in Chum Decline

The Lummi Bay Packing Company was a cannery located on the eastern shore of the Nitinaht Narrows adjacent to the village of Whyah. There are elders still alive who remember the enormous waste that occurred at the cannery. Any fish that were water-marked or considered
“dark” were thrown away. There was also a lot of waste associated with the canning process. Fish were sometimes piled four feet deep, over the large area of the cannery floor. Fish that became too rotten were thrown through a hole in the floor. The cannery always “had a horrific stench”. (Ditidaht Band, 1987). Elders have often stated that 80% of the fish caught during this time was wasted. A report from 1922 noted that the cannery put up about 13,000 cases per year. W.E. Ricker estimated that since no care was taken to pack the tail portions and other scraps, the number of Fraser sockeye put in a standard 48 pound case in the early years was about 15 fish. (Hoar, 1986). Since Nitinaht chum weigh about twice as much as Fraser sockeye, 7.5 fish would be needed for a case at the Lummi Bay cannery. Using this formula an annual pack of 13,000 cases would use about 97,500 chums. If other waste is added, elders feel that the total catch for the cannery was more like 292,000 fish, or triple the amount in the cases (even after adjusting for waste due to the canning process). Thus, the cannery had the capability to take all of the returning stock, especially in poor years. This waste was also reflected in poor returns. In the period 1917-39, average escapement was only 75,000 chums.

Political demands and expectations were also created by processing capacity. Cannery catches were taken by seine and gill-net, 1.5 miles inside the entrance of Nitinaht Narrows. (picture p 4.) These harvests were made without the help of a test fishery to estimate the strength of the runs. As the cannery capacity grew, they probably simply bought the harvest of the majority of the returning salmon. On years of low returns, this left little or no chums for escapement. Increased capacity, initiated to handle “big” years in turn increased political demands to harvest to maximum levels which this capacity could accommodate even in “off” years. Under these
conditions it was almost inevitable that the runs would be over-fished. Thus the Lummi Bay Cannery began to destroy the runs. By the late 1930s, runs greatly declined and in 1939 the cannery closed.

Ironically, D.F.O. inspector Edward G. Taylor, in rejecting requests from local white settlers for a hatchery to offset depletion by the canary suggested that the cannery operation was more sustainable than the Native practices:

> [there are] good natural spawning areas there, which if properly looked after and a sufficient number of salmon allowed to reach these area, there will be no danger of depletion ...... I believe that the cannery operating at Nitinaht instead of depleting the run of salmon, will improve conditions, as the large settlement of Indians will make their living now by working for the cannery, which, together with a strict watch kept up by the Fishery Guardian, will prevent them from carrying out their former habits of destroying salmon in streams and on the spawning beds, a habit which it was almost impossible to prevent.

(O’Donnell, 1989)

Post-Cannery Waste

Once the cannery was closed the D.F.O continued to allow a commercial fishery even though escapement after these fisheries was less than 10,000 fish. In fact, their was no protracted closure until 1961.

Ditidaht response to Shortage

The Ditidaht responded to reduced abundance by reducing their own catch both for consumption and trade. (Ditidaht Band, 1995). Harassment by D.F.O officers did not decrease. A number of canoes were confiscated and towed out of the lake.
In this period, other resources such as ground-fish became important as substitutes. Halibut became especially important in this regard since they are also good for smoking. The shortages combined with the attitudes of the D.F.O, caused great hardship for the Ditidaht people. There was a process put in place by the D.F.O to make Native people think of their fishing activities rights as illegal and their cultural activities as childish pursuits that they should grow out of. (O'Donnell, undated)

Another strategy D.F.O has used was to assert that since the Ditidaht never over-fished, they no longer “rely” on the resource, and therefore must not need as much fish. This way of thinking was reasserted by D.F.O in their Aboriginal Fishery Strategy (A.F.S). (Stacy D., 1991). The title of the third section is illuminating: “The Decreased Reliance on Salmon for Personal Consumption by Native People Since 1871, *If Not Earlier*” (emphasis mine). The Ditidaht members view these interpretations as ridiculous, since any increased reliance on food other than salmon resulted from actions outside their control, often under the direction of the very same government.

**The Present Situation**

At present the Ditidaht people feel that early D.F.O management initiatives resulted in the depletion of fish stocks. It certainly did not, from their perspective, result in the protection of the salmon resource or its habitat. Obviously their is a reason for this cynicism. Their are elders alive
who remember when the D.F.O forcefully broke up the last Ditidaht salmon traps for conservation reasons, then proceeded to sanction the destruction of the resource as it was allocated to other users. The D.F.O did not understand the function of traps in the Ditidaht management system. As part of the treaty process, the Ditidaht will try to negotiate fair compensation for hardships caused by D.F.O management. Their position is that the early D.F.O system was not management at all but a form of anarchy. Fish was haphazardly allocated to the Lummi bay Cannery and other commercial fishermen who were good at lobbying for access. Because of this fish were wasted in large numbers. The net fishery of that era took most of the returning salmon as they entered the lake. The result was depletion. We had basically two user-groups, the commercial fishermen and the Ditidaht, blaming each other for mismanagement.

The Ditidaht have noted that the escapement data-bases used by D.F.O are flawed since information is collected from fisheries officers over a short period of time (since 1927), the information cannot possibly be reliable enough to manage the fishery. (Ditidaht Band, 1995). The Ditidaht elders have noted that while some of the fisheries officers stayed around long enough to gain a good understanding of the Ditidaht fisheries, this knowledge is simply not on par with knowledge that was accumulated and inherited over centuries.

In recent years, Ditidaht access to fish resources have been restricted to the following allocations:
- chum salmon harvest as previously allowed under “Band By-laws”
- food, social and ceremonial catches as dictated by the sparrow decision
- hatchery surpluses or “Escapement Surpluses to Hatchery Requirements” (ESSR) (DFO, 1993)

- limited participation in chum and chinook test fisheries

The Ditidaht members regard all of these activities to be extremely limited and restrictive. The hatchery surplus policy, in particular, provides highly variable results, making application of a comprehensive Ditidaht fisheries program very difficult. Except for this limited ESSR policy, the Ditidaht have not benefited from salmon enhancement activities of the hatchery. The vast majority of the chum salmon from the Nitinaht River enhanced resource goes to the large corporate players in the seine fishery (chart 174) especially in the years of large returns.

5.2.2 Ditidaht Attempts at Co-Management

The Beginnings: The Ditidaht Fishery Development Program

The following section is generally from “The Ditidaht Fishery Development Program” (1986) developed by the Ditidaht people and drafted by Judy Hillaby.

The Ditidaht Fishery Development Program was established in 1986 in the wake of the establishment of a by-law, signed by the D.F.O in 1981, that allowed the sale of Ditidaht “food fish.” While Ditidaht fisheries consultant suggested schemes for using fishery surpluses to subsidize enhancement activity, the direction at the time from band members was to concentrate on economic development. As was the case with the DFO priorities, little attention was given to the role of local input into fisheries management and its role in conservation.
The program was to operate over two phases. The first phase was simply to increase the fishery allocation to the Ditidaht people by maximizing fishery related service contracts to the Ditidaht Band and to increase the processing capability, through the infrastructure services for the creation of value-added fish products. (Hillaby, 1986).

Phase One

The first phase of the program was to consist of five components, three of which were to build on activities undertaken at the time in the chum fisheries:

1. Dock facilities capable 50,000 pounds of daily from a total of 8 to 10 small (herring punt size) fishing vessels.
2. Fish packing facilities with services and cooler, capable of: washing, dressing and packing up to 5000 pieces per day; processing and packing up to 3,000 pounds of roe per day and filleting and skinning up to 5,000 fish per day.

Yard and Trucking Services

Assuming the sale of Ditidaht fish was legal, as it was then assumed, there was a need for trucking services to transport fish to buyers.

