EVALUATING THE PRODUCTIVITY OF REFERRAL PROCESSES:
HABITAT REFERRALS IN BRITISH COLUMBIA

by

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ABSTRACT

This thesis develops a set of criteria and a framework for assessing the productivity of the habitat referral process operating in British Columbia.

The habitat referral process is a mechanism by which applications for projects potentially affecting fish habitat are referred to the Department of Fisheries and Oceans by other government agencies or directly by applicants. Approvals, usually in the form of permits, leases or licences, are issued or refused depending on the comments that the Department of Fisheries and Oceans and other agencies have expressed when reviewing the application.

There are four good reasons for studying this topic: 1) as one of the government's activities the referral process is included in the major review of government programs that is presently being undertaken; 2) there is evidence that some of the existing referral processes are unproductive: discontent is being expressed by the people involved in referrals, and the process itself shows obvious signs that there are problems (backlogs, delays, overtime); 3) criteria and a framework for assessing the productivity of referral processes were not available before this study; and 4) referrals account for a considerable portion of the workload of the Habitat Management function of the Department of Fisheries and Oceans.

In the thesis, firstly the referral process is set in the context of the governance system: its relationships with the other processes and mechanisms used in decision-making for resource management and protection are described. Secondly, a framework for assessing the productivity

of the referral process is developed. This was derived mainly from the literature on productivity improvement and decision-making. Finally, the set of criteria is developed, drawing from the interviews with people involved in referrals, an analysis of the evolution of the referral process, and the specific literature on the referral mechanism.

The criteria are displayed in a tree, from the most general to the most specific. Criteria are then explained and discussed individually, and examples of how the criteria can be translated into practical terms are also provided. The criteria help identify problems in the referral processes under review and suggest possible solutions.

The improvement of the performance of the referral mechanism is seen in the context of its evolution. It is recognized that the trend is toward more upfront planning and consequently fewer projects being reviewed through referrals.

This 'tool' - the criteria and framework - will prove useful to anybody who wants to assess the productivity of the habitat or other referral processes. It will help them to identify the problems and to find the appropriate solutions.

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LIST OF ACRONYMS USED IN THE TEXT

BCE	- B.C. Environment, same as MOE (as part of MELP) - provincial government
BIEAP	- Burrard Inlet Environmental Action Program
CEAA	- Canadian Environmental Assessment Act
CORE	- Commission on Resources and Environment
CWS	- Canadian Wildlife Service - federal government
DFO	- Department of Fisheries and Oceans - federal government
DIANA	- Department of Indian and Northern Affairs - federal government
DOE	- Department of Environment or Environment Canada - federal government
EACC	- Environmental Assessment Coordinating Committee (DFO & DOE)
EARP	- Environmental Assessment and Review Process - federal government
FA	- Fisheries Act - federal government
F&W	- Fish & Wildlife Branch (part of MOE) - provincial government
FEARO	- Federal Environmental Assessment Review Office
FRAP	- Fraser River Action Plan
FREMP	- Fraser River Estuary Management Program
HM	- Habitat Management Sector (DFO)
LRUP	- Local Resources Use Plan
LRMP	- Land and Resource Management Plan
MAFF	- Ministry of Agriculture, Fisheries and Food - provincial government
MELP	- Ministry of Environment, Lands and Parks - provincial government
MOE	- Ministry of Environment, same as BCE - provincial government
MOF	- Ministry of Forests - provincial government
MOTH	- Ministry of Transportation and Highways - provincial government
MoU	- Memorandum of Understanding
NNLP	- No-Net-Loss Policy (or Policy for the Management of Fish Habitat) - federal
OCP	- Official Community Plan - municipalities
P&A	- Planning & Assessment Branch (as part of MOE) - provincial government
PPARR	- Partners in Protecting Aquatic and Riparian Resources (DFO & BCE)
RODAC	- Regional Ocean Disposal Advisory Committee - federal/provincial government

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I would like to thank all the people that accepted to be interviewed: Geoff Chislett, Brian Clark, Adrian Duncan, Gordon Ennis, Mike Flynn, Rick Higgins, John Mathers, John Millen, Mike Nassichuk, Dale Paterson, John Payne, Martin Pomeroy, Les Powell, Steve Sheehan, Bob Sheperd, Al von Finster, Mike Wan and John Werring. If this thesis has applicability and is not just a theoretical study it is their merit: their practical examples and comments gave me insight into the referral process and helped me develop productivity criteria that can be used by practitioners.

I am also thankful to Richard Paisley for his monumental effort in explaining the Canadian regulatory context to a non-Canadian, and to the Department of Fisheries and Oceans staff for their help and logistical support.

Finally I would like to thank Vittoria, Francesco and Chiara Arduino, my parents and sister. Their support, in a variety of ways, has never lacked. If I can present this thesis today it is because of their encouragement and love. This thesis is the reason why I did not write home more often.

Chapter 1. <u>INTRODUCTION</u>

Purpose of the thesis

The purpose of this thesis is to develop a set of criteria to assess the productivity of a referral

process and to apply it to the habitat referral process in British Columbia.

As a first approximation, 'productivity' is performance. Assessing the productivity of the referral

process means evaluating its performance, how 'good' or 'bad' it is. At a deeper level,

productivity is effectiveness and efficiency, that is, achieving the desired results and doing so

without losing or wasting energy or resources.

The criteria developed in this thesis serve as yardsticks against which to evaluate how well

referral processes are doing. They also serve as a checklist to determine where referral processes

perform poorly and therefore need improvement.

The product of the thesis will therefore be a tool for improving the productivity of referral

systems. The set of criteria will allow people involved in referral systems and others 1) to detect

where problems are, and 2) to identify possible courses of action for their resolution.

What is a referral process?

A referral process is an administrative mechanism used by local, provincial and federal government. It is utilized to 1) transmit information about a project application from the proponent to an agency or from an agency to other agencies, 2) review the application, 3) transmit comments on the application back to the agency or the proponent, and 4) withdraw or grant approval to the application, in most cases formulating conditions for it.

The habitat referral system deals with project applications that may affect fish habitat and require the involvement of the Habitat Management Sector (HM) of the Department of Fisheries and Oceans (DFO). DFO reviews the applications received from other agencies or directly from the proponent. They may range from water withdrawal to use of navigable waters, from logging in proximity of streams to construction of a bridge, from gravel removal to development in urban areas, and many more.

Problem statement

Researching this topic is important for at least four reasons: 1) the government is engaging in a major review of its programs, 2) there is evidence that some of the existing referral processes are unproductive, 3) criteria for assessing the productivity of referral processes have not been established, and 4) referrals account for a considerable portion of the workload of the Habitat Management function of the Department of Fisheries and Oceans.

The first reason is that the government is already conducting a general review of its programs. This intention was first outlined in Canada's Green Plan, which encouraged the government to adopt new approaches to resources management, build partnerships and use more efficient methodologies. For fisheries, the goal is the long-term sustainability of fisheries resources. More specifically, the objective is to "improve habitat protection over the next five years by taking all necessary legal and administrative steps . . . to effect a more consistent application of the *Fisheries Act*." (Canada's Green Plan, 1990,10.).

The goal of the program review is deficit reduction. Intermediate steps to achieve this goal are the analysis of the government's fundamental functions and a major administrative reorganization. Thus, since the referral process is an administrative procedure, and administrative changes are encouraged, this thesis is appropriate. The development of a tool for assessing and improving the productivity of the referral process is a small contribution toward the achievement of sustainable development advocated by the government.

The second reason for conducting this research is that there is evidence that most of the existing referral processes are unproductive. It is recognized that backlogs, delays, overtime and complaints are signs that there are problems in a process (Bennett 1993, 46). Many referral processes today present these signs, including the habitat referral system. This is usually expressed as frustration for not having enough resources to handle all referrals, and is revealed by the fact that numerous reviews of the referral process are currently underway in the government.[1]

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[1] With no exception, all interviewees have expressed the frustration of not having enough resources. It should be of no surprise, therefore, that various government agencies have recently undertaken - or are undertaking - reviews of their involvement in referral processes to propose improvements to their time allocation. Examples are Habitat Protection in the Ministry of Environment in Victoria (Geoff Chislett, personal communication); Planning &

In the Habitat Management Sector of DFO there is shared concern that, given the resources available, the number of referrals has become unmanageable. Some referrals are not even responded to; certain others are responded to only superficially; there is no monitoring to see if the recommendations expressed by the agencies are implemented, nor to verify that the desired environmental effects are achieved.[2] Finally, at times applicants find the process frustrating. A list of criteria for productive referral processes and framework for applying them will help determine which referral processes need improvement, where the problems are and how to solve them.

The third reason why a tool to assess the productivity of the referral process should be developed is that one does not exist yet. It does not exist in the specific literature on the subject, nor among government documents. As is explained in the next chapter, only five studies were found that deal marginally or specifically with the referral process. Probably only three of them may be appropriately called 'literature'. The other two are internal reviews conducted by government agencies and are not accessible to the public. None attempts to develop a comprehensive set of attributes of productive referral processes. Only one offers a three-criterion list for effectiveness (Alexander 1991).

Finally, the reason why the habitat referral system is a suitable case study is that within the DFO Habitat Management Sector referrals account for a considerable portion of the workload. In

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Assessment, Lower Mainland Region, Ministry of the Environment in Surrey (Brian Clark, personal communication); and the Environmental Protection Branch of Environment Canada in North Vancouver (Mike Nassichuk, personal communication). The results of these reviews are not available yet. Two other reviews were conducted in the past (Dane 1980 and Alexander 1991), and their results are discussed in the next chapter.
[2]Adapted from Bell-Irving 1993.

1988-89 (the most recent data available), in the Pacific Region, 38 % of the resources
(persons/year) allocated to habitat management activities were devoted to "referrals, mega
projects, environmental assessment", the largest category of activities (Treasury Board
Submission 1989b, 5). Obviously, among all the activities that take place in Habitat
Management, timewise the referral process plays a dominant role. If the exercise is then to
develop a tool to assess and improve the productivity of the referral process, one might as well
apply it to a case where referrals are a major concern, because that is where the tool is most
useful.

Scope of the research

The focus of the thesis is the habitat referral system and the Department of Fisheries and Oceans.
However, since the habitat referral system, like other referral systems, is an interagency
mechanism, it cannot be reviewed without considering all those that are concerned and their
needs. For this reason, the set of criteria developed for DFO to assess the productivity of the
habitat referral process cannot be too specific. Instead, thanks to its comprehensive nature, it will
likely be a tool useful to other agencies who want to assess the productivity of the habitat referral
system from *their* perspective. Furthermore, the tool developed in this thesis may well prove
helpful as a basis or framework to assess the performance of other referral processes.

The geographic scope of the research is the DFO Pacific Region (British Columbia & Yukon). All the people interviewed work in this region and the government documents consulted relate to the same area.

Methods

Two main activities were performed to gather information for this research: reading and meeting people.

Reading was done on material coming from two sources: academic literature and government documents. The literature on referrals and other project review processes in the study area was reviewed to confirm that there was never any attempt to assess the productivity of the referral process. Other fields of literature were explored (administration theory and public productivity), mainly to gain background knowledge on topics related to the thesis. Various government documents were examined to become familiar with the habitat referral process. They fall into the following categories: memos, memoranda of understanding, quarterly reports, internal papers.

The author also had the privilege to meet several people involved in the referral process or in activities related to it. She participated in workshops to discuss the development of new guidelines, and in meetings with DFO and Fraser River Action Plan (FRAP) representatives to discuss current issues in fish habitat management and research.

Eighteen people were interviewed to obtain a general overview of the habitat referral process. A complete list of the interviewees with their position can be found in Appendix A and the interview questions are reproduced in Appendix B. Interviews were taped with the permission of the interviewees and then transcribed.

Each chapter relies differently on these sources of information. Chapter 3 (*The referral process in general*) draws on all sources: literature, interviews and government documents. Chapter 4 (*The case study*) draws mainly on interviews and government documents. Chapter 5 (*Public sector productivity*) draws on the literature on public improvement. In chapter 6 (*Criteria for assessing the productivity of the habitat referral process*) there is an integration of all sources: specific literature on referrals, literature on productivity and decision making, interviews and government documents.

Organization of the thesis

Chapter 1, of which this is the last section, introduces and frames the topic of this paper. Chapter 2 is a review of the specific literature on the referral process in British Columbia. It presents five studies previous to this one, discussing how - if at all - they address the issue of the productivity of the referral mechanism.

Chapter 3 is a collection of information and thoughts about the referral process in general. It contains a description of the current referral procedure and a review of the various definitions of referrals found in the literature. It discusses the evolution of the mechanism identifying trends for

the future. It relates the referral process to other processes involved in decision-making for resource management, introducing the concept of a governance system. Finally, the chapter looks at the referral process from different viewpoints, broadening the reader's perspective on it.

Chapter 4 is entirely focused on the case study: it is a thorough description of the current habitat referral process in B.C. and its administrative and regulatory context. It also includes the comments and opinions of the interviewees.

Chapter 5 is the theoretical component of the paper. It contains an overview of the theory of productivity and a theoretical framework for assessing the productivity of the referral process. The latter derives from the former and sets a context for the criteria developed in the following chapter.

Chapter 6 presents and discusses the set of criteria developed to assess the productivity of the referral process. At the end of the chapter the referral mechanism is again related to the broader governance system.

Chapter 7 is a summary with implications for planning and recommendations.

Chapter 2. <u>PREVIOUS STUDIES ON THE B.C. REFERRAL PROCESS:</u>

<u>A LITERATURE REVIEW</u>

As mentioned above, only five pieces of literature were found that deal specifically or to a

significant extent with referrals. Three of them are published papers and accessible to the public

(Andrews & Higham 1986, McDougall 1982, Reith, 1982). When they were published they were

so well circulated and became so popular that no extra copies are left in stock.

The other two reports are internal reviews conducted by or for government agencies (Dane 1980,

Alexander 1991). They were received in a draft form (and as such at least the former has

remained since 1980) and have never been published.

The three more 'official' reports, those that have been available to the public and the academic

community, will be reviewed first. The two 'unofficial', unpublished reports will follow.

Protecting the B.C. Environment: A Catalogue of Project Review Processes (by William J.

Andrews and John W. Higham, edited by Robert L. Sherwood, Environmental Protection,

Conservation and Protection, Environment Canada, 1986)

The report is a well-organized, easy to read, comprehensive catalogue of "government processes

that include, as at least part of their function, the assessment of the environmental impacts of

projects in British Columbia." (P.1.) Its purpose is "to clarify project review procedures and

environmental impact assessment in B.C. and to list sources of information for further details."

(P. iii.) It achieves its purpose by offering flow charts of processes and by providing addresses

and reference documents. Each process is described under the following headlines: coverage,

scope, administration, procedure, proponent role, public role, appeal. The scope of this report is British Columbia and all the processes that include assessment of environmental impact, even if as only one of several other aspects. Thus, referral processes such as the Environment Canada Referral System are outlined besides the very comprehensive EARP (Environmental Assessment Review Process) and the Energy Project Review Process. The focus is on "processes", not agencies, licences or legislation." (P. 1.)

Processes are divided into federal, provincial and joint federal-provincial. The last category only covers joint *planning* processes and lists the Fraser Estuary and the Squamish Estuary; it does not include other review processes where both the provincial and the federal government give their input. These latter processes are not captured in a category of their own: instead, if a process receives the input of both, it is listed under 'federal' or 'provincial' depending on which is the lead agency. The local government does not have a category of its own either: it is listed under the provincial review processes. The catalogue is easy to consult: within the three categories (federal, provincial and joint), processes are listed alphabetically according to the type of development. The table of contents includes entries such as: aquiculture, atomic energy, environmental contaminants, federal land, navigable waters, parks, etc.

The study is not specifically on the referral process but referral systems are described throughout the catalogue and from the viewpoint of this study it is a helpful publication. The report, however, does not deliver anything more than the title promises: therefore it is only a catalogue and there is no attempt to assess the performance of the processes listed. As it is a 1986 report some aspects of the processes have changed since then.

Referrals Systems Presently Used in the Fraser River Estuary Study Core Area (by Richard D. McDougall. Surrey: Fraser River Estuary Study, 1982)

The geographical scope of this report is the Fraser River Estuary and - for the joy of referral 'zealots' - all principal referral systems in use in the area. It is an inventory of "existing referral systems used by government agencies and organizations operating within the study area." The purpose is "to clarify and make better known the several referral processes that exist" (p. 1) in order to "develop a more comprehensive key agency referral procedure." (p. 3.) This report was part of the much broader and far-reaching Fraser River Estuary Study, a data collection phase preceding the establishment of the Fraser River Estuary Management Program (FREMP).

The report has an interesting structure. It describes the existing referrals "within the context of a generalized development approval process." (P. 7.) Referrals are not grouped according to types of development, as in the previous study, nor on the basis of the lead agency. Instead, referrals are grouped into phases of development. There are four phases:

1) Investigation - Who administers the land?

2) Designation - Is the land suitable for the proposed development?

3) Servicing - What approvals are required for servicing the development site?

4) Development - What construction or operation permits are required?

Referrals are first grouped according to the development phase they refer to, and then within each phase they are categorized by level of government and type of development. For example:

referrals in phase 3 are first separated under federal and provincial government, and then the latter is further sub-divided into water management and waste management referrals.

This layout presents the various options a developer faces in different stages of the development, depending on the characteristics of the land and the project. It also helps understand that the same project may require review under different referral processes, one for each of its facets. This aspect is not clear when review processes are catalogued according to type of development only.

Three features of this study should be pointed out: its date, its geographical scope and its comprehensiveness. Firstly, having been written in 1982 it is outdated. Processes, agencies, mandates, names: some have changed since then. Secondly, as far as the geographical area covered, the Fraser River Estuary certainly is not - and was not in 1982 either - representative of the rest of the province, which is the scope of *this* research. Thirdly, "the list of referrals . . . is not comprehensive - other systems exist. Even the referrals systems that have been described do not include any secondary level of referrals that may occur when a referral agency submits information to additional agencies or affected interests." (Reith 1982, 10.) Nevertheless, this document is extremely useful as it sheds light on how the system was twelve years ago, and how it still is for the processes that have not changed.

As for the evaluation of the performance of the processes described, there is no trace of it. Once again, this is a descriptive study where no performance analysis is conducted.

The Information Systems Report (by Gary Reith. Surrey: Fraser River Estuary Study, 1982)

Of the three official reports, this is the one that proved most helpful for the purpose of this thesis.

It is part of the same Fraser River Estuary Study as the previous one. The results of the *Referrals*

Systems Presently Used in the Fraser River Study Core Area report are summarized here and

taken further.

The antecedent report was an account of the referral mechanisms then existing in the Fraser

River Estuary. The Reith report analyzes those findings, highlights the problems, recognizes the

need for a new system, identifies the anticipated benefits of an improved process, and designs

and proposes a referral enhancement field trial.

There is no explicit search for criteria that would make the referral process more productive, and

the word 'productivity' or any related terms are never used. What is more, among the problems

of the then existing referral processes one can find 'inefficiency' (p. 40), but there is no attempt

at defining what it is and how to identify it. Nevertheless, the exciting aspect of this report is the

effort to list the weaknesses of the process and to educe the attributes that would make the

process more beneficial to the management of the estuary.[1] This helps identify what is 'good'

and 'bad' about the referral processes under review, and lays at least some foundation for

developing formal criteria for productive referral processes.

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[1] The problems of the referral systems are found in Table 2 on p. 41 of Reith; the anticipated benefits of an
enhanced referrals process are listed on pp. 40 and 42; and the techniques that can be used to enhance the referrals
systems are in Table 3 on p. 43.

One warning: the use this thesis can make of the report is limited by the geographical scope of the latter. The results of the study are valid for the Fraser River Estuary, a circumscribed area with distinctive natural features and administration. A system that is appropriate for an estuary may not be appropriate for a wider region (the Pacific Region) that is certainly more diverse in administration and geographical characteristics, and consequently has different needs. The least one can expect is to have to do some tailoring.

This is all for the 'official' literature. The two non-official documents are discussed below.

Task Force Report on the Habitat Protection Division "Referral System" (*Department of Fisheries and Oceans, internal document, also known as the "Brian Dane Report", 1980. Draft)*
This report is heaven for researchers of the Habitat Management Sector referral systems.
It outlines the then "current referral system within HPD [Habitat Protection Division in 1982, now called Habitat Management Sector], together with specific problems and recommendations for each referral process." (Pp. 4-5.) Thus, unlike the reports so far discussed, "the description of referral processes in this document reflects only the DFO involvement, and does not take into account the routing of referrals through other agencies." (P. 5.) The point of view of this document is therefore exclusively DFO, and all referral systems in which DFO is involved are described.

In the report the referral systems are divided into three categories: Land Use, Water Use, and Water Quality, which correspond to the three units into which Habitat Protection Division was

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organized at the time.[2] Within the units referrals are listed according to types of development. For example: under Land Use one finds highways, urban development, mining and logging referrals; under Water Use one finds foreshore development, navigable waters, and water licence referrals; under Water Quality one finds ocean dumping, pesticide and waste management referrals. This categorization is helpful to clarify the areas of operation of the three units, however the forced classification into groups does not do justice to the interconnections existing among types of referrals and units. For instance, the development type called 'gravel removal' is forcefully listed under Land Use, when applications for gravel removal can also be reviewed through the 'foreshore development' and the 'Ministry of Lands' referral processes that are listed under Water Use.

The interesting aspect of the Brian Dane Report is its attempt to identify problems and solutions. For each referral system described in the document, problems are highlighted and recommendations for solutions are advanced. In this sense, the report is not only a catalogue of processes, but also a critical review and a working document. This should be of no surprise: it is an internal document of DFO and its intent was probably to provide insight as a premise for action. The purpose was not just to prepare a catalogue of processes - of little use to a government agency that is already part of the process - but to introduce changes for improving the mechanism.

It is noteworthy that each referral system is assigned a 'mark' for its *effectiveness* (the term used in the report). Effectiveness is summarized as: excellent, good, fair, controversial, variable, or

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[2]These Units do not exist as such any longer, as Land Use and Water Use were unified in what is now the new Habitat Conservation Unit.

questionable. However, no definition is provided in the text as to what effectiveness means and how it is measured. What 'mark' to ascribe was the decision of the task force who prepared the report, after having talked to those involved in the specific referral systems (Brian Dane, personal communication).

The problems and solutions identified in the report are precious material: like the previous study, they provide a basis to start developing criteria for assessing the productivity of the referral process.

The snapshot of DFO Habitat Protection Division referrals 14 years ago is extremely interesting and comprehensive. But the year 1980 is far too distant, and government processes are far too dynamic, for the description and analysis contained in the document to be still valid today. Since 1980 some agencies have undergone re-organization; branches have been merged and new ones have been created; names have changed; geographical and legal jurisdictions have also changed; routings of referrals and entire review processes have been modified; formal and informal arrangements between DFO and other agencies have been made; and new guidelines and legislation have been introduced. Also, in the meantime some of the problems that were identified in 1980 may have been solved. What is therefore described in the report no longer reflects the real situation. However, this is expected from a working document, designed to frame an existing problem and find appropriate solutions.

Review and Evaluation of Habitat Protection Activities (Prepared by Garry Alexander,

Environmental Assessment Branch, for the Fisheries Habitat Standing Committee, Integrated

Management Branch and Fisheries Branch, B.C. Environment, internal document, 1991. Draft)

This report is also an internal review. It was commissioned by the provincial government, B.C.

Environment, and conducted by a subcommittee of the Fisheries Habitat Standing Committee.

As described by the title, this is a review of the Habitat Protection activities of the provincial

regions and sub-regions in 1989. In particular, it is a workload analysis. The focus is on the

Fisheries and Wildlife Habitat component only, not all programs within the Ministry of

Environment (MOE). The purpose of the review was "to improve workload efficiency and

effectiveness by reducing involvement in low priority habitat activities and improving

effectiveness in dealing with the referral workload. An additional objective was to identify

activities with habitat impact that are not being currently addressed." (Summary page.) The need

for a review stemmed from the concern of an increasing workload with fewer resources.

While in the provincial report the term 'efficiency' is used but never defined, the 'effectiveness'

of a referral system *is* defined. Interestingly. This had never happened so far in any other piece of

literature reviewed. For MOE 'high effectiveness' of the referral system consists of: 1) other

agencies or programs accepting Habitat Protection comments; 2) proponents complying with

licence or permit conditions; and 3) recommendations or prescriptions are shown to effectively

protect habitat. It should be noted that this list of features of effectiveness includes the goal (third

item) and two means of achieving it (first two items).

'Low effectiveness' consists of the opposite of high effectiveness plus uncertainty or lack of

feedback on referral effectiveness. (P. 4.)

The review identified 1) activities with low habitat impact that could be dropped or whose responsibility can be transferred elsewhere; and 2) activities with actual or potential high habitat impact that lack effectiveness and should receive more attention. It has also elicited several reasons why the referral systems defined at low effectiveness may be so (problems of the existing processes). The overall outcome of the analysis is a set of eight 'Recommendations for Improving Referral Effectiveness'(pp. 8-9):

- Monitoring to evaluate/audit the implementation and effectiveness of referral recommendations

- Increased use of interagency agreements to achieve integration of habitat protection objectives

- Increased attention to enforcement of referral recommendations

- Changes in legislation to recognize fisheries and wildlife requirements

- Increased staffing and funding levels in Habitat Protection

- Increased understanding of basic fisheries and wildlife habitat requirements

- Mitigation/compensation policy for fisheries and wildlife habitat to complement the federal no-
    net-loss policy

- Improved intraministry coordination of policies, procedures and cooperation.

The degree of habitat impact, degree of effectiveness and reasons for low effectiveness were all determined according to the opinions of the regional staff who responded to a questionnaire.

Conclusions from the literature review

The literature on the referral process is very scanty and nothing was found on referrals outside of B.C. Two of the five studies reviewed are only inventories, either of referral systems alone or of both referral and other project review processes. Their purpose is to present the array of processes available. There is no analysis or evaluation of their performance.

The other three reports have a different approach: their goal is performance improvement. They try to assess the existing situation and to recommend solutions to the problems. They show an attempt to identify both the weaknesses in the process and potential strategies to eliminate them. However, the concept of *criteria* to assess the performance of a referral process is nowhere to be found. None of these papers offers a 'universal' tool that can be used to improve the performance of processes other than their case studies. None offers a checklist of things to verify, providing at the same time directions for improvement.

This is the purpose of this thesis.

Chapter 3. THE REFERRAL PROCESS IN GENERAL

A GENERALIZED REFERRAL PROCESS TODAY

A generic referral process is graphically described in the following flow chart:
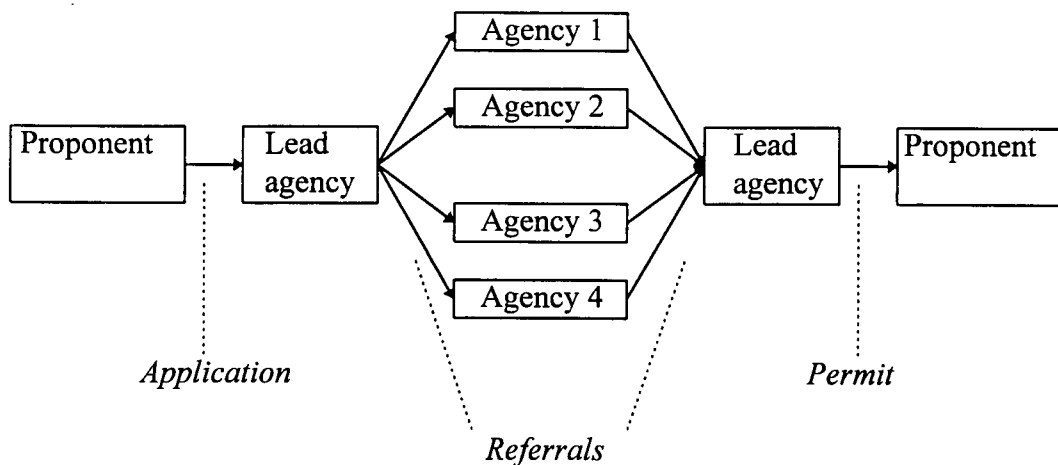
The process begins with a proponent and a proposal for an activity or a physical project. The first step is therefore the submission to a government agency of an application for a licence, an approval, a permit, or a lease. Applicants usually submit their applications to a permit-issuing agency, which can be of local, provincial or federal level. This agency, also called the lead agency, in turn may refer the applications to other agencies that, because of their mandate or jurisdiction, may have an interest in reviewing the proposed development. The granting agency does so to inform other organizations of what is happening, but also to ensure that all possible implications of the projects are considered before issuing a permit. Certain referees are

mandatory: the granting agency is required to consult them by statute, departmental policy or interagency agreement. Other referees are discretionary and only involved at the discretion of the initiating agency. When the granting agency has received all comments from the referees, it considers all the information and comments available to that point and can do one of three things: approve the project with no conditions, disallow the project, or conditionally approve it (approve it provided that certain conditions are met).[1]

When commenting on a development proposal, agency staff may rely on guidelines and standards, or use personal discretion and professional judgment.

When the system allows the proponent to submit only one application and to receive only one answer which contains the comments of all agencies (as in the flow chart above), the process is said to offer a 'single-window' or 'one-table decision-making' to the proponent. The alternative is a mechanism where the proponents themselves apply to different agencies and receive separate answers from them.

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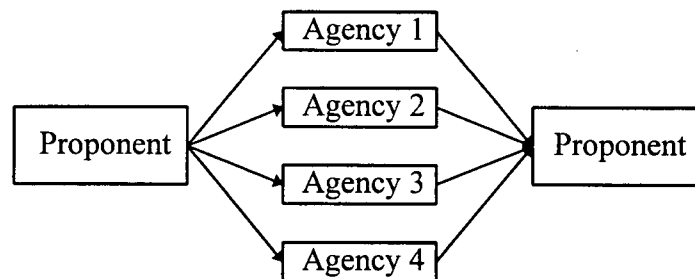
[1]Adapted from McDougall 1982, 4.

These two models reflect the idealized forms of a basic referral procedure. From these models, however, several further levels of complexity and deviations may be encountered. Let us begin with the further levels of complexity.

First of all, a granting agency can send applications to either the regional office (headquarters) or the district or local offices of a referee agency, or to both. The same applies to proponents: they can submit their applications to either or both offices. In addition, wherever it arrives at the referee agency, an application may be sent to another office within that agency via internal communication. This depends on the issue or the internal division of responsibilities. The granting agency and the proponent may receive a response from either the referee headquarters or the referee decentralized offices, or from both, regardless of where the application was referred to. For example:
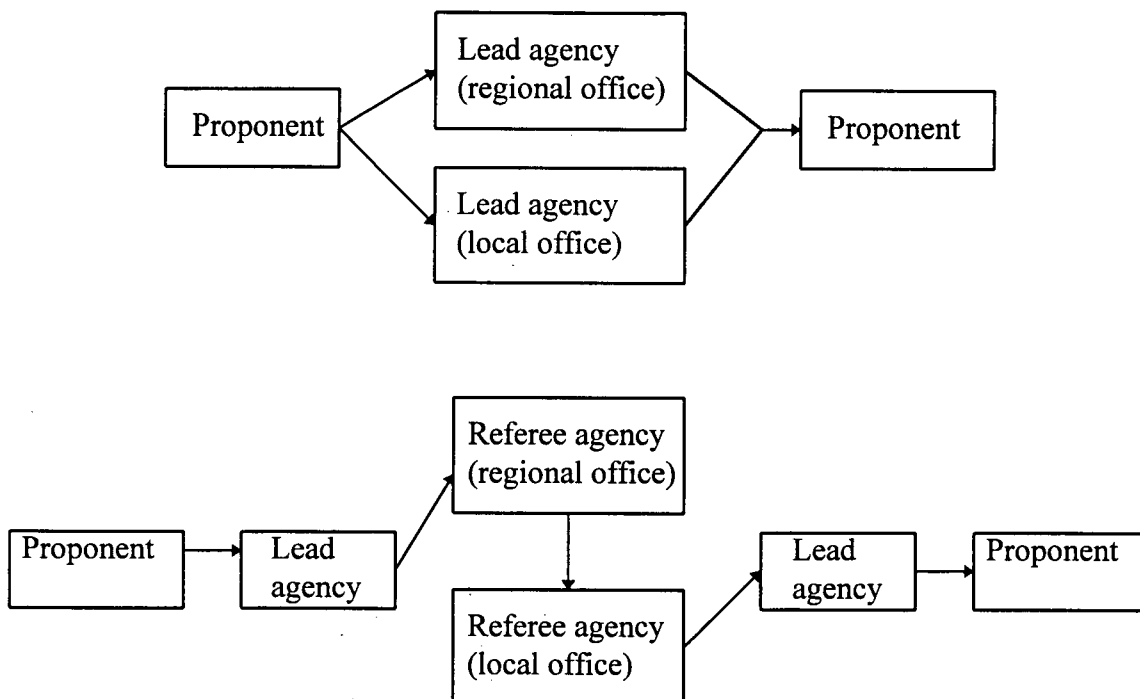
Secondly, there may be referral coordinators in the process. These exist both at the provincial and the federal level and they work as a clearing house. Referral coordinating agencies or branches receive applications from the granting agency and circulate them among other agencies or branches within that level of government. It is the responsibility of the referral coordinator to make sure that all organizations that may have an interest in reviewing the applications do so. Comments are sent back to the coordinator, who tries to solve conflicts, if any, in the comments received and prepares an overall response for the granting agency. For an excellent description of the role and importance of the referral coordinator, see McDougall (1982, 20-21). Examples are provided in chapter 4.
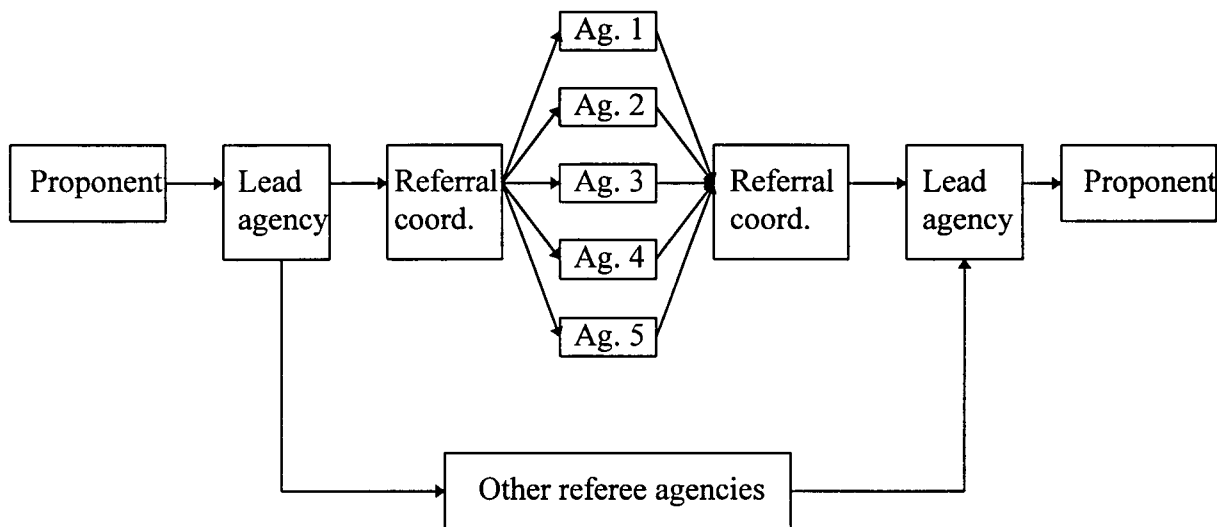
Thirdly, sometimes the information received with the applications is not adequate to make decisions or comments. In these cases the initiating agency or the referees return to the proponent for more information.