Investment in yard and trucking services was intended to enable fishermen to make greater investments in equipment and spend maximum time fishing in a given season. The lack of secure yards for fishermen’s equipment was a major problem for fishermen that prevented many people from making investments in fishing gear. There were ways, especially through the Nuu-chah-nulth Tribal Council, for people to purchase boats and nets, but there was concerns about security. In 1986, rental trucks were used but there was a shortage of qualified (class 2) drivers and insurance coverage was poor. The hiring of commercial drivers was impractical because of
the unpredictability of need. On most days the numbers of fish wouldn’t justify a full-time driver. As well the cost of a driver would be too high and communication between driver truckers, fishermen and sales-people was not established. The following was suggested:

3. Service yard, 1000 square feet with six feet chain link fence, lights, covered shed area for nets, outboard motors, and other gear;

4. two flat bed trucks

**Hobitan Lake Enrichment**

In past years, enrichment of Hobitan Lake created a harvestable surplus of approximately 20,000 fish. The band expressed their desire to continue to fertilize the lake in the same manner as the D.F.O. Funding from the sale of chum was requested in order to cross subsidize the Hobitan enhancement program in the following manner: 18

5. air-drop eight tons of liquid agricultural fertilizer, in weekly allotments, over central Hobitan Lake from early May to late September, conducted annually from 1988-1990 (one sock-eye life cycle). Although fertilization alone was known to produce more fish, research scientists attributed the success of the Hobitan project to the presence of a counting fence which would assure a sufficient brood stock and fry supply to utilize the increased rearing capacity of the lake. The following was suggested:

6. Construct, install and operate an in-stream fish weir of prefabricated aluminum panels to count sockeye spawners entering Hobitan Lake.

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18 This idea was rejected by D.F.O.
The following were identified as economic factors in the establishment of a locally controlled commercial fishery for Nitinaht Lake. (This does not represent the entire list of factors).

1. The treacherous conditions in the Nitinaht Lake area has resulted in an average of $10,000,000 per boat damage for non-local commercial fishing vessels.

2. The Nitinaht Lake has a large hydrogen sulfide layer below the surface of the water, which creates fish-kill conditions, but also limits the escape capability of fish under nets.

3. The Nitinaht area has been suggested for hatchery construction since the 1960’s. Since the 1970’s the D.F.O adopted the hatchery techniques developed by the Japanese. The Salmonid Enhancement Program released funds for hatchery construction in 1977 and Nitinaht was advanced to the design and construction stage in order to increase and stabilize chum populations using the Japanese hatchery method that takes advantage of site specific land, water and brood stock resources.

4. The technique of lake enrichment to enhance sockeye salmon had been pioneered at Great Central Lake in the early 1970s. This technique was expanded to 17 other lakes but with varying degrees of success. Those succeeding had a sustained fry supply capable of absorbing increased growth potential in the lake. Hobitan Lake produced 50,000 adult sockeye from average broods of 50,000 fish it is estimated that re-starting lake enrichment in 1987 would create a harvestable surplus of 20,000 harvestable sockeye by the early 1990’s.19

5. Sockeye and chinook salmon migrate to their natal streams earlier in the year and deteriorate slower than other species, so that when fished early they can fetch premium prices.

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19This did not happen. Early projections were based on the Ditidaht being the only users of the resource which turned out not to be the case. Hatchery staff have confirmed assertions by elders that many commercial fishermen intercept Ditidaht sockeye as part of their incidental catch.
6. The pre-season negotiated minimum price for chum salmon caught after Sept. 1 1986 was 30 cents per pound. In October American buyers were offering 75 cents per pound F.O.B. Seattle, dressed, head-off and frozen. For roe, the average price in 1985 was $3.26 per pound wholesale. In 1986, the Ditidaht fishermen were offered $1.50 - $2.00 per pound.

7. The Ditidaht Band Fisheries By-laws (approved by the Minister of Indian Affairs) allow the harvesting and sale of fish throughout the traditional Ditidaht fishing grounds. In 1981, Fisheries and Oceans Canada allowed the commercial harvest and sale of sockeye salmon from Hobitan Lake, according to the legal advice at the time. However, in 1986 32,000 pounds of chum were seized and held in Vancouver to await clarification of charges under the fisheries act.20

Concern for conservation, being limited to the continuation of Hobitan lake sockeye enhancement was not emphasized when control of fisheries was first discussed at length in 1986. Discussion about Ditidaht control of fisheries had, at that time involved mainly using the fisheries as a way to solve the local unemployment crisis. This situation continued until at least 1993, when hatchery staff noticed a lack of discussion about sustainability in the Ditidaht fisheries strategy. (Brower, pers. comm., 1993) Judy Hillaby’s document entitled “The Ditidaht Fishery Management Program” concluded:

It is possible for the Ditidaht Band to obtain significant new wealth from the salmon fisheries in local waters at Nitinaht and Hobitan Lakes, but this must be preceded by [the acquisition of] basic infrastructure services and positive fishing activity immediately in order to secure a business position for the coming years. These investments are currently beyond the financial ability of the Ditidaht people, although the sustained wealth of the fisheries and long-term nature of the program will allow self-sufficiency by 1991.

20There was confusion over the legality of the guarantees of the sale of food fish in the by-laws. Generally, legal action was more severe against urban bands.
In subsequent years, with the seizure of fish in Vancouver, (later released) and fisheries arrests made in Port Alberni, the Ditidaht people began to realize that they would not soon become wealthy through the sale of "food fish". In still later years, lobbying from non-Native fishermen became so extreme that fisheries management with regards to Native fishing was "captured" by the B.C. Fisheries Survival Coalition. (Ellis, D. 1993). In particular there was extreme pressure, particularly on the Fraser River, to closely monitor and prosecute any offenses by Native fishermen.

Given this situation, more emphasis was put on enforcement and monitoring of Ditidaht fisheries. Since 1976 evolution toward greater control for the Band has been slow. There has been no fisheries management practiced by the Ditidaht people except as relates to the E.S.S.R program mentioned earlier. The hatchery management even tried to offer fishing contracts relating to the surpluses, which were usually given to the Ditidaht people, out to tender one year. In response the Band members organized a road block to disrupt the hatcheries operations until they agreed to give the contract to them.

5.2.3 Ditidaht Fisheries Management Goals

Over-all Resource Management goals

Resource management is seen by the Ditidaht both as a way to restore economic self-sufficiency and to protect and nurture resources for the future generations.
Salmon Fisheries Management Goals

The goals for salmon management are part of a more comprehensive fisheries management plan for all aquatic resources. These resources were historically the major source of food and wealth among the people. Traditionally, the Ditidaht were accomplished fishermen (Turner, 1983, O’Donnell, 1989). The goal of the Ditidaht fisheries management efforts has been primarily to ensure that future generations can obtain food and resources from aquatic resources.

The following fisheries management goals were identified by the Ditidaht council as treaty issues.

They are the result of many consultations with Band members and were compiled by the Ditidaht Fisheries Sub-committee and resulted in a draft document entitled “Salmon Position Paper for Treaty Negotiations.” written by David Ellis, (1995). They are instructive because many of these goals reflect co-management as the Ditidaht wish to practice it. Notice that in many instances the goals, if attained would represent level three co-management as defined by Kearney (1989). This issue will be discussed further below. (Ditidaht Fisheries Sub-committee, 1995).

Steps to Preserve the Genetic Stock of Wild Coho

The Ditidaht wish to preserve the genetic stock of wild Nitinaht coho by:

1. The introduction of pass-through provisions for wild Nitinaht coho in the 1995-7 commercial net fisheries targeting Nitinaht chum.

2. Implementation of a mandatory observer program 1995-7 commercial net fishery targeting Nitinaht chum.
3. A Ditidaht community economic development allocation of 100,000 chum salmon to finance the Ditidaht fisheries program.

Distinct Society and History

The Band would like recognition of the unique cultural aspects they require of the fishery resources in order that the demand the Ditidaht place upon the resource is recognized as other than greed or the desire to compete with other users. This can be accomplished through full recognition by the Federal and Provincial governments of the Ditidaht distinct society and history by the following:

1. Monetary compensation equal to the value of the number of salmon foregone by the Ditidaht as a result of the actions of Canada and the Province of B.C.

Restoration of “Ooch-ah-uk”

The Band wants the restoration of their fisheries management system through:

1. The formal integration of Traditional Ecological Knowledge (T.E.K) in the salmon management process.

2. A reduction in the harvest rates in seine, troll, gillnet and ocean that intercept Nitinaht coho, chinook salmon and steelhead trout.