Fourthly, sometimes on-site inspections are required in order to respond to an application.

Fifthly, sometimes projects are discussed at a task force or committee level.

Let us now describe the deviations from the standard referral procedure.

First of all, 'referring' an application to other agencies does not only mean formally sending documents. It may also mean, and indeed it often happens, informally consulting somebody on the phone or in other forms (e.g., electronic mail).

Secondly, proponents may send their applications for comments directly to non-permit-issuing agencies, without waiting for the granting agency to do so. In this case, referees usually send their comments or conditions directly to the proponent.

Thirdly, even when applications are received through the granting agency, referees may choose to reply to either the initiating agency or directly to the applicant, depending on the arrangements.

Fourthly, sometimes applications are sent to other agencies only for their information and no response is expected.

In summary, whether straightforward or complex, the referral process has the following purposes (Reith 1982, 38):

- to serve notice that an application for a project has been made;

- to communicate information regarding a proposed development or activity;

- to screen the application for appropriate level of review;

- to obtain feedback regarding agency concerns about a proposed development or activity;

- to resolve conflicts;

- to coordinate activities;

- to obtain decisions regarding development projects.

DEFINITIONS

Now that a generic referral process has been described, the reader can appreciate the difference among various definitions.

The definition of referral process offered in the introduction was mainly a procedural description. It was a good approximation and an acceptable working definition:

> A referral process is an administrative mechanism used by local, provincial and federal government. It is utilized to 1) transmit information about a project application from the proponent to an agency or from an agency to other agencies, 2) review the application, 3) transmit the comments on the application back to the agency or the proponent, and 4) withdraw or grant approval to the application, in most cases formulating conditions for it.

While this definition is adequate to introduce neophytes to this subject, at a deeper level of analysis it becomes imprecise. It does not account for the sometimes sophisticated interactions among agencies, for example, nor for the reiterative nature of some transactions.

The definition offered by McDougall (1982, 4) suffers from the same deficiency:

> A referral system can be defined as an administrative procedure used by resource agencies to obtain information from other resource agencies about applications for approvals, permits, or various types or resource tenures.

Here it seems that agencies are only receiving information about applications, and not giving any input to the process. It also seems that the only purpose of referrals is to provide or to receive information and nothing else. There is no reference to other functions such as conflict resolution.

The definition proposed by Andrews and Higham (1986, 2) seems more complete:

> A referral system is a system for sending a document, e.g., a proposal or an assessment, to other agencies. A referral can be for a receiving agency's information only, in which case it need not reply. Otherwise, the receiving agency responds with its comments to the referring agency or directly to the proponent.

However, it limits referrals to formal sending of documents, excluding all the informal interactions that take place over the phone and that account for a significant portion of the

workload. Furthermore, the complexity of the interactions among agencies and purposes of the activity are still not entirely presented.

Sproule-Jones' definition has the same problem (1980, 75):

> [Referrals] are mechanisms whereby one or more organizations provide information and consultative services to other organizations in response to a formal request . . .

A better definition would be that proposed by Reith (1982, 10):

> Referrals are defined as a type of administrative procedure that government agencies use to inform each other of proposed developments activities, exchange information, resolve conflicts, coordinate activities and arrive at decisions.

This definition captures the complexity of the interactions among agencies and at the same time explains at length the purposes of the referral process. The preference of the author of this thesis lies with this last definition.

EVOLUTION OF THE REFERRAL PROCESS

The referral process has not always been as described in the section called *A generalized referral process today*. Instead, it originated as an informal and circumscribed mechanism, and has undergone an evolution since then. The idea of an evolution of the referral process is found in Dorcey (1986).

Describing the evolution of the referral process may prove useful for at least three reasons. First, it will provide an overview of the whole process, showing the array of players involved and the variety of arrangements among them. This will broaden the general picture, taking the reader beyond DFO and its immediate relationships with other parties. As explained in the section called *Scope of the research*, the focus is therefore still DFO, but DFO is described in the context in which it operates. No description or analysis of the referral process would otherwise be meaningful.

Second, it will show how the referral process has become more and more intertwined with other mechanisms and processes used in the governance of resources.

Finally, the evolution of the referral process may be the source of criteria and indicators for assessing the productivity of the process itself. The reader will remember that this is the primary purpose of the thesis. Here is how it works: the process has been improved over time to better serve its users and achieve its objectives. Thus, the changes introduced reveal some desirable features of the process that can be translated into criteria and indicators of its productivity (how the process should be designed to achieve its objectives).

In the description that follows, the different stages of evolution are kept distinct from each other to highlight them. However, this does not mean that they have taken place in different times, nor that they have always occurred in the order shown. More likely, the need to introduce various improvements was felt early in the evolution process, and changes have been implemented when circumstances have allowed, at different times and with diverse modalities in the various regions and agencies. Furthermore, changes have not been independent: in most cases they have triggered each other.

For the pleasure of the reader and as an introduction, a fairy tale by Brian Clark on the evolution of the referral process provides an overview of the changes undergone by the process since its inception.

A long time ago in a reality far, far away (the '70s) federal and provincial environmental agencies worked directly with municipalities and developers to minimize the environmental impacts of projects already approved by local governments. Whether you should develop was rarely discussed. This early knee-jerk system was called an external referral system and in the initial stages it worked.

Civilization progressed (we are now into the '80s), more home and roads were constructed and pressure was put on government agencies to keep up with the referral system, now an entrenched part of the way we do business. The provincial leaders of the day responded by laying off one third of the staff and asked the survivors to do "more with less". Foolishly we complied which resulted in an overloaded referral system with federal and provincial agencies independently running around reviewing development proposals. This had negative impacts on both the environment and the economy. We were not able to protect everything and developers were frustrated in the approval process and the time it took.

The decline of the Dark Ages started in 1985 with the incredible idea that if government agencies worked together in sharing resources and providing a single environmental response to referrals we might be better off. The result was the Fraser River Estuary Management Program (FREMP) and a new referral process run through the Environmental Review Committee (ERC), providing developers and municipalities one window shopping for environmental concerns. Its success has led to another formal agreement, the Burrard Inlet Environmental Action Program (BIEAP) and a similar single window environmental review. These Programs also promote the idea of sustainable communities with upfront planning that identifies appropriate land uses and reduces the need for referrals (more on this later). Unfortunately FREMP and BIEAP are shoreline initiatives. There is no formal coordinated review process for upland areas of the Lower Mainland.

Enter the Age of Enlightenment (the '90s) where the federal and provincial troops finally figured out that we don't need formal agreements to do things right. Regional offices of BC Environment now coordinate most external referrals for all programs through a one window approach. There is also an informal coordination of referrals between the federal Departments of Fisheries and Oceans and Environment and BC Environment and, increasingly, a single response. Victoria, with input from Regions is developing regulations that will reduce the number of activities requiring approval under the Water Act . . . [the new BC Environment Procedures are in Appendix I].

However, the coordinated review process does not apply to municipal subdivisions. Why not? I am not willing to sink new resources, or re-assign old ones, to a management tool of the 1970s that cannot keep up with the '90s. Ninety percent of referrals require standard answers so why do we keep writing responses with the same recommendations wasting another 30 days in the process? Well we don't want to and that's where the Land Use Guidelines come into the picture [see later in this chapter and in *Administrative and regulatory context*]. Take all our standard letters, put them in a book, add pictures to keep you interested and voilà, the Guidelines. Is this a cop out, a down-loading of responsibilities? No, it's streamlining a process to allow staff more time for compliance monitoring and working with municipalities on the really important issues

that don't fit the guidelines. It also cuts down on the time required for the municipal referral process.

The Age of Geriatrics (coming soon) will lead us away from knee-jerk referrals for the simple reason that our knees are giving out. We cannot expect further resources. In fact we'll be lucky to maintain our current federal and provincial staffing levels. So if we don't want to talk through the referral process should we talk at all? Yes but let's save our knees and spend our time planning sustainable communities that incorporate environmental sensitivities into municipal plans through land use designation . . .[2]

Origins

The referral process started before the reality far away of the 1970s described by Brian Clark. A primordial referral mechanism was used in the early 1950s and involved the Ministry of Forests (MOF) and DFO (Dorcey 1986, 51;146). It was very informal and limited to these two agencies. To address the concerns of DFO about the impact of forestry practices on fish and fish habitat, MOF began to send to DFO the proposed cut plans. This was a great opportunity for DFO to voice their concerns and to comment on those plans. Whether or not MOF incorporated DFO observations in their permit to the forest companies, they did so knowing what DFO thought. DFO was given a chance to give input into the process.

Expansion of the mechanism

This early, informal and restricted arrangement inspired others. Other permitting agencies started to use referrals, and consequently more types of developments began to be reviewed.

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[2]Brian Clark. *The Federal-Provincial-Municipal Review Process: How We Talk To Each Other*. Paper presented at the workshop Local Government and the Land Use Guidelines for the Protection of Aquatic Habitat, North Vancouver, B.C., 30 September 1993.

Applications for water withdrawal started to be referred by the Water Management Branch to other agencies; applications for mining were referred by the Ministry of Energy, Mines and Petroleum Resources to other agencies; applications for projects that might affect the navigability of waters started to be referred by the Coast Guard (Transport Canada) to other agencies; applications for urban development were referred by local governments to other agencies, and so on. All levels of government except for First Nations became involved in the process.

Everything increased: the number of permitting agencies who referred applications to referee agencies; the types of projects referred to other agencies for review; the number of agencies requested to comment on each project; the number of referrals each agency had to respond to. New entities entered government life: water quality referrals, linear development referrals, foreshore referrals, urban referrals, pesticide referrals, navigable waters referrals and many others. Not only did resource agencies start to refer applications to referees but also non-resource agencies such as Western Economic Diversification, a federal funding agency. Since the 1950s, then, and particularly in the 1970s, the use of referrals has expanded together with increased concerns about the environmental and socio-economic impact of developments (Dorcey 1986, 51). Of course, this added complexity to the process.

Interactions with applicants

The process became more complex when agencies (permitting and referee) started to interact with the proponents. At times the information provided by the proponent was not enough for the agencies to meaningfully review and comment on the project. Thus, reviewers had to ask the proponent for more, relevant information. On the other hand, at times proponents were not clear

on what information to provide or on the procedure to follow. Thus, they approached the agencies for directions. Often the proponent and the referee agency did not communicate directly, but the requests for information or clarifications had to go through the initiating agency. Also, often these transactions were reiterative: proponent and agency had to communicate more than once to obtain what they needed. Several steps were then added to the process.

By this point the transactions among agencies and between agencies and proponents were innumerable and some were reiterative. There were too many interrelationships to remain all based on informal arrangements: some had to become formal.

Standard application forms

The need for at least some interactions was reduced thanks to the development of standard application forms or checklists. This is a first example of formal arrangements. Standard application forms rendered the life of applicants much easier. It was clear now what was expected of them, what information they should provide, and to whom they should send the application. The task was made even easier by the preparation of checklists that explained in detail what was required. Needless to say, reviewers were also happier. Standard forms and checklists were made available by some agencies for certain types of developments. They applied to applications for routine projects, whereas non-routine projects could not enjoy this privilege. Examples of standard application forms are in Appendix C (Navigable Waters Protection Act letter of application), Appendix D (application for Crown Land) and Appendix E (prospectus for log handling and storage).

Standard referral and response forms

The agencies also prepared standard forms for referring applications to other agencies and for responding to referrals. Certain recurrent applications could now be responded to very quickly by simply choosing the appropriate pre-set answer, without having to formulate the same answer several times. Examples of standard referral forms are in Appendix F (Coast Guard referrals) and Appendix G (Land referrals). Notice at the bottom of the latter a box with pre-set responses. Standard response forms became available only for routine applications. Non-routine applications still had to receive individual attention and tailored responses. Nonetheless, standard responses contributed to diminishing the workload of reviewers.

Certain agencies further decreased the number of responses to prepare or to await by agreeing that no answer meant no concerns. The official form with which the Ministry of Crown Lands refers applications to other agencies contains the following statement: "Lack of response will be considered as a positive reaction to the application." This also reduced the workload of the government.

In the attempt to make some decisions faster and less resource-demanding, certain lead agencies classified the responses received according to their level of bindingness. An example of this approach is provided by the then Ministry of Lands, Parks and Housing (today's Ministry of Environment, Lands and Parks). They classified the responses into four orders:[3]

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[3] B.C. Ministry of Lands, Parks and Housing. *Referral Procedures*. Section 2.1.0600 of Volume 2 of General Procedures Manual. File No. 0356107. Victoria, 1983, p.5; cited in Dorcey 1986, 147-148.

(i) first and second order responses may be accepted as a legitimate basis for adjudication;

(ii) third order responses should be considered in association with concerns of other agencies and not represent the sole basis for adjudication;

(iii) fourth order responses should not be accepted as the basis for disallowance;

(iv) the importance attached to an agency's position should be based on broader land and resource values as opposed to sole consideration of local impacts. Positions which promote the highest public interest or benefit should be favoured over those which promote individual interest . . .

When the initiating agency received conflicting responses from different agencies, it was immediately clear which responses should have priority in compiling a final permit to the proponent. More and more of the transactions taking place within the referral mechanism were becoming formal.

Guidelines

The formalization of the referral process had a remarkable push forward in the 1970s with the development of the first guidelines. Guidelines were the logical subsequent step after the development of standard application forms and responses. Examples of guidelines are: the coastal log handling guidelines, the culvert guidelines and the land development guidelines. There are many others and more are continuously being developed. Guidelines are further discussed in the section entitled *Administrative and regulatory context.*

Guidelines provide guidance on how to meet the requirements of the law, although they are not legally binding. They may have two purposes: first, to set conditions for what is desirable and

what is not, as would be specified in the permit (substantive rules); and second, to define the process for requesting or issuing a permit or lease or licence (procedural rules).

Guidelines were made available to proponents and to agencies. For the benefit of the proponents they suggested ways to make projects acceptable and therefore reduced the number of applications for projects that were not acceptable. For the benefit of the agencies they provided recommendations, thus the permitting agency did not have to refer those applications to other agencies. In other words, since guidelines already provided most answers, the need to ask questions (as both applications from proponents and referrals from permitting agencies) was reduced.

An illustration: the Land Development Guidelines specify principles and criteria for land development activities so that the productive capacity of fish habitat is preserved and maintained after development. Proponents that are familiar with the guidelines will avoid applying for permission to do something they already know is not acceptable. The same guidelines will then be used by the permitting agencies, who will be able to review the applications that are submitted without referring them to DFO or any other agencies; they already know - because it is in the guidelines - what conditions to set for the development to go ahead.

Some people consider guidelines a panacea. Others are more cautious about their importance claiming that not all projects can possibly be captured by them and some still need an individual review. However, even though they were not a solution for all difficulties, they presented some advantages when they were introduced in the referral process. Two come immediately to mind:

they streamlined the process and made it more agile. First, by providing a set of rules, guidelines provided a common base for decision making and therefore reduced the number of decisions based on personal discretion. People with different experience, knowledge and values were provided with a tool to make the same decisions. Secondly, by making procedures and decision criteria for permits explicit, guidelines enabled the players in early stages of the process to make some decisions and therefore eliminated certain steps.