3. Protection of all Hobitan, Cheewaht Lake sockeye, whenever they are caught in Canadian or American commercial or sport fisheries.

4. Ability to use selective Ditidaht harvest technology, to enable the live release of chinook and coho salmon and steelhead trout.

5. Enhancement for Hobiton and Cheewaht Lake Sockeye.

Address the loss of Ditidaht access to Nitinaht coho and chinook stocks.
Restoration of the Ditidaht Chum salmon Fishery

1. By the year 2000, allocation to the Ditidaht community of 100% of the chum salmon resources returning to our territories.

2. The right to exercise trade in salmon.

Restoration of all salmon and steelhead stocks within the Ditidaht traditional territories

Initiation of a long term spawning habitat restoration program.

Production and sale of smoked salmon products.

Government sanction for Ditidaht traditional salmon smoking methods.

Joint Management Committee

1. This committee must be designed to be phased into an independent Ditidaht fisheries management authority.

2. Until illegal fisheries are brought under control, the closure of all salmon and steelhead sportfishing within Ditidaht traditional territories.

3. A fully funded Ditidaht salmon and steelhead monitoring capability.

4. Conservation and policing measures that will ensure development of flourishing sportfishing activity within the Ditidaht traditional territories.
Fisheries Training Program

Develop and implement an integrated fisheries management curriculum.

Co-management of the Nitinaht Hatchery

1. Transfer of control and ownership of the hatchery to the Ditidaht. (Note that this is “not” co-management).

2. Annual operation of the hatchery through the sale of salmon, to be harvested by the Ditidaht people.

3. Development of an “ocean ranch” for sockeye, chinook, or coho runs into Doobah Lake.

Compensation Formulas for Salmon Losses

To estimate the compensation due the Ditidaht First Nation as a result of the actions of Canada and British Columbia since 1850, the equation below is designed to show the extent of the most obvious loss, that for chum salmon. The amount is worked out only in the numbers of chum salmon that the Ditidaht have had to forego. These losses occurred due to the destruction of salmon traps, (which were more efficient), the reallocation of fish to non-Ditidaht users, over-fishing, and habitat destruction:
TABLE ONE: SALMON LOSSES

Source: Ditidaht Band

<table>
<thead>
<tr>
<th>FROM</th>
<th>TO</th>
<th>LOSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning of Gov’t Involvement</td>
<td>Ditidaht Traps Destroyed</td>
<td>No Loss</td>
</tr>
<tr>
<td>Ditidaht Traps Destroyed</td>
<td>Lummi Bay Cannery</td>
<td>Loss Unknown</td>
</tr>
<tr>
<td>Lummi Bay Cannery</td>
<td>Beginning</td>
<td>chums</td>
</tr>
<tr>
<td>Beginning</td>
<td>Present</td>
<td>chums</td>
</tr>
<tr>
<td></td>
<td>TOTAL LOSS</td>
<td>chums</td>
</tr>
</tbody>
</table>

Total present value to be estimated in concert with Federal and Provincial analysts.

Similar models will be constructed for the lost production of chinook, coho, sockeye and steelhead. Such an analysis must include, in the future, compensation for the continued loss of access to the harvestable surpluses of chum, chinook, coho, sockeye, pink (humpback) and steelhead. Loss of access can only cease when these stocks are rebuilt to the 1850 historical
production levels, and are no longer allocated almost exclusively to the annual common property license holders.

**Proposed Joint Management Committee**

The Band proposes to develop the preliminary structure of a Joint Management Committee consisting of representatives of the Ditidaht Nation, the Federal and Provincial governments. A Ditidaht Management Zone will be identified and managed by the Joint Management Committee. It is expected that the structure of the Joint Management Committee will be further developed during the upcoming treaty negotiation process.

The Joint Management Committee will contain the following components: financing, habitat, aquaculture and research, education, a fisheries management agreement and an allocation agreement.

1. The financing agreement will include financing for: a) the management of: salmon, groundfish, herring, and marine invertebrates; b) a Ditidaht vessel and equipment purchase program including treaty wording that would allow the purchase of vessels from the United States.

2. The habitat agreement will include: a) maintaining the quality of life on the foreshore and the coastal waters of the management zone; b) agreement for the long-term restoration of all fishing grounds, including the permanent closure of all bottom dragging within the Ditidaht traditional territories.
3. The aquaculture and research agreement will include: a) feasibility studies for a marine aquaculture site for shellfish within the Ditidaht traditional territories with the development of a joint Ditidaht / D.F.O research facility. b) feasibility studies for the development of a pilot commercial grow out facility for groundfish or trout.

4. The fisheries education agreement will include both traditional and technical training and will: train Ditidaht young people in their historical methods of harvest and management; train interested Ditidaht people in the modern strategies of, and in the technical skills for, modern fisheries management; c) train interested Ditidaht in how to integrate the traditional and modern models of management to develop the best possible strategy for Ditidaht at any given time; d) train Non-Ditidaht people in Ditidaht models and methods of fisheries management.

5. The fisheries management agreement will be with Canada and the Province for all fisheries, including Ditidaht controlled licensing of all non-Ditidaht fishermen.

6. The allocation agreement will be for all fisheries, and to administer treaty-driven allocations between Ditidaht and non-Ditidaht users.
6.0 OUTCOMES TO DATE

It is difficult to define the condition of the present salmon fishery at Nitinaht Lake as an "outcome" of attempts to co-manage the salmon fishery there for two reasons. Firstly, the outcomes of past decisions are still unfolding and the effects these bring to bear on the community will not be known for years to come. Secondly, the nature of co-management itself changes in unpredictable ways. For example, the degree of control for bands continues to be determined largely by court cases and, more recently, treaty settlements. Treaties do not necessarily provide high degrees of local control. For example the Inuvaliut agreement only allows them to make policy recommendations (see Doubleday, 1989).

6.1 EXPECTED OUTCOMES

6.1.1 Communication, Conservation and Community Economic Development

Outcomes expected by the Ditidaht Nation as a result of co-management, as discussed above were largely to do two related concerns. The first concern was with community economic development. The development of the salmon fishery was seen as a way to reduce local unemployment by pursuing an activity that was still socially and culturally significant. The second concern was with the conservation and rehabilitation of all species of salmon in the area, thus preserving what is left of the cultural attachment to the fishery. The Ditidaht people believed that unless the salmon runs were restored to reasonable levels, and maintained at those levels, the act of fishing would have little cultural significance.21

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21 Carl Edgar Sr. noted that there is little point expending the effort to get firewood for the smokehouse if there are only six fish to smoke.
Communication between the Ditidaht and other user groups then, has not been high on the agenda for the community since their concerns, as with most Native Bands, were focused on their eroding rights to fish, the depletion of fish stocks and their chronic under-employment problems and how these might be addressed through their fishery. However, even though the local sport fishermen could not possibly fully understand these issues, they have been interacting with the Ditidaht people long enough so that they have come to more or less respect the strategies that are adopted with regard to fisheries management.

There have for example been meetings with representatives of these local sport fishermen, many of which have been sharing the resource with the Ditidaht people since the 1950’s. (Edgar, Philip, Pers. Comm., 1996). Relations with these fishermen have always been relatively cordial. It is not surprising then that the sport fishermen, most of whom come from neighboring Lake Cowichan, actually support Ditidaht control of the fisheries, and respect the authority of the Bands Fisheries Guardian, and for the most part comply with his directions. (Edgar, Phillip, Pers. Comm., 1996).

In contrast, relations with commercial fishermen has been virtually non-existent. Most of the interaction between Band members and the commercial fleet came when there was openings for seine and gill-net fishing in the lake. These interactions were not as friendly as with the sport fishermen but tended to be businesslike affairs. The commercial fleet, including 70 foot seine boats, needed reliable pilots to navigate them safely in and out of the narrows to avoid damaging expensive equipment or losing valuable fishing time by becoming stranded on a reef.
Another reason for the "cool" relationship with the commercial fleet is the non-local nature of commercial fishing. Any given boat that fishes at or near Nitinaht Lake has no necessary connection with the specific area since they will likely fish somewhere else the following season.