Screening

Guidelines have allowed individuals to make decisions by themselves without having to rely on the judgment or comments of other people. This introduced the idea of screening. Screening is selecting. In this case it is selecting applications (or referrals) that may move on to further stages in the process and separating them from those that should be prevented from going any further. With an ever increasing number of referrals, it was important to conceive mechanisms to filter them.

An example: DFO receives innumerable referrals from MOE and many other agencies. DFO's responsibility is to review applications from a fish habitat point of view but it cannot possibly handle all of them. It would therefore be very helpful if MOE were able to respond to at least some of referrals on behalf of DFO but without asking DFO. To do so MOE would have to be instructed on fish habitat expectations of DFO. If DFO provides MOE with criteria for adjudicating, then this would become possible. Freed from the burden of many referrals, DFO can devote more time to those referrals that deserve more attention and cannot be delegated to other agencies. MOE benefits from the arrangement because it does not have to wait for DFO's

reply before issuing a response on many applications. Such an arrangement has actually recently

been made between the Eastern B.C. Division of DFO and the F&W Branch of MOE in the

Kootenays. It is called 'workload harmonization'. The F&W Branch reviews all projects except

those requiring habitat compensation, which are forwarded to DFO. In reviewing projects, F&W

applies habitat review procedures acceptable to DFO.[4]

Division of responsibilities

Screening is not the only joint arrangement. Interagency agreements of other kinds have also

been developed because the multiplicity of tasks, the amount of work, the complexity of

interrelationships, all called for some structuring. Numerous formal and informal arrangements

have therefore been made. They range from coordination mechanisms to division of

responsibilities. A current example is the *Agreement on the pesticide referral system and co-*

ordination of project reviews and inspection, presently being developed amongst DOE, DFO and

the Integrated Management and Fish & Wildlife Branches of MOE.[5] Other examples are

discussed in chapter 4.

Referral coordination

To organize the flow of referrals some agencies were made coordinators, responsible for

circulating referrals and collecting responses within their level of government. Thus, DOE

functions as a clearing house for referrals that require a consolidated federal answer

(Environment Canada Referral System), and other agencies have the same role for the provincial

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[4] Gordon Ennis, interview with author. Vancouver, B. C., 13 December 1993. For more details on this issue see chapter 4 on the case study.

[5] Michael Wan, interview with author. North Vancouver, B. C., 25 February 1994.

government or for all levels of government. To avoid duplication of efforts, certain agencies whose geographic jurisdictions are overlapping have agreed on a division of responsibilities. Only one of them, for example, will go on site and collect field data for the others.

Task forces and committees

Other mechanisms have become part of the referral process during its evolution, mainly starting in the 1970s: task forces and committees. They were all attempts to deal with the complexity of certain projects. Indeed some issues did not lend themselves to be resolved solely through referrals, but needed a different discussion arena. They were major projects which required a thorough review and the involvement of numerous interested parties. These projects needed to be discussed around a table, where uncertainties were analyzed and conflicts among parties resolved. Task forces are usually temporary: they are created to work on a certain project and cease to exist when the task is accomplished. Committees have a more permanent nature. Both, however, are based on meetings of two or more parties, and both are currently used. Examples of both are presented in chapter 4.

Single-windows

A further step in the evolution of the referral process was the creation of 'single-windows' for the proponent. These are windows on government processes, and are realized when one organization takes the lead and coordinates the input of all other agencies. Usually 'single-window' programs cover a specific geographic area. The proponent deals with *that* organization, which provides information on how to prepare an application, circulates the application, and coordinates a multi-agency response. The only address the proponent needs to have is that of the lead agency.

'Single-windows' were needed to simplify the complex application process, speed up the response time of the agencies, facilitate conflict resolution among parties, save agencies' resources and keep the frustration of proponents at low levels. The Fraser River Estuary Management Program (FREMP) and the Burrard Inlet Environmental Action Program (BIEAP) in Vancouver were created to satisfy this need. Other programs are currently being considered in the Pacific Region for the Squamish Estuary, Victoria Harbour, Howe Sound, Kitimat Estuary and others. These areas have committees or round tables presently preparing management plans. The next step will be to identify a lead agency as the single window for the proponent.

Upfront planning

The final stage in the evolution of the referral process is greater emphasis on planning. Participants in the referral mechanism have long ago realized that planning was needed to coordinate all decision-making processes and to channel their outcomes towards one common objective. Let alone to reduce inconsistencies among diverse courses of action. Planning is setting the broad picture rather than defining the details. There is something wrong when all the resources of an agency are devoted to responding to referrals - most of them of minor relevance - and none is left to set the rules of the game (e.g., area designation, zoning).

The Planning & Assessment Branch (P&A) of MOE, Lower Mainland, for example is incapable of providing input into the zoning of urban areas because it is too busy reviewing projects for works in and about streams. Only to find out that its recommendations on specific applications cannot be implemented because they are contrary to the current zoning.

Regional and urban planning sets the terms of reference for all courses of action: objectives, limits, criteria... Planning alone can then drastically reduce the number of referrals because it answers most questions before they are even asked. In so doing, it removes the need for some referrals at the origin.

A game with graphs

For the amusement of the reader here are some graphs to illustrate the evolution theory.

All the evolution stages discussed so far have represented improvements to the referral process. The 'innovations' have been introduced to overcome difficulties and to make the whole process more productive. Assuming that *all other conditions have remained constant*, one would therefore expect that the performance of the referral process has been steadily increasing. A visualization of this state is shown in figure 1.

The letters a, b, c, d and e of the graph represent the points in time when innovations have been introduced in the referral process. At each one of these points the performance of the referral mechanism over time has increased, making the segments a-b, b-c, c-d and d-e steeper and steeper. Had no further innovations been introduced after 'a', the performance of the process would be represented by line 0-a', which does not show any change in steepness. Figure 2 describes the overall general pattern of the performance without being sidetracked by details.

However, this is not what has happened in reality. Neither figure 1 nor figure 2 are correct representations of how the performance of the referral process has changed with time. The reason is that the assumption of all conditions remaining constant is not true. At least one factor, the number of referrals, has changed over time. Due to the population growth and the push towards progress, the pressure of development on the natural resources has definitely increased as time has gone by. This has resulted in an ever increasing number of referrals, as described in figure 3.

As a consequence, a more accurate description of the change in performance over time is given in figure 4. Again, the letters a, b, c, and d represent points in time when certain innovations have been introduced in the referral process. At any of these points - let us observe point a - the productivity of the process increases fast (the curve becomes steeper). However, given that the number of referrals continuously increases, the increase in performance cannot last forever. Soon, the improvement caused by the innovation is offset by the fact that referrals are again becoming too many and cannot be handled properly (the curve becomes less steep, until it becomes horizontal at a'). When the system is completely clogged, the performance becomes negative (the curve descends from a' to b).

In worst-case scenarios, if no more innovations are introduced in the process, performance will fall to levels that are below where we started. This is described in figure 5.

One could wonder why the real situation is not as in figures 6 and 7, with performance immediately increasing as soon as innovations are introduced (curve becomes abruptly vertical at a, b, and c). After all, the effects of an innovation should be felt right away. In fact, though, the referral process is run by people, and people need time to learn how to use new tools and mechanisms, so to realize their full potential.

Purpose of this game with graphs

This game with graphs has three purposes. The first one is to illustrate how the introduction of innovations in the referral process may affect its performance, which we have just done.

The second one is to describe in other terms the objective of this thesis.

As stated in the introduction, the purpose of this thesis is to develop a set of criteria to assess whether referral systems are productive. Productive referral systems are those which show high performance according to certain parameters or criteria (see chapter 6). Now, it has just been explained that performance is not constant: there are many peaks and troughs in the curves shown in the graphs. The purpose of this thesis is therefore to provide a framework to:

1) understand why performance curves may become less steep, horizontal and then descendent, and

2) induce performance curves to rise when they are descendent.

This is possible because the framework and the criteria - features of productive referral processes - point out aspects that can be improved.

The third purpose is to describe graphically the current situation of the referral process.

According to the desperate comments of the people that have been interviewed ("too many

referrals, too scarce resources; habitat is not protected"), it seems that we are either in a trough or in a descendent portion of the performance curve. The system is clogged and we need to do something to increase performance again.
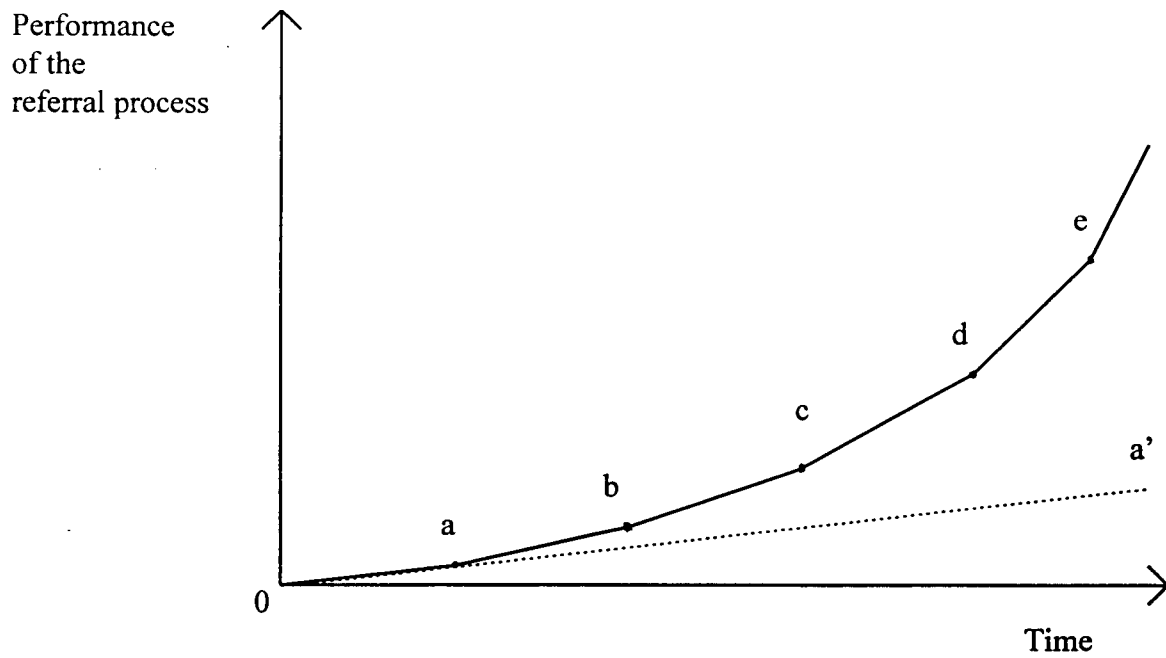
Figure 1. Performance of the referral process over time as innovations are introduced in the process. The model assumes that all other conditions remain constant. Detailed stages.
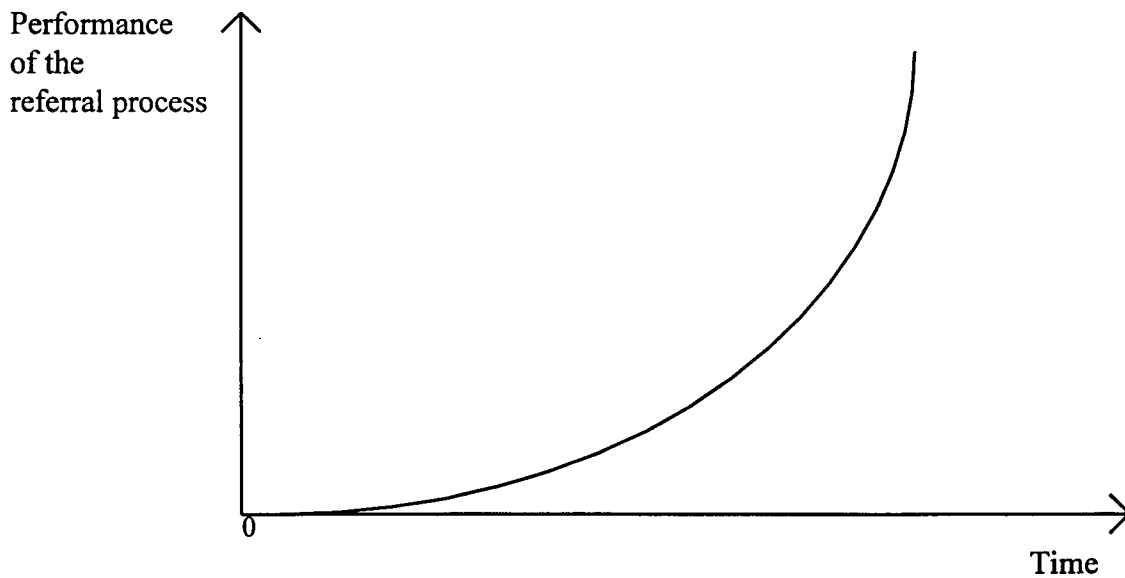
Figure 2. Performance of the referral process over time as innovations are introduced in the process. The model assumes that all other conditions remain constant. General pattern.
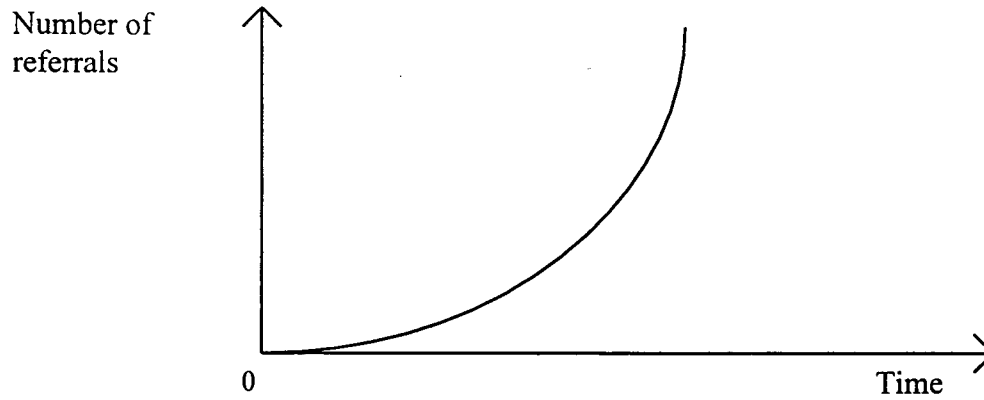
Figure 3. Number of referrals over time.
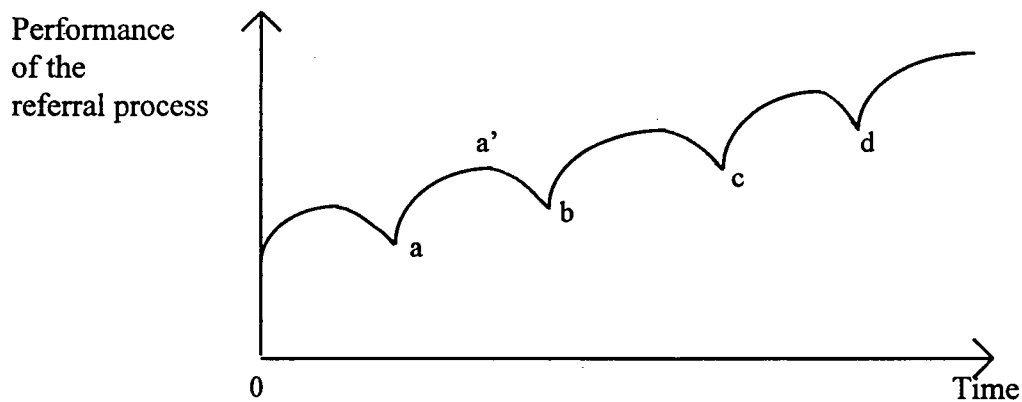
Figure 4. Performance of the referral process over time as innovations are introduced in the process and the number of referrals increases.
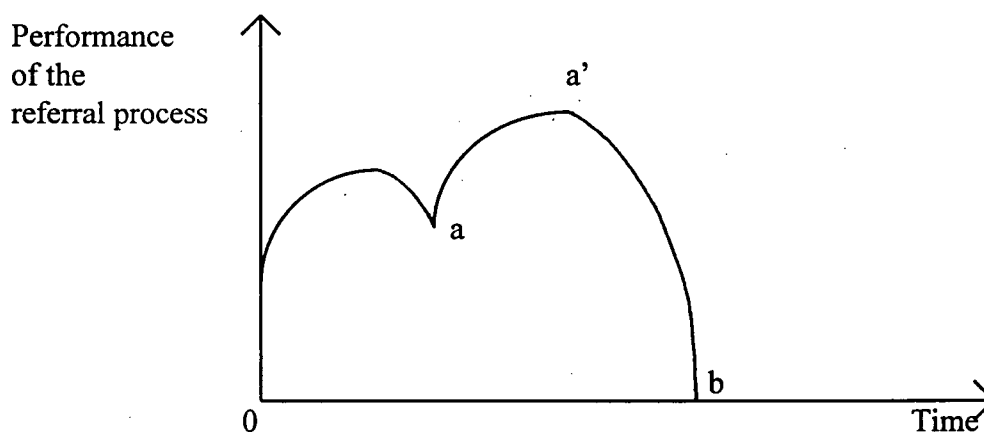
Figure 5. Performance of the referral process as the number of referrals increases and no more innovations are introduced in the process.