As well, there has been a general deterioration between Native and Non-Native commercial fishermen. In fact, relations between commercial fishermen have divided along racial lines on the fishing grounds. On any given day discussions over the radio phones used by commercial fishermen often deteriorates into a litany of racial epithets, with frequent heated exchanges between Native, White and Vietnamese fishermen. (Edgar, Carl Jr., Pers. Comm., 1996).

6.2. Relationships Among Actors

It is difficult to draw conclusions about the relationships among different sectors of fishermen in the Ditidaht area because of an interesting phenomenon. When faced with outside threats the Ditidaht are not compelled to join forces with local non-Native commercial and sport fishermen, but have turned instead to the Nuu-Chah-Nulth Tribal Council. Similarly, sport and commercial fishermen tend not to turn to each other or the Ditidaht for help but to their respective unions or associations. Neither of these groupings can be considered local or area specific. The unifying effect, between local groups of fishermen, which these negative forces are predicted to have for the success of co-management, did not come about at Nitinaht Lake. Instead negative forces tended to unify local fishermen with their larger counterparts.

What follows is a summary of the findings of the Ditidaht Band case study in terms of Pinkerton's propositions about what conditions lead to successful co-management. The
underlined headings represent propositions about co-management discussed in Chapter Three (pp 19-20).

Proposition 1. Cooperation Among Fishermen and Local Groups

There has been no formal “local group” formed in order to plan such things as conservation. The informal local group between the Ditidaht and sport-fishermen has been successful. The communication between the members of this group has successfully averted bad relations between them. The only other local group which the fishermen must deal with are the Band members through the forum of a Band meeting, and this forum only serves the Band members. There is cooperation between Band members and fishermen, but the fishermen feel they have no policy-making power. (Phillip Edgar, pers. comm., 1996)

Proposition 2. Commitment to Share in Benefits and Costs

There has been a commitment by the Ditidaht to share in the costs of management as well as use part of run surpluses to finance enhancement and conservation activity. As well, they have donated 40% of there proceeds from E.S.S.R activity, test fishing and the sale of surplus hatchery fish, to the joint conservation efforts of the Band and the Nitinaht Hatchery. Test fishing and hatchery surplus fishing are done in the lake when the fish are already down-graded to second and third grade. A way to improve this is to allow the Ditidaht to fish before the commercial fishery openings. One way to ensure a better share in the activity, might be to point out that the government appointed buyer makes more money upon re-selling the fish than the fishermen get (Carl Edgar Jr., 1996) However there has been no attempt to re-direct benefits away from the large-scale commercial fishermen toward Ditidaht fishermen. (Edgar, Donald, Pers. Comm., 1996). Costs, and very few benefits, have been shared between Ditidaht fishermen and the
D.F.O, usually through the Nitinaht hatchery, usually in the form of employment at the hatchery. This is a point of contention among fishermen since some of the proceeds have gone elsewhere to buttress other programs. Generally, there seems to be an increased, and increasing, willingness to share in benefits once they accrue.

Proposition 3. Conflict Resolution

There has been no experience in conflict resolution between Ditidaht and sport/commercial fishermen since, for the most part, the Ditidaht have no real power to control the activities of these groups. Where the Ditidaht Fisheries Guardian does have control, i.e. over the sport-fishing fleet, there has never been any jurisdictional conflict. The fishery guardian, Phillip Edgar, took the initiative to invite members of the sport-fishing fleet to attend the Ditidaht Band’s meetings concerning their conservation strategy. There was even one troller who was a member of the B.C. Fisheries Survival Coalition at one of these meetings who left satisfied with Ditidaht’s strategy. They were also invited to listen to concerns as discussed with the D.F.O. At these meetings they were invited to give their feed-back. Philip also suggested that they call him if, and as soon as, they have any other concerns. His strategy has been to talk to the sport-fishing fleet before issues can develop into confrontation. Where there are problems they are told that henceforth they should come to the Band office and talk their problems out before they escalate. The sport fishermen generally support the power of the guardian to stop or control their fishing activities. As well, they have demonstrated support for Ditidaht’s enhancement and conservation activities and strategies. It was noted that conflict may arise if the Ditidaht enjoyed higher levels of control. Where there has been conflict, they have been in the form of one-on-one confrontations. For example Carl Edgar Sr. himself an elder and former commercial fisherman,
confront sport-fishermen (since this is difficult to “prove”) about fishing their quota, bringing the fish home, and then fishing another quota.

Proposition 4. Willingness to Share Data

Data about the resource is generally not shared between the D.F.O and the Ditidaht. However, some elders have noted that this situation is improving, data that is formally requested from the D.F.O. is more often supplied than it once was. When Phillip Edgar began plotting information on graphs, the D.F.O began sending statistical data before it was requested. As of this writing, the D.F.O now makes it a point to contact the Band at least twice a month (Edgar, Phillip, Pers. Comm, 1996). The Nitinaht Hatchery brings the Band up to date at least once a week. However it was noted that the D.F.O. assigned biologist gives the Band a bill for the data he supplies. (Don Edgar, pers. Comm., 1996) There is a general feeling among Band fishermen that the D.F.O withhold and manipulate data. As for data generated by the Ditidaht Band members, this has been limited to labor activity such as counting fish.

Proposition 5. Willingness of Parties to Explore Options to Reduce Inefficiencies for Fishermen

For the Ditidaht fishermen, this has largely been discussion about terminal fisheries and has not bore fruit. The fact that they are made to fish in a down-graded condition can be seen as an inefficiency since the Ditidaht have to catch more fish to be profitable. The D.F.O are now negotiating the possibility of using a traditional fish-trap to make harvesting more efficient. (Carl Edgar, Jr., pers. comm., 1996) The hatchery manager supports this initiative since the technology is very selective. The D.F.O also experimented with a “Newfoundland Trap” (which only caught seals effectively). After one week even the seals learned how to escape. They also made available
funds to enable Carl Edgar Sr. to attempt to construct a traditional mobile “reef trap.” This initiative was thwarted because of lack of available help for construction.

Proposition 6. Motivation to Invest in Competitive Gear Reduced

For non-commercial fishing activity, there has been no motivation to invest in competitive gear among the Ditidaht in the first place since they can ill afford such a practice. For the Bands One remaining commercial fisherman, Carl Edgar Jr., investing in anything but the most competitive gear possible would be economically suicidal.

Proposition 7. Need for Acceptable Enforcement Regimes

As with most Native groups, enforcement regimes acceptable to the Ditidaht are not, or would not be, acceptable to non-Ditidaht fishermen. There has been a feeling that “guardian” programs are enforcement regimes in name only. This is slowly improving as information systems improve. People are now more inclined to respect the directives of the guardian. The problem is that the guardian doesn’t have the power to arrest offenders. But the guardians appearance, in full official uniform, cause enough people to respect his wishes to give him a modicum of effectiveness. As well, the guardian is getting more respect from the local fishermen as they begin to realize that, to some degree at least, they have ownership of the resource and its problems. As well, Philip Edgar has offered his services as a liaison person between the fishermen and fisheries officials and bureaucrats. With this kind of communication there is little need for threats or coercion. Fishermen are told that if they are caught selling fish, or otherwise acting contrary to the wishes of the Band, they are on their own and will not get any support in
any way from the Band. Beyond that, there is an agreement between the Band and R.C.M.P constables that the police will remain highly visible during times of high fishing activity. The fisheries guardian still feels that he “could go a lot further” with more authority, for example the power to make arrests.

**Proposition 8. Willingness to Allow Self-Management**

Self-management responsibilities for the Ditidaht is only allowed within tight parameters determined by the government, within a very narrow range. In the past decade this has also been steadily improving. Appearances by D.F.O staff have been declining. The de facto right to fish has increased over the past ten years, even though this increase is not reflected in any documents. A meeting at the Ditidaht reserve between the Band, the R.C.M.P, the D.F.O and environmentalists was struck to determine a course of action to increase the Ditidaht participation in fisheries management. (Jack Thompson, pers. comm., 1996).

**Proposition 9. Input in Conservation Issues**

Generally, conservation is undertaken with little input from the Ditidaht people. The D.F.O have generally responded to Ditidaht concerns only insofar as there may be a need for local conservation at all. The D.F.O usually limit exchanges to asking whether the Ditidaht are taking conservation measures. Conservation measures have much more input from the commercial fleet, Their management goals are often equally determined by the need to survive economically, as the need to conserve stocks. The Ditidaht fishermen feel that their goals are often subordinated by the commercial fleet even though they are more concerned with conservation. There is a strong desire on the part of Ditidaht fishermen to have input into the timing of commercial openings and closures in the area. One season, the Ditidaht fishermen noted that the D.F.O
opened a fishery before there was 25% of necessary escapement. And since policy has been largely captured by the B.C. Fisheries Survival Coalition, who represent the commercial fishermen, the Ditidaht conservation concerns are ignored. Usually these concerns must be channeled through the Nuu-chah-nulth Tribal Council to have effect. So the “local” conservation issues are quite often not listened to and are lost. Lost also are the subtle details of local conservation concerns that might have gone into effective management strategies if they were incorporated as such. Input has been limited to stream clearing etc. They have listened to advice regarding Hobitan Lake Fertilization and E.S.S.R harvest numbers. They have also complied to closures on mussels and goose-necked barnacles. Granted, there has been advice which they followed pursuant to actions they would have taken anyway.

Obviously, there is little indication that co-management efforts as practiced at Nitinaht Lake are having the effects on fisheries management predicted by the authors in the literature review. This may be due to one of two reasons:

Firstly, co-management may be pursued with the best intentions, but is constrained by less than optimal conditions for success. Secondly, co-management may not exist at a level that is satisfactory to the Ditidaht. The D.F.O may have unilaterally decided that co-management is must be practiced at a level for which it retains almost all control. It appears, by the timing of co-management initiatives, that these came about only because their hand has been “forced” by emerging court cases mentioned above that favor Native fishing rights. While the D.F.O and the Band both publicly support co-management efforts, they appear to be referring to two separate
conditions or processes. What D.F.O officials regard as co-management may not be the same as what the Ditidaht Nation regard as co-management. Obviously, these differences will lead to different expectations from the evolving management process. Discussions between the two may thus lead to mistrust.

The following section will examine these two possibilities.

6.3 Conditions for Success: Present or Absent?

The following conditions for success of co-management are assuming that parties agree to try co-management at some point. These conditions do not necessarily guarantee success with co-management. However, if they are present, co-management has a greater chance of success. They are based on Evelyn Pinkerton’s propositions presented above (pp 17-19) and these propositions are paraphrased and written in italics.

1. Stock Depletion

*Real or imagined stock depletion is a crisis that pushes together different user groups to form an alliance to better manage their fishery.*

It is obvious from the above accounts of the respective Ditidaht and D.F.O assessments that each side has been concerned about the condition of the fisheries resource at Nitinaht Lake. Stock depletion generated some discussion about co-management. However it also caused different sectors of the fishery to blame each other for the problem, (rather than uniting against loggers for
example.) Dialogue between the Ditidaht fishermen and the sport-fishermen even declined slightly. This countered any attempts of the groups to unite in a management forum. The most consistent observation has been that the D.F.O. have often opened fisheries for commercial stocks even though there wasn’t sufficient escapement. Obviously therefore the fear of stock depletion, in and of itself, did not lead to effective co-management. The reaction from fishermen to the policy arising from the current salmon stock crisis remains to be seen. (DFO, 1996).

2. Financial Support For Resource Rehabilitation

Co-management is more likely to succeed where there is financial support for resource rehabilitation.

The Ditidaht have contributed to such enhancement programs as the Nitinaht hatchery. The hatchery has approached the Band in the past for funding to keep existing programs going to completion. Much of the 40% tax on fishermen, discussed earlier, has gone to resource rehabilitation, especially to employ the laborers at the hatchery, and to a degree the guardian’s salary. (Edgar, Carl Sr., Pers. Comm., 1996). This financial contribution has led to a more stable relationship between the two parties. The ultimate intent of this contribution is to contribute to a larger and better Ditidaht fishery for future generations. There has also been a donation from the Ditidaht Band to the Henderson Lake Hatchery near Kildonan so they can carry on with their hatchery and for code wire tagging.

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22 Carl Edgar Jr. and Carl Edgar Sr. together paid $64,000 into this fund in one season.
3. Opportunity for Co-management Starts Out as Part of a Simple Process

*Co-management is more likely to succeed where it starts out as part of a simple process.*

The Ditidaht role in fisheries co-management activity began, as it did elsewhere, with the provision of stream cleaning and fish counting labor. They then contributed limited administrative expertise and personnel to the Nitinaht hatchery. They are now involved in the slow process of expanding management efforts to other functions, beginning with enforcement.

4. Mechanism for Recirculating Wealth Back into the Community

*Co-management is more likely to succeed where some wealth generated by the increased effectiveness of the management process is recirculated back into the community*

There has not thus far been enough co-management to determine the extent of the wealth generated by the practice. Rewards have been limited to small “top-ups” of salaries. Only a few of the larger vessels benefited. This was in the form of upgrades to two boats. The band tried unsuccessfully to acquire two additional boats for fishermen wishing to participate in the E.S.S.R. program in 1995, but there was no program that year. Interest free loans are usually given to fishermen who start out as small operators. These loans are small enough to be paid off in one season. Generally, most wealth of the never made it back to the fishermen. (Carl Edgar Sr., pers. comm. 1996). It is also difficult to assume the degree to which fish abundance in a given year can be attributed to effective management practice.

5. Enhancing Resource Can Enhance Cultural System
Co-management is more likely to succeed where enhancing the resource can enhance the cultural system.

The cultural importance of the salmon fishery to the Ditidaht people has been established above. The act of enhancing the fisheries resource does little to enhance the Ditidaht cultural system since, according to the Ditidaht culture, enhancement activity was done simultaneously with harvesting activity. The present system of harvesting to the point of stock crisis, and then enhancing the stock is foreign to the Ditidaht traditional culture.

6. External Support Recruited

Co-management is more likely to succeed where external support is recruited.

Support has been successfully recruited acquired from the Steelhead Society (Jack Thompson, pers. comm, 1996). Their support was crucial in closing a commercial coho and spring salmon fishery to allow steelhead to pass through.

7. Small Area

Co-management works best where the management area is small

The management area of Ditidaht is both small and self-contained, and benefits are naturally linked to watersheds and local waters. In fact, in some cases the Ditidaht people are the only users of the resource (such as for Hobitan sockeye). As well, the community of fishermen is small enough for effective communication.
8. Small Bureaucracy

*Co-management works best where government bureaucracy dealing with the resource is small.*

The D.F.O, while being a large government department, has a regional component that might deal effectively with the Ditidaht. This potential has not emerged because the D.F.O has typically followed a "top-down" policy. This in turn has meant that the management activities at Nitinaht Lake are generic to a much larger area (Carl Edgar Sr., pers. comm. 1996).

9. Homogenous Local Group

*Co-management works best where there is a homogenous local group.*

The Ditidaht fishermen all share a similar attitude and appreciation toward the resource.

**Cohesive Social System**

*Co-management works best where there is a cohesive social system.*

While, as with other Native groups, the original Ditidaht social systems have all but faded from memory, systems as they pertain to fisheries remain cohesive and strong. Some people put fish to different uses than formerly, but no Ditidaht person doubts the importance of salmon in this respect.

11. Definite Boundaries

*Co-management works best where there are definite (recognized) fishing boundaries.*
The D.F.O recognize Ditidaht boundaries for those fisheries that the Ditidaht have more control. They will abide by traditional boundaries defined locally if the fishery in question is a local opening. They don’t recognize Ditidaht boundaries where an opening involves non-Ditidaht commercial fishermen. Generally the D.F.O does not agree with the Ditidaht people as to the boundaries in terms of management “jurisdiction”, they agree to some extant that there are traditional boundaries that are specific to the Ditidaht Nation. As for management boundaries, all fishermen are aware enough of relevant place names to make management boundaries very clear for the purposes of regulation. To some extent the D.F.O has left it up to the Band to determine the significance of boundaries in terms of allowing other Native people to harvest. The D.F.O has recently shown enough respect for Ditidaht management expertise to move two of their own boundaries in front of the Nitinaht River, and off the Cheewaht Beach, at the request of elders. This made the prospect of fishing within the boundaries more practical.