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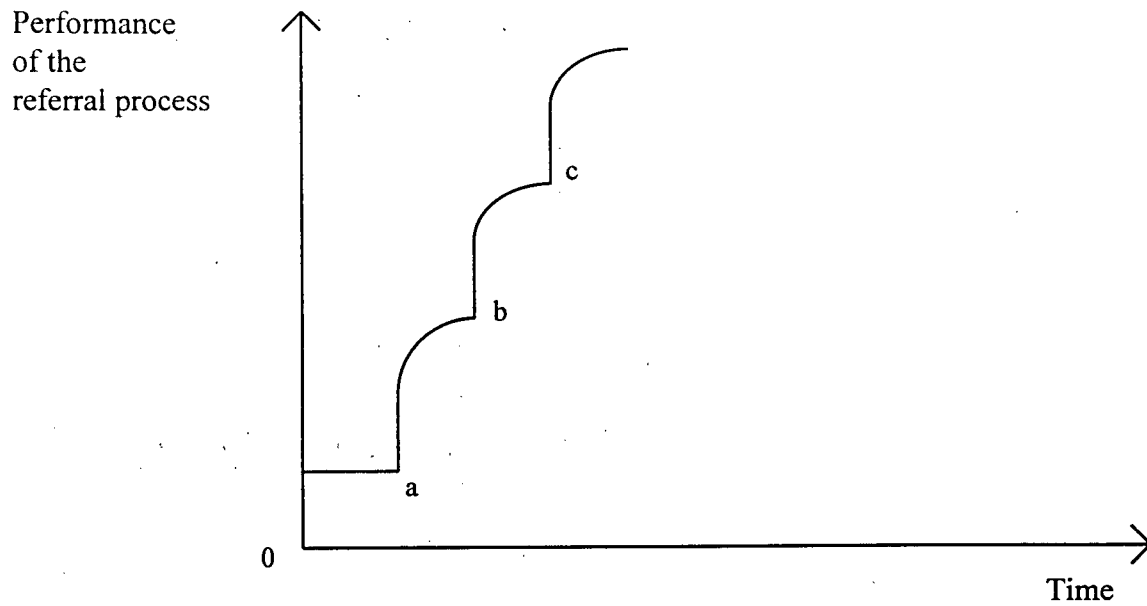
Figure 6. Performance of the referral process over time as innovations are introduced in the process. The effects of the innovations are immediately reflected by the system.
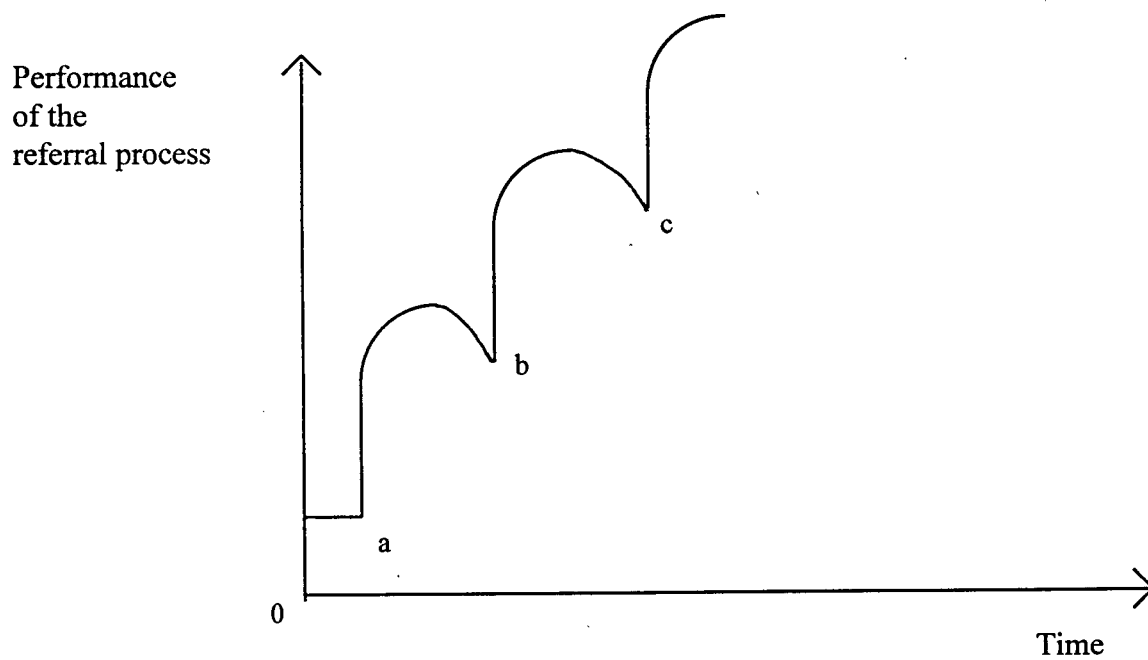
Figure 7. Performance of the referral process over time as innovations are introduced in the process. The effects of the innovations are immediately reflected by the system.

Future evolution of the referral process

The evolution of the referral process has not finished, yet; neither will it ever come to a conclusion. The process is dynamic, changing as circumstances (community structure, community values, status of natural resources, other processes, etc.) change and new techniques for planning and management are developed.

The trend that emerged from the literature and the interviews is toward more arrangements to reduce the number of referrals that each agency has to handle. Referrals, though, cannot be completely eliminated because so many of them relate to specific non-routine projects that cannot be covered in general agreements and guidelines, at least in the short-term.

Most of the innovations introduced in the referral process during its evolution are still being completed and perfected. An easy prediction is therefore that people will continue working on them. Government officials will prepare more standard application forms and standard responses. New guidelines are being and will be developed.[6] Government agencies will continue to make arrangements with each other to coordinate, organize, streamline, pre-screen and speed up their activities. Partnerships between municipalities and the provincial and federal government are now being explored (see the Partners in Protecting Aquatic and Riparian Resources - PPARR - Initiative). New laws are being prepared.[7] The referral process is slowly adjusting to the

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[6] See the section in this paper entitled *Administrative and regulatory context.*
[7] Again, see the *Administrative and regulatory context.*

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innovations that have already been introduced, and will incorporate more innovations in the future. Some of these innovations will involve major changes in the current system.

Overall the trend is towards more comprehensive and proactive planning, as advocated in the literature (e.g., Dorcey 1986 and 1991) and by virtually all the people who were interviewed. There is a need to address the frustration felt by all the participants in the process. The concerns of the interested parties have to receive early consideration in the land use planning process. More area designation exercises and planning processes have to be undertaken and completed as soon as possible.

Conclusion: the referral process as part of the governance system

From the evolution of the referral process it is clear that the process has evolved in two ways:
1) by perfecting its internal procedure and making it more agile, for example by introducing standard forms and arrangements with other agencies; and

2) by becoming more integrated with other processes or mechanisms, for example by relying more and more on guidelines, task forces and committees, single-window systems, and integrated resource planning.

These other processes or mechanisms are *not* facets of the referral mechanism *per se*. They are independent processes that variously supplement, complement or replace referrals in the decision-making for resource management and protection. This introduces the concept of a resource management *system* or, as Dorcey calls it, a *governance system* (1986; 1991).

A governance system has a constitutional and legislative basis and includes organizations, processes and decision-making arenas. The referral process is one of the processes or mechanisms that constitute the governance system. Its legislative basis is described in chapter 4. Other processes forming the system are the already described guidelines, task forces and committees, single-window approaches, integrate resource planning; or the yet-to-be-mentioned special project review processes, and official community plans. Figure 8 illustrates how the different processes interrelate.

The fact that the evolution of the referral process has paralleled the evolution of the whole governance system certainly has implications for improving the performance of the habitat referral process. This issue will be further discussed in the section called *Context of the habitat referral process: the governance system.*

Leases, licences, permits
(e.g. foreshore lease, tree farm licence, pollution control permit)

Referrals
(Circulation of applications for leases, licences, permits)

Guidelines
(Land Development Guidelines, Log Handling Guidelines, etc.)

Task forces and committees
(Regional Ocean Disposal Advisory Committee; Environmental Assessment Advisory
Committee and the project-specific task forces it appoints)

Official Community Plans and other plans
(Including zoning by-laws)

Special project review processes
(Environmental Impact Assessment, Mine Development Review Process)

Interagency committees / Single-window systems
(FREMP, BIEAP)

Integrated resource planning
(Land Resources Management Plans, Local Resources Use Plans, CORE)

From top to bottom these are the processes or mechanisms added with time to the governance system since the first permit mechanism has been established. This evolution of the system parallels the evolution of the referral process. With time the referral process has evolved to co-operate and interact with these other processes or mechanisms.

Figure 8. Evolution of the governance system (adapted from Dorcey 1986, 52, figure 4-3).

WHAT IS A REFERRAL PROCESS, THEN?

From the previous pages it is clear how the referral process is used in the leasing, licensing and permitting function of the government. Therefore it is "part of the institutional arrangements for governance." (Dorcey 1986, 162.) Yet, much more can be said about it, and this section will present various roles and functions of the referral process. By providing other perspectives on referrals, the definitions examined in the earlier literature are greatly clarified and enriched, and the field from which to draw productivity criteria is broadened.

The referral process as a pro-active approach to governance

The permitting function can be seen as a pro-active approach to governance. Thus, the habitat referral process is a pro-active approach to habitat protection. Reviewing projects before they are implemented, approving or rejecting them, or prescribing conditions for their approval are attempts to avoid damages to habitat rather than repairing them after they have occurred. Referrals, then, are a mechanism for screening courses of action to prevent or control their negative consequences on the environment or the other interests safeguarded by government agencies.

The referral process as a device for interagency consultation, cooperation and coordination

Administration is fragmented into several components (agencies and branches), each looking after a well-defined aspect of the environment or development. The latter, though, are complex entities: they rarely affect only one of the spheres of interests in which administration is divided. Hence, several agencies or branches are usually involved in reviewing one project. For example, the 'environment' is looked after by DFO Habitat Management and MOE Fish and Wildlife

(fish, other fauna, and their environment), MOF (forests), MOE Water Management Branch (water), DOE (air) and others. A development such as a mine may touch the concerns of MEMPR (mines), MOTH (roads), DFO and MOE (fish and wildlife), MELP (provincial parks), DIANA (Indian affairs), etc.

Since administration is broken down into discrete components, several of which may need to be consulted for an environmental or development issue, mechanisms to collect the concerns and advice of all are needed. The referral process is one of them.

Referrals then can be seen as a device for interagency consultation, cooperation and coordination. Firstly, referrals provide an opportunity to express concerns or advice about projects, and through them agencies consult each other on the issue at hand. Secondly, agencies cooperate in that they do not unilaterally decide on projects that may raise broad concerns, but instead draw from all the expertises available among them to make the best decision. Finally, referrals are a coordination mechanism because the input of all agencies involved is usually gathered in an established procedure, and organized in a permit.

The referral process as a form of intergovernmental communication

Referrals can be seen as a form of intergovernmental communication (Rueggeberg & Dorcey 1991, 206), or communication 'carriers'. They are used to notify that an application for a project has been received, to supply information about the project, to request and provide comments on the application, and to finally compile a response to it. Communication in the referral process is

usually verbal, and it may be formal or informal, oral or written. Dorcey has identified common

traps in communication (1986, 138-139): [8]

1. *Not knowing who to communicate with*: e.g., the company does not know which agency or level of the agency

   to contact about their proposed development.

2. *Failing to communicate at all*: e.g., the developer does not think to tell anybody of his plans.

3. *Sending the wrong message*: e.g., the wrong data or analyses are sent.

4. *Ignoring the receiver*: e.g. the lead agency issues a permit incomprehensible to the proponent.

5. *Choosing the wrong 'language'*: words are used that may have entirely different meanings to different people,

   without providing a definition.

6. *Choosing the wrong channel*: e.g., using referrals when the issue could be better handled at a committee level.

7. *Ignoring the potential barriers to communication*: e.g., the regulator who is insecure has difficulties in his

   relations with both his colleagues and those he regulates.

8. *Omitting to seek feedback*: e.g., the fishery manager does not encourage fishers to provide information that

   would correct his wrong information about the size of returning salmon runs.

9. *Ignoring the feedback*: e.g., the questions from proponents clearly indicate that the procedure is not clear to the

   users but the issue is not addressed.

10. *Ignoring the situation or context*: the same attention is paid to mega-projects that will have significant impact

    on the environment and to much smaller-scale projects.

Given that effective communication is important in the referral process, efforts should be made

to avoid the traps listed above.

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[8] Only one example is provided here among those offered by Dorcey for each category. The examples in 4, 5, 6, 9
and 10 are not Dorcey's but provided by the author of the thesis to make them relevant to the referral process.

The referral process as a decision-making mechanism

The referral process can also be seen as a decision-making process:

- there is an issue (an application for a project is submitted and it has to be decided whether or not to approve it);

- there is information about the issue (data about the project, the site and the potential consequences);

- there are objectives (usually the mandates of the agencies involved in the process or the plans relating to the area where the project would take place);

- there are requirements to be met in making the decision (legislation, regulations, guidelines, Official Community Plans, etc.);

- there are uncertainties to be weighed (about the consequences of the project and the measures taken to minimize negative impacts).

Through the referral process the information about the project is provided to the reviewers, who express their opinion/decision to the decision maker (the lead agency), who in turn makes the final decision (whether or not to approve the project), based on the responses received by the referees. Values and politics play a central role in the process.

The referral process as a trigger for negotiation

The referral process itself is not formally a negotiation process, but it may identify the need for or induce bargaining. As Dorcey says (1986, 149),

[the referral mechanism] can work well to identify where interests appear to conflict, but as soon as bargaining is initiated additional structures begin to be required. For relatively simple conflicts, this may involve no more than an exchange over the telephone or through the mail. But as conflicts become more difficult to resolve and, in particular, involve more interested parties, it becomes increasingly necessary for them to meet face to face. It may only take one meeting to resolve fairly straightforward issues, with no particular structures needed to facilitate it. In more complicated issues, a series of such meetings may be all that is required. However, as the issues become more difficult it becomes necessary to utilize more structured processes, such as the impact assessment and planning arrangements . . .

The referral process as a device to look after the interests of agencies with a weak mandate

A communal referral process is also a mechanism for helping the agencies with a weak mandate to achieve their objectives. Certain agencies can only *advocate* their interests but not *mandate* them because they are not backed up by strong legislation (see the Canadian Wildlife Service - CWS - for example). However, if more influential agencies (those with strong mandate and legislation) include in their responses recommendations that safeguard the interests of less influential agencies (those with weak mandate and legislation), then the concerns of the latter will also be addressed. If there are different ways in which fish habitat can be protected, CWS may try to convince DFO and F&W to recommend those protection measures that would also benefit other wildlife habitat. However, as expressed by one interviewee:

[Other agencies] don't have legislation such as the *Fisheries Act* to protect wildlife habitat. In several cases they want us to invoke the *Fisheries Act* to protect other species (water birds, field mice, etc.). If it is within the fish habitat we can do that. If it isn't we can't.

The referral process as driven by personalities

The referral process involves interactions among different people. All people who are involved in referrals - both proponents and administrators - have their own personality. Since personalities shape personal interactions, it is not surprising that they also shape the referral process. In the words of an interviewee:

How the referral system works depends on personalities much more than it is recognized. If you are dealing with somebody in the agencies that has a positive personality and wants to be cooperative, the referral system can work relatively well. If the agency who is giving you the referrals is not cooperative, the referral may cost you an immense amount of time and can get you basically nowhere.

The interviews reveal that informal arrangements are more easily made if the two counterparts get along well. In one case, provincial and federal habitat staffs have developed very informal arrangements: when a referral needs an on-site visit, they verify with each other if one has already been scheduled. Thus, they negotiate each time who will go out in the field and will therefore handle the referrals relating to that site. However, as a person involved in this arrangement said,

it is all driven by human relationships. If we don't like their person or they don't like ours, we may never ask to do things for each other.

If this is the case, as Dorcey concludes, "what remains, if the potential of [the referral mechanism] is to be realized, is to develop the interaction skills of the individuals involved in [it]." (1986, 148.)

The referral process as dependent upon technology

Technology plays an important role in the referral process, and contributes to its efficiency and effectiveness.[9] Technology intervenes in various phases of the process: for example, in the collection of data and information about the project, the site and the possible consequences of the project; in the transmission of this information to the reviewers, and any other communications during the process; in the storage and retrieval of data. By speeding up communication, technology makes the process more efficient; by providing reliable data before and after the project, it can tailor the approval conditions to the circumstances and therefore make the process more likely to be effective.