12. Crew Input in Management Decisions

Co-management works best where there is crew input (as opposed to exclusively skipper input) into management decisions.

Most management decisions made by the Ditidaht are made at band meetings where not only crew members, but also members of their families are involved with such decisions. Skippers don’t have much more influence over decisions unless they can demonstrate a greater awareness of the issues. Even so, there has been discontent by fishermen over the lack of crew input into decisions at the Band level. (Paul Seiber, pers. comm., 1996)
13. Appeal Body for Equity Questions

Co-management works best where there is a formal appeal body to deal with questions about equity in such things as allocation.

This also is served by band or fisheries committee meetings depending upon the seriousness of the issue. More serious issues go directly to band membership, at a band meeting, which is constrained at times by low turnout at these meetings. More recently, for smaller issues, the fishery guardian simply deals with the issue. Fishermen also discuss these issues between themselves beforehand to avoid problems. Often people pool resources so that there is no question of anyone’s right to a pre-determined percentage of the catch. A sharing system has also evolved through the formation of informal “companies” that have explicit expectations of each other. There is rarely a need for an appeal process.

14. Bureaucrats Have Direct Involvement in the Industry

Co-management works best where bureaucrats have direct involvement in the industry.

This has sometimes been the case. For commercial fishermen, the people who determine the openings, (though perhaps not actually fishing), are always visible and inform fishermen about which boat they’re on etc. Fishermen and bureaucrats duties are generally separate and the relationship although asymmetrical, has not necessarily been adversarial.

15. Technical Concerns and Allocation Decisions Separate

Co-management works best when technical concerns and allocation decisions are separate.

Technical concerns, like the ability to catch large amounts of fish, have often influenced allocation decisions regarding the health of stocks.
16. Opportunity for Problem-solving Among Stakeholders

Co-management works best where there is an opportunity for problem-solving among stakeholders.

There has been very little animosity between Ditidaht and commercial and sport fisheries. The reason for this is because, as mentioned earlier, there is a positive rapport with the sport fishermen. Philip Edgar has arranged meetings between representatives of the sport-fishing fleet and elders since they have known each other for years from fishing together. This allows the sport-fishermen to hear, (and respond to), concerns directly from the elders who have an air of competence and confidence about them that the young fisheries guardian can’t bring to discussions. As well, the Ditidaht have been able inform about the sport-fishermen about illicit activity of non-local steel-head fishermen. The local sport-fishermen who fish for ocean chinook and coho, had no idea that steelhead fishermen were killing female salmon in the rivers with spears just to get the roe for steelhead fishing. Once this information was made available, the Band was able to garner support for closures of river sport-fishing activity. The D.F.O came to the Nitinaht River and filmed this activity and closed the river once they saw it for themselves. Since this time they have been more open to listen to management concerns around the rivers of Nitinaht Lake. As for the commercial fishermen, conflict is avoided because of the logistics of the salmon fishery. They aren’t affected by Ditidaht’s fishing and management activity because the Ditidaht intercept fish closer to shore. These are also the fish that the Ditidaht manage. In effect, the Ditidaht only deal with fish that have already “escaped” the gear of the commercial fishermen. Even so, there has been one Coalition member and an off-shore crab-fisherman at the meetings with elders.
17. Decisions About Harvest Levels are Made Locally

Co-management works best when decisions about harvest levels are made locally.

Harvest levels are usually negotiated between the Ditidaht and the hatchery manager on a case by case basis but negotiations are often difficult for the Ditidaht because they are at a disadvantage in terms of access to data. One fisherman believes that, while the hatchery staff know that estimates provided by the local fishermen are accurate, they will still not act upon these estimates.

Generally however, there seems to be harmony between the local harvesting expectations and the wishes of the hatchery manager. Philip Edgar has been developing his skill at determining on his own when openings should occur although he still asks the local biologist Mike Write for advice. Harvest levels are determined by the sum of fish released from the hatchery, plus an estimate of wild stock minus the escapement levels required to maintain the stock. Generally, the Band would like to have more input into harvest decisions. (Phillip Edgar, pers. comm., 1996).

18. Energy Center

Co-management works best when there exists an “energy center” or a person who is willing to take a leadership role in developing local management issues.

The attrition rate on Indian reserves including Ditidaht of “high energy persons” is high and such people have been difficult to retain. If such people can’t be replaced (because there is no one else available) and if projects depend on such people, they will be compromised. The most recent such person has been Philip Edgar, who has worked tirelessly at trying to bring good
management practices to Nitinaht Lake. It is difficult to say whether this has led to enhanced co-
management.

6.4 Spin-off Benefits

It is impossible to determine what spin-off benefits, from efforts at co-management, are enjoyed
by the Ditidaht people. This is basically because co-management is still in a state of flux and the
results of the efforts won’t be known for years to come. A small unexpected benefit was the
hiring and training of a skilled fisheries guardian. This is one more Band member with a
meaningful job that he enjoys.

6.5 What Aspects of Co-Management Still Need to be Attained?

Co-management is practiced by the Ditidaht Nation at the first level as defined by Kearney (and
discussed in chapter three above) in terms of the level of co-management that they practice.
Basically, this means they are consulted by the D.F.O who then “take or leave” the advice they
are offered. It cannot be said however, that they practice co-management entirely at this level
because, according to Kearney at the first level of co-management, consultation is systematic. At
Nitinaht the consultation by the D.F.O is sporadic and at D.F.O’s discretion.\textsuperscript{23} Of the seven
major management functions discussed earlier, (in chapter three) only “enforcement” has been
significantly co-managed. This has apparently only been done to appease opponents of Native
control who are concerned about infractions of regulations. Native people have no authority to
arrest non-Native people who make similar infractions. (A.F.S, emergency meeting, 1993)

\textsuperscript{23}All councilors, fishermen and Ditidaht fisheries staff expressed this.
If the Ditidaht people were satisfied with the level of participation they enjoyed, elements of co-management would not appear as goals for fisheries management.

There is a more important question however. Why have the Ditidaht not attained this level in the first place? A large part of the problem is that key conditions for success are absent. These are examined below.

We return now to the management goals of the Ditidaht Nation, which represent the ideal management scenario for them.

Although the D.F.O. have often stated that they favor co-management with Native bands, and have to some have allowed limited degrees of local control, local control for the Ditidaht people is not at levels satisfactory to them. The following goals, identified by the Ditidaht as treaty negotiation issues, are instructive because many of these goals are consistent with the exercise of co-management. More importantly, if the Ditidaht people are still pursuing such goals, then co-management cannot be said to be exercised with a degree of input that is acceptable to the Ditidaht. (Ditidaht Band, unpublished, 1996). The goals demonstrate the desire for greater input in three ways. First, they state this desire directly. Secondly, some goals call for specific management action, the absence of which reflects a lack of consultation with the band in the development of policy by the D.F.O. Thirdly, some goals reflect a desire to reverse the effect of having been denied input in the past, which has led, for the Ditidaht, to negative results. Indicated by italicized comments are those goals that would enhance the “chances of success” for co-management as mentioned above.
Goals That Directly Reflect Low Ditidaht Input

1. Implementation of a mandatory observer program

_The following goals illustrate the desire to be involved in the generation and collection of data._

2. Integration of traditional ecological knowledge (TEK) in the salmon management process.

3. A return to selective harvest technology, designed to enable the live release of chinook and coho salmon and steelhead trout.

4. Allocation to the Ditidaht of 100% of the chum salmon.

5. The legal ability to trade in salmon.

6. A spawning habitat restoration program.

7. A joint management committee (participation by Ditidaht, D.F.O. and the Province).

8. Test fisheries with input from Ditidaht elders.

9. The establishment of a salmon and steelhead monitoring capability.

10. The development of flourishing sportfishing activity within the Ditidaht traditional territories.

11. Ditidaht control of test fisheries (right of first refusal).

12. To Develop a special Ditidaht fisheries management curriculum.

13. Ditidaht control of the Nitinaht Hatchery.

14. Operation of the Nitinaht Hatchery through the sale of salmon caught by Ditidaht fishermen.

15. An “ocean ranch” for sockeye, chinook or coho runs into Doobah Lake

Goals that indirectly imply the need for greater Ditidaht input
The following goals indicate concern for the depletion of a stock

1. The introduction of a "pass through" for wild Nitinaht coho, in the commercial net fisheries targeting Nitinaht Chum to preserve the genetic stocks of wild Nitinaht coho.

2. A reduction in the harvest rates in the seine, troll, gill-net and ocean sport fisheries that intercept Nitinaht coho and chinook salmon and steelhead trout.

3. Total protection of all Hobiton and Cheewat Lake sockeye.


The following goals illustrate the desire for a greater local share of the benefits of the local fishery in order to help finance management activity including stock rehabilitation.

5. An allocation of chum salmon, to finance the Ditidaht fisheries program.

6. Monetary compensation, equal to the value of the number of salmon forgone by the Ditidaht.

Goals that would correct the results of past exclusion

1. The inclusion in the context of the Canada/US Treaty negotiations the issue the loss of Ditidaht access to sufficient levels of Nitinaht coho and chinook stocks to be used for "food, social and ceremonial" purposes.

2. The closure of all salmon and steelhead sport fishing activities within the Ditidaht traditional territories until illegal activities end.

3. The development of a salmon ranch to completion by the year 2010.

The Reasons Behind Low Input

As is obvious from the goals identified by the Band, the Ditidaht would like to be practicing co-management with a degree of input at Kearney's third level. (Kearney, J.F., 1989). This level
involves the comprehensive participation by fishermen in fisheries decision making at the levels of policy-formation, acceptance and implementation. Rights arising from court action has not resulted in the Ditidaht getting the priority supposedly guaranteed by resulting D.F.O policy. For example policies are supposed to give Indians first priority in the fishery harvest, subject only to conservation, are not followed. This is partly because the commercial fishermen logistically access the fish first. Even so, the D.F.O have often made decisions that contradicted this policy in this regard. For example, the Ditidaht fishermen have often tried to access coincidental openings for the Ditidaht fishery when it opens for commercial fishermen immediately outside the lake. (Edgar, Donald, pers. comm., 1996). This would have given the Ditidaht fishermen the “same” priority as the commercial fishermen. These attempts have never succeeded.

Besides discussing management short-comings relating to the governments refusal to allow sufficient levels of local input, it’s important to look at where the Ditidaht management strategy might be improved to ensure greater management input. Recall that the Ditidaht enjoyed success when they took the initiative to save the steelhead stock by recruiting the support of the Steelhead Society. Unfortunately this is the only time they have ever recruited outside support.

The reason for this oversight may be revealed by the original reasons the Ditidaht had for pursuing co-management. Recall that there was little or no mention of stock rehabilitation or conservation activity mentioned in the original goals of Ditidaht fisheries management. The Band’s “Ditidaht Fishery Development Program” concentrated almost solely on the economic development aspects of the fishery. Little focus was placed on gaining control of management
functions, including stock rehabilitation, conservation measures, and data generation and analysis. If the Band involved itself with these issues, (beyond cursory “preserve stocks for future generations” pronouncements) the members may have acquainted themselves with the high level of public awareness of, and support for those who advance conservation initiatives. The Ditidaht people, then desperately in need of employment, cannot be blamed for this oversight. However, recruitment of external allies would have gone a long way to establishing co-management with acceptable levels of Ditidaht input.

This over-sight is significant because, as was pointed out by Pinkerton (1989) and Cohen (1989), the recruitment of outside help, especially from powerful lobbyists like environmentalists, was absolutely crucial to the success of the endeavors of the Natives in Washington State. It is also significant because being the only time the Ditidaht were able to force a closure against the wishes of the commercial fleet, it was done using a conservation, and by extension an environmental, issue as leverage. Also significant is that the commercial fishermen were able to effect commercial openings when an official, sympathetic to their interests, reported artificially high escapement estimates, and thereby reporting an artificially optimistic environmental situation.

Conservation and Rebuilding of Salmon Stock

The Ditidaht fishermen have consistently shown concern for the conservation of salmon. Obviously, closures that often see the Ditidaht voluntarily refrain from fishing for entire river systems for a whole year, demonstrate this concern. In addition to this, they have shown support
for the D.F.O's stock rehabilitation efforts by imposing a “tax” of 50% (later reduced to 40%) as a contribution to the hatcheries stock rebuilding and conservation efforts. This contribution was donated even though the most of the benefits of the hatchery’s activity go to the non-Native commercial fleet.
7.0 CONCLUSIONS

This chapter summarizes the implications of the findings of the case study, and what these would mean in terms of lessons for bands and governments, attempting co-management in similar situations.

The primary issue raised by major themes used in this thesis has been whether co-management is an arrangement whereby the net effect, both to the parties involved and to the resource, is positive. Effects we are examining are harmony between groups and improved conservation.

Results will be analyzed in terms of: i) whether relevant conditions for success of co-management are either weak or absent altogether and; ii) whether the management regime represents the level of co-management that is expected by the local fishermen and if it does not; whether a lower than expected level of local management is responsible for management problems in terms of harmony between groups and conservation. This is often the case where fisheries policy is "captured" by one of the fishing interests.

7.1 Are the problems experienced consistent with those found elsewhere?

Barriers to the Exercise of Co-Management: A Comparison With the Problems Experienced in the Washington Case

Obviously, as seen in the literature review, the nature of fisheries management renders it impossible to definitively expose the problems involved with it. While people can loosely
describe the elements that tend to lead toward certain outcomes, no one knows when an outcome is caused by any specific act or condition in the fisheries of a local area. Only limited inferences can be made when comparing the situation in Washington State to that in B.C. If one can however assume, as does Pinkerton, that there are generalizations that can be made about barriers faced by those trying to practice co-management, then it can be further assumed that since the institutional arrangements of each jurisdiction are fundamental, then any similarities in the results of management practices must also be fundamental. If results of certain practices are the same in B.C. as they are in Washington State, then implications for policy are fundamental and important.

A logical way to separate problems that are due to local circumstances from problems that are endemic in, and specific to fisheries management practices is to see which results have been the same for both places. Where barriers to co-management have been similar or the same in Ditidaht as they have been in Washington State then the likelihood that the problem is a fundamental one, and therefore an important one, is greater. What follows is a survey of the notions about the nature of barriers to co-management in Washington State along with a determination of whether they apply to the fishermen of Nitinaht Lake. These are taken from Pinkerton (1992).

1. Barriers are Greater in Proportion to the Power of Other Parties

This has been seen with the emergence of the B.C. Fisheries Survival Coalition. Barriers to the practice of fishing rights have become increasingly difficult to overcome, especially with the
increase in public scrutiny of places even as remote as Nitinaht Lake. The fundamental barrier in question results from the fact that to some degree, government policy has been captured by the Coalition. The person who does the test fishery for the Nitinaht Hatchery is a Coalition member. As well, it is a belief among Ditidaht fishermen that the people hired for counting fish have artificially inflated escapement figures in order to allow an opening for outside commercial fishermen. One year there were 200 boats outside the lake before there was enough escapement. There were under 40,000 chum salmon in the Nitinaht River and in the Nitinaht Lake combined the desirable escapement is usually 200,000 to 250,000 fish in the river alone. When the Ditidaht fishermen expressed their concern the D.F.O responded by offering them a “food-fish” opening. This effectively turns the conservation issue into an allocation issue. One fisherman saw it as a way for commercial fishermen to increase their access to the fishery, and then “send the bill” to the hatchery. Suggestions for an on-board observer have thus far been ignored. The Band has expressed the desire to be present at the D.F.O. meetings that determine how test fisheries are being carried out. Involvement in test-fisheries, where these have been conducted by non-Ditidaht fishermen, have been limited to deck-hand duties. The Ditidaht fishermen were also concerned that proceeds from E.S.S.R were used to conduct a test-fishery on the East coast of Vancouver Island.

Pressure from the Coalition that has caused problems for local fishermen peaked in 1994 and has since eased somewhat. This has pressure has generally led to reduction in allocation to Ditidaht fishermen. Often D.F.O would make them wait until the fish were down-graded to the point of being useless for commercial sale.
After the “Sparrow Case” the D.F.O assured the Ditidaht that they would be consulted on management issues. However, the D.F.O are not taking the Ditidaht initiatives and concerns very seriously. It is difficult to determine the degree to which these problems are due to an increase in power of external parties, but everyone involved has noticed difficulties increase coincidentally with the rise in political power of the Coalition.