Yet, technology is not always useful. Computer programs, for example, if not conceived with the needs of the users in mind, may become a hindrance rather than a support. An interviewee said:

I believe we need an electronic tracking system. But it has to be useful to the people . . . You can't just count referrals: this doesn't tell me my workload. A referral can take 15 minutes or 2-3 years . . . If it is not useful data entry will be a waste of time.

FREMP's attempt to develop its own computer system is infamous. An immense amount of time and money was spent to create a program for referrals but the endeavour had to be abandoned because it was acknowledged that the task was unachievable: they were going too far too fast.

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[9] The meanings of 'efficiency' and 'effectiveness' are briefly introduced in the *Introduction* (p. 1). A more extensive discussion of the two concepts is found in chapter 5, *Public Sector Productivity*.

The referral process and the public

There are no specific provisions in the referral process for direct public input - unless, of course, applications from proponents are considered 'public input'. This is unlike other processes, such as the mine development review process or the procedure that leads to OCPs, where public hearings or other forms of public input are one step in the decision-making process. At the objection that stakeholders are currently not involved in the process, an interviewee replied:

Nor should they be. They should be involved in the guiding aspect of it, in developing plans, and should have access to the decisions we make. But the government is charged with the responsibility to make the decisions.

The public, however, may have an indirect role in the referral process as it can put pressure on the government to act in a certain way. Citizens' interest in some issues can influence administrators. "Bureaucrats often loath amateurs. Yet politicians see citizens as a way to keep bureaucrats on their toes." (Rich & Winn 1992, 74.)

Ultimately, the public can influence the government as voters. By choosing elected representatives it can change the courses of action of the government and its approach to referrals. For example, recommendations on applications can become more or less restrictive, or the procedure can be made more accessible to proponents.

The referral process and non-governmental organizations

The same can be said for non-governmental organizations. There are no official provisions for them to enter the process at any stage, yet they can influence it in other ways. It is reasonable to

think, for example, that a powerful environmental or fishing association may be successful in lobbying the local government branch, and thus obtaining more restrictive permits.[10]

An example of the power of non-governmental organizations is the Salmon Habitat Protection Project, an investigation of the effects of forestry activities on fish habitat. The project was initiated in 1992 by environmental associations, private interests groups and philanthropic foundations (among which the B.C. Steelhead Society and the United Fishers and Allied Workers, with legal counselling from the Sierra Legal Defence Fund). The purpose of the project was to investigate complaints of damages to fish habitat caused by logging, determine whether an offence had been committed under the *Fisheries Act*; report the offence to the appropriate enforcement authorities, and - if they did not take any action - lay private charges.[11] This initiative did affect the referral business. In response to the investigations, since June 1993 the six field technicians of the Habitat Management Sector of the DFO South Coast Division have been told to devote 70-80% of their time to forestry referrals, and thus conduct more thorough reviews of the applications.[12]

The referral process and the First Nations

Only recently have First Nations been recognized as a level of government (1990). Historically they have therefore not had input into the referral process as government. They have entered the process only as proponents submitting an application for a project. However, this is changing very rapidly. DOE now routinely refers energy projects certification applications to affected First Nations and interim management agreements are being or will soon be signed with First nations

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[10] For an excellent discussion of the role of environmental non-governmental organizations in the management of water resources, see Gardner 1991.

[11] John Werring, interview with author. Vancouver, B. C., 11 February 1994.

[12] Rick Higgins, interview with author. Nanaimo, B. C., 17 February 1994.

all over the province. An example is a recent Memorandum of Understanding (MoU) between the Ministry of Agriculture, Fisheries and Food (MAFF) and the Ministry of Environment, Lands and Parks (MELP) on one side, and the Kwakiutl Territorial Fisheries Commission (KTFC) and the Kwakwaka'wakw First Nations on the other side (1994).

The agreement intends to provide the framework which will "establish a clear, certain and timely process for communication, consultation and information-sharing between the Ministries and the KTFC and other interested parties regarding the disposition of Crown Land, and the management of aquiculture and aquatic resources in the Territories [of the First Nations]." (MoU 1994, 2.1.a.) In particular, the parties agree to the following steps for referrals and consultation:

- MELP and MAFF will directly notify the KTFC by standard referral, in writing, of any application for log dumping and storage, commercial sport fishing lodges, aquiculture, wild oyster and marine plant harvesting, and non-tidal commercial fishing.

- The KTFC will refer applications to the appropriate First Nation(s).

- Within 30 days of receipt of the referral information the KTFC will notify MELP or MAFF of the First Nations' concerns.

- A meeting may be held between KTFC and MAFF and /or MELP.

- MAFF and MELP conditionally or unconditionally approve, or reject the applications taking into account the information provided by the KTFC.

- MAFF and MELP will notify the KTFC in writing as to any decision made with regard to the applications.

The referral process as a mechanism with advantages and disadvantages

Another interesting perspective on the referral process is offered by Sproule-Jones (1980, 75-76). He frames it as a cost/benefit issue and says that referral systems "have the advantage of reducing the transaction costs for an organisation in finding out and commenting on the routine operations of another organisation . . . But this advantage must be weighed against the disadvantage to an organisation of having some of its economic resources and activities tied up in processing such referrals." This changes the belief that agencies have everything to gain from handling referrals: in fact they also have something to lose. As a consequence, it is understandable that they are concerned with the issue of the productivity of the referral process.

PART THREE

Chapter 4. THE CASE STUDY: THE HABITAT REFERRAL PROCESS

This chapter focuses on the case study of this thesis: the habitat referral process from DFO's perspective. Habitat referrals are those which involve Headquarters or District Office Habitat Management Sectors (HM). A description of the administrative and regulatory context is presented first; facts and opinions about the habitat referral process drawn from government documents and the interviews follow.

ADMINISTRATIVE AND REGULATORY CONTEXT

The Department of Fisheries and Oceans

The powers, duties and functions of the Minister of Fisheries and Oceans include the following matters: [1]

- sea coast and inland fisheries

- fishing and recreational harbours

- hydrography and marine sciences

- the coordination of the policies and programs of the Government of Canada respecting oceans.

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[1] *Department of Fisheries and Oceans Act.* 1978-79, c. 13, s. 5(a).

The mission statement of the Department is (DFO 1989c):

> To provide for the conservation, development and sustained economic utilization of our nation's
>
> fisheries resources in Canadian waters and beyond and coordinate the Government of Canada's
>
> policies and programs respecting oceans.

Organization of the Department

To accomplish its mission DFO is organized in regions, with a general headquarters in Ottawa. The Pacific Region, which is the geographical scope of this research, covers British Columbia and Yukon and has its regional headquarters in Vancouver. The region is further sub-divided in five divisions:

- Northern British Columbia & Yukon, with area office in Whitehorse

- North Coast, with area office in Prince Rupert

- South Coast, with area office in Nanaimo

- Fraser River, with area office in New Westminster

- Eastern British Columbia, at the moment managed from the Vancouver headquarters.

The regional headquarters is divided into branches. The Operations Branch is sub-divided into sectors, one of which is Habitat Management. This in turn is sub-divided into units such as Habitat Conservation, Water Quality and Policy & Information. The area offices of the five divisions also have a Habitat Management Sector (HM).

In the Northern B.C. & Yukon Division, HM is unusual in that it is currently composed of the habitat chief only. In the North Coast Division the HM functions are divided geographically

(Central Coast, Skeena/Nass, Prince Rupert, etc.). Each member of staff is responsible for a sub-area within the division and all the referrals relating to it: staff are generalists. In the South Coast Division the HM functions are divided by subject (water quality, linear development, planning, etc.) rather than geographically. Each member of staff is responsible for all referrals in the division that relate to that subject: staff are specialists. In HM of the Fraser River Division there exist both generalist and specialist staff. The Eastern B.C. Division has only recently been established and to date has no area office.

The Habitat Management Sector

The mission statement of the Habitat Management Sector is (DFO 1989c):

To ensure a net gain in the productive capacity of fish habitats required to support sustainable fish populations through habitat conservation, protection, development and enhancement activities.

[Where 'productive capacity' is the maximum natural capability of habitats to produce healthy fish, safe for human consumption, or to support or produce aquatic organisms upon which fish depend.]

Division of responsibilities between federal and provincial government

Under the *Canadian Constitution Act* (1982) the federal government has jurisdiction, among other things, over seacoast and inland fisheries. The provincial government has jurisdiction, among other things, over provincial land, natural resources and water resources.[2] However, the federal government has delegated to the provinces some responsibility for fisheries management. Since 1937 in British Columbia federal and provincial responsibilities have been divided as follows: the federal government (DFO) manages marine and anadromous (salmon) fisheries, whereas the provincial government (the Fish & Wildlife Branch of the Ministry of Environment) manages all freshwater species except for anadromous salmon.

Paisley reminds that "any federal attempt to manage fish habitat must reckon with provincial control over land and water resources. It is the provincial governments that sell or lease land and water, and approve activities such as forestry, mining, road and dam construction, waste discharge and chemical disposal. Any action by federal authorities to regulate or prevent land or water use activities cannot usurp provincial jurisdiction over these activities unless they are to protect fish stocks and fish habitat. Similarly, provincially approved activities must comply with federal legislation and policy." (1993, 525-526.)

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[2] *Constitution Act*, 1982, ss. 91 and 92.

Fish Habitat Protection Law

Two items, both federal, are discussed here for their fundamental role in habitat protection and therefore in the habitat referral process: the *Fisheries Act* and the *Policy for the Management of Fish Habitat*.

The *Fisheries Act*

The *Fisheries Act* (*FA*) is administered by DFO, except for the sections relating to pollution prevention which are administered by the Environmental Protection Branch of DOE. The *FA* is the legal instrument on which both the federal and provincial governments rely for the management of fish populations and fish habitat.

In the act fish are defined as including fish, shellfish, crustaceans and marine animals in all their life stages (eggs, sperm, spawn, larvae, spat and juvenile stages) (s. 2).

Fish habitat is defined as "spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes." (S. 34(1).)

The act contains several habitat protection provisions.[3] They range from the construction of fish-ways where obstructions exist in streams, to the supply of a minimum water flow for the safe

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[3] For a more comprehensive and detailed list of habitat provisions of the *Fisheries Act* see *Canada's Fish Habitat Law* and *Habitat Sections of the Fisheries Act*, both available at DFO.

migration of fish and the health of the spawning grounds. S. 35(1) and s. 36(3) are two of the

most comprehensive provisions for habitat protection and pollution prevention:

> S. 35(1): No person shall carry on any work or undertaking that results in the harmful alteration,
> disruption or destruction of fish habitat.

> S. 36(3): . . . no person shall deposit or permit the deposit of a deleterious substance of any type in
> water frequented by fish or in any place under any conditions where the deleterious substance or
> any other deleterious substance that results from the deposit of the deleterious substance may enter
> any such water.

[Where 'deleterious substance' means: (a) any substance that, if added to any water, would degrade or alter or form

part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be

rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or (b) any water that

contains a substance in such quantity or concentration, or has been so treated, processed or changed, by heat or

other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process

of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to

fish or fish habitat or to the use by man of fish that frequent that water. (S. 34(1).)]

These are very comprehensive prohibitions. As Rueggeberg and Dorcey suggest, "taken literally,

these provisions make a criminal offence of any human activity that disrupts aquatic

environments inhabited by any fish--which covers most things done in water or on land." (1991,

220.) However, "the existence of federal laws relating to the aquatic environment does not mean

that fisheries management personnel will be blocking every project affecting fish habitats. It does

mean, however, that the project's impact on fisheries will have to be considered before the activity begins." (DFO 1991, 3.)

In practice, as Rueggeberg and Dorcey continue (1991, 220):

> these provisions set the stage for fisheries habitat management in two contexts. First, they provide the authority by which proposed activities can be assessed by DFO. As a matter of course, any development projects affecting aquatic habitats are referred . . . to DFO for review. DFO staff assess whether fish habitat will be harmed or if any substances deleterious to fish will be discharged. If they find that this is likely, the project proponent is pressed to revise the project . . . While DFO has no official permitting capacity, in the final analysis, the Department can threaten prosecution for offenses against the Act should a project proceed and habitat proven to be damaged.
>
> Second, these sections provide the basis by which those accused of habitat degradation or of introducing deleterious substances can be prosecuted."

Webb states that in Canada "pollution control legislation in typically drafted in language which suggests that implementation is a straightforward, almost mechanical process, when in fact government officials are attempting to cope with unstated, unresolved scientific, political, technical and economic factors. By not admitting to these operational realities, the legislation provides little guidance to government officials and courts, and can mislead everyone as to the real nature of pollution control. The pollution provisions of the federal *Fisheries Act* and regulations are a good example of this phenomenon." (1988, 24.)

The *Policy for the Management of Fish Habitat*

This Policy was introduced in 1986. It is also known as the Net Gain [of fish habitat] Policy, or the No Net Loss Policy (NNLP), from its goals.

This Policy guides DFO in the administration of the habitat protection provisions of the *FA*. The provinces that manage their own fisheries resources are encouraged to adopt it, but not forced to do so.

The fundamental objective of the Policy is a *net gain of fish habitat,* phrased as follows:[4]

> *Increase the natural productive capacity of habitats for the nation's fisheries resources, to benefit present and future generations of Canadians*

This ambitious objective will be achieved if three goals are achieved: 1) fish habitat conservation, 2) restoration, and 3) development. The Policy also identifies eight strategies for its implementation.

1) First goal: fish habitat conservation

> *Maintain the current productive capacity of fish habitats supporting Canada's fisheries resources, such that fish suitable for human consumption can be produced.*

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[4] The following description of the policy is heavily based on: The Department of Fisheries and Oceans. *Policy for the Management of Fish Habitat.* 1986, p. 10 and following pages.

The approach of DFO is to try to prevent losses of natural fish habitat. This can be done by: administering the habitat provisions of the *FA* and controlling the negative effects of projects that cause or may cause alteration, disruption or destruction of fish habitat; cooperating with other agencies to implement integrated resources management procedures on an ecosystem basis; providing criteria for fisheries protection to provinces, territories, and other federal agencies; identifying productive habitat areas and protect them.

The guiding principle of the first goal of the policy is *no net loss of the productive capacity of habitats*. That is, DFO will strive to balance unavoidable habitat losses with habitat replacement on a project-by-project basis. Local fish habitat management plans, where available, will guide the application of the principle in specific cases.

The No Net Loss Principle relies for its application on a hierarchy of preferences. This is a set of priorities that guide DFO in its decisions to achieve no net loss.

The first preference is to maintain without disruption the natural productive capacity of the habitats in question by avoiding any loss or harmful alteration at the site of the proposed project or activity (the project can be redesigned, an alternative site can be selected, potential damages can be mitigated).

The second preference is to explore compensatory options. This can only be done after the previous options have proven to be impossible. In order of preference, the compensation options are: replacing natural habitat at or near the site, and moving off-site or increasing the productivity of the remaining on-site habitat.

The least preferred option is to compensate in the form of artificial production (e.g., hatcheries).

2) Second goal: fish habitat restoration

Rehabilitate the productive capacity of fish habitats in selected areas where economic or social

benefits can be achieved through the fisheries resources

Restoration of damaged fish habitats may increase their productive capacity.

3) Third goal: fish habitat development

Improve and create fish habitats in selected areas where the production of fisheries resources can

be increased for the social or economic benefit of Canadians

New spawning, rearing and food producing areas can be created manipulating natural factors.

The overall productive capacity of fish habitat is thus increased.

Both the second and the third goal contribute to the achievement of *net gain of fish habitat.*

The eight strategies for the implementation of the policy are the core of the Policy:

1. *Protection and Compliance*: protect fish habitats by administering the *FA* and incorporating

fish habitat protection requirements into land and water use activities and projects.

2. *Integrated Resource Planning*: participate in and encourage resource planning and

management to incorporate fish habitat priorities into air, land, and water use plans.

3. *Scientific Research*: conduct scientific research to provide the information and technology necessary for the conservation, restoration and development of fish habitats.

4. *Public Consultation*: consult the public on major or controversial fish habitat issues and on the development of new policies and legislation for fish habitat management.

5. *Public Information and Education*: promote public awareness in the conservation, restoration and development of fish habitats.

6. *Cooperative Action*: encourage and support involvement by government agencies, public interest groups and the private sector to conserve, restore and develop fish habitats.

7. *Habitat Improvement*: initiate projects and provide advice to other interested groups to restore and develop fish habitats, in support of the net gain objective.

8. *Habitat Monitoring*: evaluate the effectiveness of decisions taken and techniques used to conserve, restore and develop fish habitats.

It is important to recognize that the first strategy is why DFO is involved in the habitat referral process.

From now on, unless differently specified, the term 'protection' of fish habitat will be used in this paper to summarize the objective of the Policy for the Management of Fish Habitat. It will therefore also signify 'conservation', 'restoration' and 'development' of fish habitat.

Guidelines

Guidelines specify the policy for implementation. They transform the general and often abstract statements found in acts and policies into concrete and measurable terms.