2. Alliances With Other Interests

As was the case in Washington, this point appears to be key to the success of co-managing the fisheries B.C. Generally however, rather than forge alliances with other groups such as environmentalists or even among the local fishermen themselves, fisheries “sectors” have galvanized their efforts against each other.

Where the Ditidaht have formed alliances they have found the success predicted by Pinkerton in using this strategy. For example, by joining forces with the Steelhead Society, they were able to force a two week closure of a threatened run of steelhead outside Nitinaht Lake. (Edgar, Carl Sr., pers. comm., 1996) The Band was also in touch with the Suzuki Foundation.

Environmentalists have approached the Band expressing interest in forming an alliance. Unfortunately, the most recent encounter the Band has had with environmentalists has been with extremists (Terra Prima), who tried to scuttle Ditidaht economic development initiatives. So there is very little trust among the people of the Band for the environmentalists.
3. Multiple Sources of Power

Multiple sources of power have not been used effectively, since court cases have been generally not integrated. Different Bands that choose litigation usually are not connected with each other. Different Bands and Tribal Councils have enjoyed varying degrees of success using negotiation rather than the courts. Still others have successfully incorporated co-management arrangements into treaty arrangements, as the Ditidaht are presently trying to do. (Berkes F. 1989, Doubleday N.C. 1989). Often strategies will depend on a Band’s “best guess” as to the result of a case. In 1993 for example, the Ditidaht were advised that they could either manage sockeye fish according to their own interpretation of the “Sparrow decision”, and risk possible negative consequences, or negotiate an interim deal with the D.F.O. Even with a recent case making aspects of the decision more specific, at this point the legal implications of the decision are not entirely clear.

4. Appeal to the General Public Interest

Natives including the Ditidaht have consistently been out-maneuvered by white fishermen at capturing the what is perceived to be in the publics best interest. Recall that John Crosbie’s news release defined the AFS as a strategy ultimately determined elsewhere, (Vancouver Sun, Feb. 3, 1993) suggesting that they may not have proceeded with the strategy if there hands weren’t tied. This, along with the paternalistic attitude demonstrated by DFO policy in the past, suggest that appeal to the public interest is of critical importance to the success of co-management.
The Band recognizes the B.C. Fisheries Survival Coalition’s role in determining how the public perceives their best interests with regard to fisheries. They have invited the Coalition to Nitinaht to show them their fisheries practices and strategies to show them, and perhaps the public, that if the Ditidaht’s fisheries activities are not in their best interests, at least they won’t harm them.

Councilor Carl Edgar Jr. has made efforts toward the publication of a press release that shows how much enhancement, and how little fishing the Ditidaht fishermen do.

7.2 Implications for General Theories

To use theories, such as the one above by Yarborough to buttress the notion that co-management is consistent with deep rooted ideals of localism or democracy, one would need to assume that the government or lead agency deals with a unified local group with common interests. (Yarborough, 1987). Where this is true, as in the case with the lobster fishermen of Maine, the theory seems to hold. However in B.C. this is clearly not the case.

While people involved with fishing at Nitinaht Lake, all ultimately have an interest in cooperating in terms of conservation, they each have the option to turn elsewhere for support when it becomes necessary to deal with perceived threats from other resource users. In terms of political power local users, including the Ditidaht Nation (connected to the Nuu-Chah-Nulth Tribal Council), tend to be appendages of non-local larger groups. The Ditidaht have engaged the D.F.O, regarding allocation conflicts with the commercial fishermen, through the much more politically powerful Nuu-chah-nulth tribal council. Similarly, the commercial fleet have dealt with regional or local conflicts through the B.C. Fisheries Survival Coalition.
It may be logically argued that the perceived threat to the viability of the salmon stocks have simply not been strong enough. If it is true that a heightened threat to the stocks will lead to increased cooperation, we will soon know. Low salmon runs on Canada’s West Coast have prompted the Federal government to implement a drastic plan that would effectively cut the Pacific salmon fleet in half, to be “kick-started” by an $80 million dollar voluntary license retirement program to be carried out in the spring of 1996. (DFO news release, 1996). As mentioned before, where other groups have been truly local such as the Ditidaht sport-fishing fleet, cooperation levels are relatively high.

7.3 Final Conclusions

This thesis has shown what happened when the Ditidaht community attempted to establish input into the management of their fishery through co-management. A case study of the Ditidaht Nation’s strategies and experiences has provided insight into what other Native Bands might watch out for in their quest for greater control over natural resources.

Co-management has been a term used to describe the input into fisheries management that, for the Ditidaht, did not effectively start as an initiative by either the D.F.O or the Ditidaht, but emerged as a result of what has become known as the “Sparrow Case” that guaranteed Natives the right to fish. Co-management then did not make an appearance until the D.F.O’s hand was forced. Even so, the Ditidaht still do not practice what they regard as co-management. Their management activity has been restricted to policing their own people and limited activity in
conjunction with the Nitinaht hatchery in the management of surplus fish (E.S.S.R). The fact that there was a road-block to stop the Nitinaht Hatchery from putting the program out to tender, (Cofsky, 1992) lends weight to the argument some elders have made that co-management is not an initiative of government, but something they must do because of the “Sparrow Case”. Furthermore, the government, being under constant political pressure from commercial fishermen, have demonstrated a reluctance to extend any more control to the Ditidaht than they absolutely must.

The amount of management input has been too slow in emerging and not nearly substantial enough. This is evidenced by the fundamental elements of co-management that make their appearance as goals of treaty negotiations.

The literature review revealed that there are avenues that the Ditidaht could take, and could have taken in the past, which would have made their co-management endeavors more effective both for conservation and for the relationship among local fishermen.

What Are the Lessons for Others?

There are several lessons other Native groups can learn from the Ditidaht case:

1. Mechanism for Recirculating Wealth

While the Ditidaht fishermen were agreeable to support the conservation efforts of the hatchery, there was no effort to return any wealth to the community or fishermen. This has likely contributed to the general apathy towards the ESSR program. No new fishermen have attempted
to join the program since its beginning. Other Bands must ensure that efforts are adequately
rewarded.

2. Crew Input

The lack of crew input into decision-making has also led to a lack of enthusiasm for the program.
This was not entirely the decision of the Band but flowed from the general lack of local input
allowed by the DFO (see below). Other Bands, and the DFO, must allow fishermen (and
potential fishermen) to be involved the decision making.

3. Appeal Body

The lack of an appeal body for equity questions has led to suspicion among Band fishermen that
allocation by the Fishery Guardian is biased in favor of his friends and family. This has often led
to distrust about the Ditidaht fisheries policies. Other Bands should ensure that their members
can directly (not just through Band meetings) appeal decisions about allocation.

4. External Support and Alliances

When the Ditidaht have garnered support for their fisheries efforts they have achieved success.
This involves the need to trust and utilize outside interests as they do in Washington State. In
particular, they need to recruit interests, like environmentalists, who have been a potent force in
determining public policy about natural resource management, both in Canada and in
Washington State. Other Bands should encourage all possible alliances that would strengthen
their position.

5. Appeal to the General Public Interest

Bands are local entities that would have difficulty appealing to the general public interest
because public perception is based on the cumulative effect of diverse agreements, spread over
many Bands. The BC Fisheries Survival Coalition has succeeded in galvanizing a negative attitude toward Native fisheries by invoking right-wing political themes. To change public perception Native Bands would need to inform the public about the general intent and results of Native fisheries objectives in BC, not just those specific to a local area.

The Ditidaht have not been able to establish a management system that includes very much input in management decisions even though they have contributed significant financial support, through the Nitinaht Hatchery, for stock rehabilitation and other conservation efforts.

While the Ditidaht are obviously aware of the importance of conservation, they have not been as aware of its possible use as a strategic lobbying tool as they have been in Washington State. Other Native groups would help their cause therefore by looking beyond the narrow goal of economic development, often at the forefront of concerns, for obvious reasons in a Native community, to the broader goal of economic and social control. By doing this, they can focus on strategies that recruit the power of other interests to increase their chance for success.

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24 Although according to Carl Edgar Jr. their effectiveness is waning with recent drops in membership.
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