For example, s. 20(1) of the *Fisheries Act* states: "Every obstruction across or in any stream where the Minister determines it to be necessary for the public interest that a fish-pass should exist shall be provided by the owner or occupier with a durable and efficient fish-way or canal around the obstruction. . . ." This statement says what is expected, but does not provide any details. It would be impossible for an owner or an occupier to know *how* to observe the law simply from this statement. The *Land Development Guidelines for the Protection of Aquatic Habitat* have been developed by DFO and MELP to respond to this. They discuss specifics, such as culvert design and installation criteria, describing the different kinds that are available and in what conditions they are most appropriate (pp. 69-79). This document, unlike the *Fisheries Act*, sets precise terms of reference. These are useful to both constructors and regulators: they instruct developers on what to do, and provide administrators with 'standards' for approving or disapproving developments.

There are several other guidelines besides the Land Development Guidelines: the Stream Survey Guidelines, the Timber Harvesting Guidelines, the Log Handling Guidelines, and many more. The Coastal Fish-Forestry Guidelines and the Interior Fish-Forestry Wildlife Guidelines (the latter had never been completed) no longer exist as such. They have been melded together, modified and incorporated in the *new British Columbia Forest Practices Code* (1994). Recently,

Stream Stewardship: A Guide for Planners and Developers has been published and distributed in B.C. It is a document prepared jointly by the federal and the provincial government to help planners and developers conciliate development and the fisheries resources in streams (details about these documents are in *References*).

Other agencies and laws involved in the habitat referral process

There are other agencies involved in the habitat referral process besides DFO. They have missions and administer laws. Therefore they contribute to forming the administrative and regulatory context for the referral mechanism. A partial list of agencies involved in the referral process with a description of their role is shown in Appendix H.

The reader should be aware of at least five initiatives that will likely change the scenario shown in the appendix. First, a new *Forest Practices Act* for British Columbia is being prepared and will probably be proclaimed soon (the most optimistic hope for early 1995). Standards and regulations have already been developed in the *Forest Practices Code*. Beside prescribing a new way of conducting forestry activities, the Act will change the approval process for forestry operations. This means that the current forestry referral system will undergo considerable changes, too.

Secondly, a new *B.C. Water Act* is also being prepared. When introduced, it will induce

modifications in water management and licencing as we know them now. The water licence

referral system will, of course, change as well.

Thirdly, the province is considering a *B.C. Environmental Assessment Act*. After consultation

with various industrial sectors a final draft is being written and the proclamation of the act is

expected for early 1995.

Fourthly, the Environmental Assessment Review Process (EARP) will no longer be as we have

known it so far. New environmental assessment regulations have been approved and the

Canadian Environmental Assessment Act (CEAA) will be proclaimed in January 1995. A new

Canadian Environmental Assessment Agency will be created and will take over from the Federal

Environmental Assessment Review Office (FEARO). The new process promises to reduce

overlap and duplication, to lessen delays, and to be sensitive to the need for job creation and the

responsibility for protecting the environment.[5] The new CEAA will have important implications

for DFO. For example, it will require that DFO start and coordinate complete impact assessment

reviews whenever a project needs an authorization (always when it involves habitat

compensation).

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[5] The description of the new CEAA is heavily based on: Government of Canada. *News Release: Government Strengthens Environmental Assessment Regime; Keeps Red Book Commitments*, and the three accompanying documents: Highlights of the *Canadian Environmental Assessment Act*; Putting the Act into Practice: The *Canadian Environmental Assessment Act* Regulations; An Overview of the Federal Environmental Assessment Process, Ottawa, 6 October 1994.

In the new process "four types of environmental assessments are available to meet different projects and circumstances: screening, comprehensive study, mediation, and review by an independent and public panel."[6]

- *Screening*: documents the environmental effects of a proposed project; determines if mitigation of effects, modification of project plan, or further assessment is needed. Class screening is available for small-scale routine projects.

- *Comprehensive study*: more intensive assessment undergone by large-scale and environmentally sensitive projects.

- *Mediation*: voluntary process. An impartial mediator appointed by the Minister of the Environment helps interested parties resolve issues surrounding a project.

- *Review by an independent and public panel*: when after the previous three stages it is determined that a project requires further evaluation. Large numbers of groups and individuals can present information and express concerns. There is possibility for joint panel reviews when other jurisdictions are involved besides the federal government.

Four regulations have already been approved. Others are being developed.

- *Comprehensive Study List*: describes the types of projects that must be assessed through a more detailed study.

- *Law List*: identifies the regulatory authorizations that will trigger an environmental assessment.

- *Exclusion List*: describes those projects (related to a physical work) that do not require an environmental assessment.

- *Inclusion List*: describes the activities (not related to a physical work) that must undergo an environmental assessment if a federal agency proposes, funds or otherwise authorizes the project.

It is noteworthy that portions of the *Fisheries Act* will be included in the Law List. In particular, those portions that state that projects requiring habitat compensation need an authorization from

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[6] Highlights of the *Canadian Environmental Assessment Act*, front page.

DFO. This is what will trigger an environmental assessment conducted by DFO for all those projects.[7]

Finally, federal and provincial governments are working on a Harmonization agreement to ensure that environmental assessments are coordinated and that projects undergo only one review.

FACTS AND OPINIONS ABOUT THE HABITAT REFERRAL PROCESS

As mentioned, the habitat referral process is the mechanism whereby applications for projects are sent for review to DFO - headquarters or area offices - by means of referrals. The only definition of habitat referral process available is that offered by Brian Dane and is strictly from the DFO perspective (Dane 1980, 1):

> the "referral system" is a general term applied to a liaison/regulatory function common to all Units within the Habitat Protection Division and the District Offices. It involves the interaction of members of various government agencies, private industry and the general public. Referrals are used as information sources or as tools to regulate land and water use activities which may threaten fish or fish habitat.

This section draws on file material and the interviews to report facts and opinions about the habitat referral process. Various topics will be addressed: the volume of the referral activity in

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[7] John Mathers, interview with author. Vancouver, B. C., 22 February 1994.

DFO HM, its procedure, the interagency arrangements to share the workload, opinions on the weaknesses and strengths of the mechanism, the difference in the approaches of the five divisions, the commonality of their objectives, and others.

The sources of this information are: a) documents and memos obtained from various government agencies, and b) data and expert opinions collected during interviews to individuals involved in the habitat referral process from different viewpoints: DFO headquarters and area offices, DOE headquarters, MOE headquarters and area offices, FEARO, non-government organizations (see Appendix A). Coming from different perspectives, together the interviewees are able to provide a fairly comprehensive and insightful picture of how the current referral process works in general terms.

Volume of referral activity in DFO Habitat Management

The volume of referral activity can be measured in *numbers* of referrals handled or *time* spent on referrals.

The most recent, and at the same time most complete, data available to the author on the *number* of referrals handled, are from 1991-92. They relate to the Fraser River, South Coast and North Coast Divisions. The Northern B.C. & Yukon Division is not included in the analysis, and the Eastern B.C. Division had not been born yet. In the fiscal year 1991-92, the three divisions together reviewed 12,567 referrals: 6,956 in Fraser River, 3,688 in South Coast, and 1,923 in

North Coast. These data include referrals reviewed by both the fisheries officers and HM staff, and represent only the referrals reviewed, not those received.[8] It is often difficult to obtain data on the referral received: only recently have they started to be logged in as they arrive.

More recent data are available on the number of referrals, but they are unclear and incomplete. Often it is not known if they relate to the application received or those reviewed; or they relate only to field technicians and not to HM staff, or only to some HM staff and not to all.

It has been recognized, however, that the number of referrals handled is not a meaningful measure of the referral workload. Certain applications require very little time to review and respond to, others require a considerable amount of resources. The simple number of applications reviewed is therefore not a clear and precise indication of the burden placed on HM resources. The *time* devoted to referrals is a more meaningful measure, which can be used to make decisions on time and resource allocation.

The most recent and complete data available to the author on the time spent on referrals dates back to 1988-89 (Treasury Board Submission 1989b, 5;31;35;39). Then, of all resources allocated to habitat management activities in the Pacific Region, 38% - or 43 P/Ys[9] - were devoted to 'referrals, mega projects, environmental assessment'. Unfortunately, this datum is not broken down into the three components and it is not known how much time was spent on referrals *only*. It is, however, broken down by division. In 1898-89, the Fraser River Division devoted to referrals, mega projects or environmental assessment 46.7% (11.34 P/Ys), of all

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[8] Data from FY 91/92 Annual Report to Parliament.
[9] P/Y = person/year.

resources allocated to habitat management activities. In the South Coast Division it was 55.5%

(11.6 P/Ys), and in the North Coast Division it was 56% (10 P/Ys).

Once again, more recent data on time allocated to referrals are available, but these are not

complete. For example, it is known that in the period March 1-September 30, 1993 the Fraser

River Division spent 9,963 hours on referrals, equal to 46% of all time spent in HM including

clerical time. However, the same data are not available for the other divisions. For the South

Coast it is only known that in the period 1 June 1993-15 May 1994 the six field technicians spent

5,510 cumulative hours on referrals. But nothing is known about the time spent on referrals by

HM staff of the same division, and the data for the former cannot be extrapolated to the latter.

For the North Coast data are available for three members of HM staff only, and relative to

different periods of time and of dissimilar duration.[10] It is understood that recording the number

of referrals or the time spent on them may not be a priority for HM of the divisions right now.

Categories of referrals

People who handle referrals are used to speaking in terms of *categories* of referrals. No, referrals

are not all the same: in fact they can be divided into groups according to the type of development

proposed or the lead agency that will issue a permit.

For example, DFO comments on forestry referrals (on timber harvesting), linear development

referrals (on railways, highways, pipelines, transmission lines), urban development referrals (on

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[10] Data and information obtained from the area offices.

developments within urban areas such as buildings, roads, sewer systems), water licence referrals (on use, diversion and storage of water), and many more. The different categories of referrals are also called referral *systems*. Thus, the habitat referral *process* is composed of several referral *systems*, such as the forestry referral system or the foreshore development referral system.

Referral categories are an informal, intuitive classification. There is no formal agreement on which referrals should fall into each category, and the three divisions have at times opted for different solutions. This makes comparisons between workloads very difficult. Some data on the allocation of time to the various categories of referrals are available, but they suffer from the same incompleteness that has just been described. It is therefore not possible to draw a conclusive and reliable profile of time allocation for the three divisions. Yet, some conclusions are probably reasonably safe: for instance that forestry referrals are prominent in the North and South Coast but not in the Fraser River; and that urban development and river engineering referrals are prominent in the Fraser River.

Other features of the habitat referral process

From the documentation and the interviews certain other characteristics of the habitat referral process have become apparent.

Nobody succeeds in reviewing all referrals received. It is difficult to estimate how many referrals are not responded to, as some referrals may never be logged in and there is no track of

them anywhere. There is indication that in 1988 the Fraser River Division was unable to respond to approximately 20% of referrals (DFO 1994, 3; DFO 1989a, 33). What this figure could be in 1994 and for other area offices is not clear. What is known is that all agencies or area offices have excogitated ways of reducing the number of referrals. The may have dropped certain categories of referrals or prioritized them.

Some offices have dropped certain categories of referrals. Some examples: The North Coast Division ignores referrals coming from certain drainage basins. The South Coast Division dropped pesticide referrals and, more recently, waste management referrals. The Fraser River Division does not handle urban referrals, nor does it handle forestry referrals in Prince George, Quesnel and Mission, as they have no staff there: they are involved in 5-year plans instead. The province in the Smithers District has decided to no longer respond to forestry referrals; they engage in long-range plans instead (LRUPs, LRMPs, TSAs, OCPs, etc.).

Some offices or agencies have prioritized their referrals. A couple of examples.
The South Coast Division has a triage approach. The referrals received are divided into three categories:
1) those on projects that they know have an impact of salmon: they are reviewed and responded to;
2) those on projects in areas where they know there are no salmon: they are ignored; and
3) those that do not contain enough information, or the staff does not know whether there are salmon is the area, or it is unsure whether the project will affect salmon: they simply respond to follow the guidelines.

The North Coast Division, as it cannot handle all the referrals received, responds to those that are going to have a bigger impact on fish or fish habitat. If the staff cannot respond to certain referrals in a reasonable timeframe, they let proponents or agencies know by phone that there is no time for a review, but they have no concerns provided that the guidelines are followed.

There is no standard agency structure. The structure of the agency generally reflects its geographical and institutional environment, as well as its responsibilities. MOE is organized differently than DFO, which is different from DOE. Within the same agency, sub regions may also be very different from each other (see for example the DFO divisions of Northern B.C. & Yukon, Eastern B.C., and Fraser River). Personnel's functions are of course also different: certain regions or agencies have *specialists* who handle only one type of referrals (Habitat Management, DFO South Coast Division), others are *generalists* who handle all types of referrals within their geographical region (DFO North Coast Division). The workload of staff in different agencies or regions reflect all the above differences: some individuals spend most of their time on the road traveling between locations (North Coast Division staff), others are often in the field, some others are mostly in their office.

There is no standard referral procedure. The arrangements among agencies and with the applicants vary. Certain agencies provide terms of reference to proponents for study of the project impact (DFO Eastern B.C. Division), others review the terms of reference prepared by the applicant (Planning & Assessment, Lower Mainland Region, MELP). Certain systems have standardized forms, others do not. The single-window for the proponent is represented by

different agencies in different regions (DIANA in Yukon; Planning & Assessment, MOE, in the Lower Mainland). Certain referees prefer to communicate their comments directly to the proponent (Habitat Management, DFO South Coast Division, for forestry referrals), others would rather the granting agency did it (Habitat Protection, MOE, for forestry referrals from MOF).

There is no standard approach or philosophy. Each agency, region, and sub-region has its own attitude, priorities, and approach. Certain decentralized offices devote a considerable amount of time to integrated resources planning (DFO Fraser River Division); some others do so only marginally (DFO South and North Coast Divisions). Some think more effort should put into preparing more guidelines, others believe guidelines are not a priority because they are not site- and project-specific. Finally, some think the public should be offered more opportunities to enter the referral process, others argue the public should only be part of the planning phase, the remainder is only the government's responsibility.

There are numerous forms of arrangements among agencies and between agencies and proponents. Some are formal, some are informal arrangements. They may be screening or coordination mechanisms, division of responsibilities or jurisdictions, interagency consultation or decision-making bodies, partnerships...

Screening arrangements exist to prevent referrals from reaching agencies that would not comment on them (because of time or mandate). Four examples come to mind:

a) the Planning & Assessment Branch of the Lower Mainland Region, which pre-screens referrals to DFO knowing what DFO's answer will be;

b) the F&W Branch of the provincial MELP, which screens *all* provincial referrals and sends to DFO Eastern B.C. Division only those that require federal fisheries review (see Workload Harmonization Agreement, next paragraph);

c) Schedule A, a list of works in and about watercourses that may or may not require approval under Section 7 of the Water Act, prepared by B.C. Environment. Proposals for the projects on the list will be reviewed to decide which ones require a Water Act approval and therefore need to undergo a much more formal review process (Appendix I); and

e) the screening criterion used by DOE, FREMP and others according to which referrals that require more than one meeting of concerned parties are addressed by a task force (set up by the EACC, see below).

Division of responsibilities is another type of interagency arrangement.

a) A formal example is provided by the Workload Harmonization Agreement between DFO and MOE (Eastern B.C. Division and the Habitat Protection Staff of Fish & Wildlife). The province reviews all projects that do not require habitat compensation without referring them to DFO. Review by the province is done with DFO methodology and procedures.

b) An informal example of division of responsibilities is the arrangement between DFO and MELP according to which in the Lower Mainland DFO dropped urban referrals and MELP dropped marine development referrals. Dropping by one agency was possible because the other agency agreed to accept more responsibilities.

c) Very informal arrangements are those between the North Coast and South Coast Divisions (DFO) on one side, and their provincial counterparts on the other side. They arrange over the

phone who should conduct on-site visits for certain projects that involve them both, so as to avoid duplications (two people going to the field both to investigate fish habitat conditions).

d) Another example of informal division of responsibilities is provided by the Lower Mainland Region. The region has been divided into sub-regions. Referrals will be referred to DFO or MELP depending on the sub-region to which they relate.

e) A final example of very informal arrangements is between DFO and MOE in the North Coast Division. As they do not have the luxury to send to the field one person from DFO and one from MOE to look at the same thing, for certain proposals DFO looks at all the fish concerns and MOE covers only the wildlife concerns (which also partially covers fish habitat).

Describing how DFO and MOE should divide their responsibilities, an interviewee said:

What we have to do is define where we [MOE] operate and where you [DFO] operate, define drainages of concern to us and drainages of concern to you, and trust each other. When you look at a stream with 300 coho and 12 sea-run cutthroat trout you have to look at the trout, too. When we look at a stream with 1200 steelhead and 300 coho, we'll look at the coho, too.

Coordination mechanisms exist in the complex world of referrals.

a) The Environment Canada Referral System is one example. DOE works as a clearing house within the federal government and provides to the lead agency one consolidated response from all the federal agencies that may have interest in a proposal. The coordination role may not include a screening function: the Coordinator and Referral Liaison in the Environmental Assessment Division, DOE, refers to DFO *all* proposals related to water, regardless of whether or not there are salmon in the river.

b) The Ministry Referral System of B.C. Environment is another example. Planning &

Assessment (Lower Mainland Region) functions as a clearing house for the region and provides

one coordinated response for all federal, provincial or regional district proposals.

Intra- or inter-agency consultation or decision-making bodies. These are committees or task

forces set up to handle complex issues. A few examples:

a) RODAC (Regional Ocean Disposal Advisory Committee), with representation of DFO, DOE

and MOE for ocean dumping proposals that result contentious or that involve sensitive areas.

The committee reviews applications, establishes policies and advises DOE, the permit-issuing

agency;

b) EACC (Environmental Assessment Coordinating Committee), with representation of DFO and

DOE for proposals or referrals that require more than one meeting of concerned parties for

deciding. Depending on the issue EACC sets up task forces, decides who should be the lead

agency and who within DOE and DFO should participate;

c) a BCE/DFO/DOE task force, set up when needed to provide a single-environmental-window

opportunity to applications such as for golf courses in the Lower Mainland;

d) the Integrated Management Committee within BCE, which meets biweekly to solve problems

and conflicts. If issues in which DFO may have concerns are discussed, then DFO is invite; and

e) an informal arrangement whereby, for referrals coordinated by DOE, DOE and DFO discuss

issues together if they think a concerted decision is preferable.

Partnerships are a final arrangement among interested parties to manage natural resources.

Typically, partnerships produce integrated resources plans for defined geographical regions.

Partnerships may implement their plans by reviewing project proposals though referrals. The success benefited by BIEAP, FREMP and FRAP has encouraged the government to explore opportunities for other similar initiatives. The PPARR Initiative is exploring options to create more partnerships with local governments. One of the ideas that are emerging is to create partnerships that look after the management of geographical sub-regions such as the North Shore:

Ideally, you would have federal, provincial and municipal people working together in teams to plan for geographical areas: geographic partnerships. By doing this you'd reduce the number of people required for planning. DFO and BCE don't both have to be at some planning event because one can cover the fisheries concern of the other . . . We are looking at sub-regions such as the North Shore: why deal separately with North and West Vancouver from an environmental point of view? It's the North Shore Mountains the unit to look at. Creeks cross municipal boundaries.

Strengths of the current habitat referral process

There seems to be remarkable accord among the interviewees on two major strengths of the referral process: first, the fact that it is a mechanism to inform other agencies of what is happening and second, the fact that it is a valid opportunity for agencies to comment on projects. An interviewee thinks that

this is an area where we make a difference to what is happening in the environment. There is a lot of bureaucratic work that is not productive. Referrals are productive, they do make a difference.

The whole mechanism is therefore a real chance for DFO and other agencies to make a difference in the environment and to control impact on fish habitat (but for opposite views see the next section on the weaknesses of the system).

Also, the referral process provides the opportunity to do so in a flexible manner: issues that are not covered by guidelines and regulations can be tackled nonetheless and handled with professional judgment. As an interviewee said:

Fisheries issues are very site-specific in their implementation and it's impossible to write guidelines that [take completely care of] a class of developments . . . Topography of the site, size of the river, type of sediment, bedrock characteristics of the river, slope of the banks: all these things are so site-specific that guidelines by themselves would not do the job properly. Doing referrals, reviewing a project on its own merits, allows to take everything into account.

Somebody else said:

A positive aspect of the referral system is flexibility: the ability to deal differently with different people, projects and structures.

Another strength is - for the systems with a referral coordinator - the provision of only one response where conflict is resolved at the outset and there is no duplication of effort. This reduces the frustration of the proponent, saves government resources, and expedites the process.

A further positive aspect of the referral process is the often good relationship between various agencies of different levels of government. Having to formulate responses to the same

applications may encourage organizations to develop formal and informal arrangements that will simplify the administration of the task. Examples have been provided above.

Finally, the referral process may be a tool for developing and maintaining technical skills. It is complained by people in different functions that they are losing technical skills in favor of office and bureaucratic skills. Having to respond to referrals may be an incentive to go on-site and therefore conduct some field assessment that would otherwise not be performed.

Weaknesses of the current habitat referral process

It appears that the current habitat referral process suffers from several weaknesses.

According to everyone, the principal problem is inadequate resources to handle all the referrals. Many interviewees say there are too many referrals, but of course referrals cannot be *too many* in absolute terms: they can only be so relative to the available resources. Resources - human, financial and technological - are the limiting factor. They are unlikely to be increased: more likely they will stay the same or even decrease. What can be changed is therefore the number of referrals or the efficiency with which they are handled, or both. This is of course the focus of this whole research and will be further discussed at the end of chapter 5 and in chapter 6.

The second major problem is the fact that monitoring - to verify both compliance and effects - is rarely performed. This deprives the process of its feedback mechanism and there is therefore no

possibility to learn about flaws in the system and correct them. The reasons commonly offered for this deficiency are the lack of resources and disagreements on who should undertake it.

The third major problem, lack of enforcement, is also blamed on scarce resources. It deprives the system of its ultimate incentive to implement what is required. But, of course, if there is no monitoring there also are many fewer opportunities to detect violations of the law and to enforce what is prescribed in those circumstances. Sometimes the personnel responsible for enforcement experience a conflict of interest (they may live in the communities where they try to execute enforcement).

Other problems are:

Sometimes the comments of the referees do not reach the proponent. Of course this means that reviewing applications and developing recommendations was pointless.

There is lack of guidance in reviewing applications. Certain fields have all the guidelines, standards and regulations that are considered necessary (e.g., ocean dumping), certain other fields still do not have enough (e.g., foreshore and estuary development). Not having guidelines means significant use of personal discretion in responding to referrals, and therefore inconsistency, and more importantly having to review each proposal individually.

In most fields there is also lack of guidelines for the proponent on what information to provide along with the development application. This means uncertainty for the proponent and possibly delays in reviewing and approving the project.

The information provided by the applicant is often insufficient. Not always more information is requested and the project cannot therefore receive a meaningful review.

Some interagency relationships are uncooperative and sometimes partnerships are non existent. This makes the coordination and the handling of referrals extremely difficult.

In certain referral systems input from referees may come too late, when the project has already started or it is anyway impossible to change certain terms (zoning, for example).

On-site visits prior to issuing conditions for approval are extremely rare. Projects are assessed almost solely on the paper information received at the office. Once again, this is blamed on the lack of resources.

There is too much political and administrative fragmentation, which does not reflect the nature of the resources. Responsibilities are divided *unnaturally*. This certainly does not simplify the management of natural resources.

The legislation is deficient under several aspects. The *Fisheries Act* is seen as only reactive. The legal terminology uses *may* rather than *shall*: much is left to the discretion of the regulator. There

is no accountability.[11] There is no Wildlife Act to legitimize the requests from the provincial Habitat Protection function and therefore reinforce DFO recommendations.

There is lack of inventory information on land, water and fish. There is also poor understanding of the complex interrelationships among the natural components of the ecosystem and between these and the human component. Sometimes there is no scientific basis to the decisions made.

Sometimes proponents experience a conflict of interest. They are responsible for providing information about their own development proposal. They will receive huge benefits from a favorable review, and they do not have anything to lose from providing incomplete information.

Objectives of the agencies involved in the current habitat referral process

With no significant exceptions the fundamental objectives expressed by the interviewees correspond to their mandate.

All fisheries people have stated that their objective is to prevent the loss of, or damage to, fish habitat. Some have phrased it saying that they have to fulfill their responsibility to the No-Net-Loss Policy or the *Fisheries Act*. One person has articulated his objective as "conserving fish and fish habitat and managing fisheries resources for the maximum benefit of all Canadians and in particular the First Nations." Another person has added the concept of sustainability to that of protection of fish habitat.

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[11] See the comments on the *Fisheries Act* in the *Administrative and regulatory context*.

People from other agencies have stated different objectives, but always related to the mandate of their agency. They want to fulfill their responsibility to the *Navigable Waters Protection Act* or to certain sections of the *Fisheries Act*, to protect migratory birds and their habitat, and to protect water quality from pollution. One person has stated that, beside trying to stop habitat destruction, his objective is to ensure the environmental sustainability of the region. Finally, somebody said that the objective of the federal referral system is not directly to protect habitat but to try to influence all federal agencies that affect the environment to modify their behaviour so that it is more environmentally conscious.

PART FOUR

Chapter 5. PUBLIC SECTOR PRODUCTIVITY

Purpose of the chapter

The purpose of this thesis is to develop a framework and criteria for assessing the productivity of the referral process. The referral mechanism is used by the government - the public sector - in its permitting-licensing-leasing function. Public sector productivity is an established discipline and can therefore provide the necessary theoretical background to accomplish the objective of the thesis.

There are two other reasons why it is important to review this literature:

1) The body of literature contains a great deal of experience to draw upon, in terms of models and strategies for improving public performance. Why not use it to frame the issues surrounding referrals?

2) There seems to be some confusion when practitioners of referrals discuss issues, and at times the solutions proposed to increase performance do not address the real problems. Why not clarify definitions, assumptions and issues so that we all speak the same language and channel our effort in the right direction?

An essential introduction to the theory of public productivity follows.

THEORY

The purpose of public administration is to carry out public policies, which represent the objectives of the community. It is intuitive that the government can perform this task well or badly, that is, in a way that satisfies or dissatisfies the community. The direct product of government activity is in the form of goods or services. The indirect products are effects in the community. The ability of the government to provide the results that are expected of it can be called 'productivity'. Productivity measurement and analysis are attempts to determine how good the government is at performing its tasks; productivity improvement is an effort to change government performance so that it achieves better results, or ones that better satisfy the community. Productivity measurement and analysis necessarily precede, or are part of, productivity improvement: one needs to know where one is before deciding where to go and how to get there.

Public productivity improvement is an established discipline with its own body of literature; there one finds the concepts and theory needed for achieving the purpose of this thesis.

The discipline of public productivity 'borrows' knowledge from administration and organization theory, economics, engineering, politics, psychology, ergonomics, cybernetics and others.

Definitions and explanation of concepts

Among the terms normally used in productivity improvement are: efficiency, effectiveness, productivity, performance, productivity assessment, and productivity measurement. Although in various authors the actual definitions of these terms may differ slightly, there is agreement on their general meaning. It seems here more significant to describe what is commonly intended with the terms than to endlessly list different authors' definitions.

Efficiency

Efficiency describes the relationship between the cost of producing and the product obtained or work accomplished; or, to be more technical, the relationship between input and output. Inputs are costs, however defined (monetary, personnel, time...), or the resources needed; outputs are the goods or services produced (for example the permits issued), or the performance obtained from the input.

It should be noticed that this relationship may be expressed as two opposite ratios: input to output or output to input. Certain authors assign two different names to them, efficiency to the former and productivity *sensu strictu* to the latter. They can therefore say that productivity is the inverse of efficiency and *vice versa*. For the purposes of this thesis, however, no distinction will be made between the two, since they are considered as two facets of the same concept. Whether we speak in terms of product per unit of cost or of cost per unit of product is irrelevant here. The important thing is that in efficiency the ideas of costs and work accomplished are related.

Being efficient means making good use of the available resources; being able to produce as many goods and services as possible given the available resources; or producing output minimizing the loss or waste of energy or other resources. Furthermore, since the *quality* of the product is also a component of the output, being efficient then means obtaining output in good amount and good quality from the resources at disposal. In the case of the habitat referral process efficiency means for example responding to as many referrals as possible and as well as possible. It is not only *how many* referrals, but also *how* they are responded to.

Effectiveness

Effectiveness is the ability to achieve results. Public agencies produce goods and services to achieve certain goals; for example the goal of the DFO Habitat Management Sector is to protect fish habitat. Being effective means leading to the results wanted, or achieving the objectives which had been set, or - for HM - being successful at protecting habitat.

Epstein proposes the following distinction between efficiency and effectiveness. He writes (1992, 167):

> Another useful way to distinguish between them is to contrast them as being inward- and outward-looking forms of measurement . . . In measuring efficiency, a public service organization looks inward to its own operations to determine whether it is producing a reasonable amount of services for each dollar spent. In measuring effectiveness, a public service organization looks outward to the public to determine the impact of services on community conditions.

Productivity

Productivity was defined at the beginning of the chapter as the ability of the government to provide the goods, services and results that are expected of it. That was only a common-sense definition used to introduce the topic.

Productivity was at first defined as the 'ability to produce' in the dictionaries at the end of last century when the term was used in the economic and industrial context (Bouckaert 1992, 16). With time the meaning of productivity has expanded: it can now be applied to public organizations and not only to private enterprises, it considers production of goods *and* services, as well as production of quantity *and* quality, and it includes the achievement of results.

Swain and White say that productivity can be a combination of the following (1992, 652):

- Qualitative effectiveness -- getting the best possible result or outcome
- Quantitative effectiveness -- getting the most outputs
- Efficiency -- the best input/output relationship
- Economy -- expending minimum resources

They claim that "it is always possible to be effective without being efficient, efficient without being effective, or economical without being effective or efficient." However, a comprehensive definition of productivity includes all three concepts: effectiveness (quantity and quality), efficiency and economy.

The most comprehensive definition of public service productivity that was found says (Epstein 1992, 165): *"responsiveness to the needs and desires of the community, client, user or customer; and the level of services achieved from the resources available to the public service organization."* It includes the two sub-definitions of effectiveness (first sentence) and efficiency (second sentence), recognizes a wide range of players who may be affected by the productivity of an organization, and identifies the forces (desires and needs) which determine the "nature and amount of public services" to provide (1992, 163).

A productive referral process is therefore one that handles several referrals, does so well, and whose responses are successful in protecting fish habitat.

Performance

Productivity can also be broadly seen as agency performance.[1] Where the performance of an agency is analyzed not only on the basis of the physical work accomplished, but also in terms of the quality of production, the impact and results in the community and the environment, and the satisfaction of the users. *In this paper performance will be used as a synonym of productivity, and both will be used to mean how well an agency is doing overall.*

Productivity assessment

Productivity assessment or analysis is determining the performance of an organization. It is not far from the concept of program evaluation. It is a powerful tool: it says how well the organization is doing and identifies opportunities for improvement. It provides a snapshot of the

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[1] Balk, W.L. Toward a Government Productivity Ethic. *Public Administration Review*, 1978. 38: 46-50; cited in Rosen 1993, 50.

situation and possibly captures the trends. It provides feedback and indicates directions for change. There can be no productivity improvement without preliminary analysis of how things are.

Qualitative assessment is determining whether or not a process or an organization is productive, or if its performance is 'good' or 'bad'. It also indicates where the weaknesses are and improvement is needed. It defines, in other words, if anything needs to be fixed, and if so, what. It is important because it directs effort to where it is needed and helps set priorities. *This is the purpose of this thesis.*

Quantitative assessment is *measuring* how well or how badly things are. It is assigning *numbers*, determining the *extent* to which a process or an organization works or does not work. It defines how serious problems are, and how worried or relaxed we should be. It indicates how much fixing is needed, or when it will be needed if things are to continue according to the trends that are detected, or where to design and use preventive actions to avoid problem in the future. Quantitative assessment provides more detailed information than qualitative assessment, suggests more precise courses of action, and allows fine tuning in the allocation of resources. *This is not the purpose of this thesis.*

Productivity monitoring

Productivity monitoring is keeping an eye on performance, with the intention to detect early signs of loss or decrease of productivity. Poister defines it more elegantly as "the periodic measurement and tracking of key indicators of organizational or program performance."

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(1992, 195.)

Productivity improvement

Productivity improvement is the ultimate goal of productivity assessment, measurement and

monitoring. Productivity improvement is a problem-solving process (Bennett 1993, 37.) As most

processes, it involves various steps:

1. Identify and define problems through productivity assessment, measurement and monitoring.

This establishes what needs to be done.

2. Set priorities among the problems. Some issues will be more serious than others and will need

immediate action; some will be automatically solved if something else is fixed first. Setting

priorities allows to distribute resources as most needed.

3. Gather all facts relevant to the problems.

4. Develop possible alternative solutions.

5. Evaluate the various alternatives and select one.

6. Implement the selected strategy.

All these steps are major phases in the problem-solving process, and they all include further sub-

steps. For example, implementing a strategy requires planning the implementation process,

assigning tasks and responsibilities, assigning accountability, establishing evaluation procedures,

ensuring support and so on (Zander 1993, 91-92). In turn, all these sub-steps also require

planning and other sub-activities.

Productivity improvement is therefore a complex task that requires numerous activities. We will not pursue this any further, but it is important to know that a successful improvement program must consider all of them.

Purposes of productivity assessment, measurement, monitoring and improvement

Very simply, the direct purpose of productivity assessment, analysis and monitoring is to provide qualitative and quantitative data. Data is needed for two major reasons: 1) to make informed decisions and 2) to improve accountability.

1) Collecting data allows receipt of feedback and making predictions (impact evaluation). With this information decisions can be made on whether a program, procedure or method should start, continue or stop; and whether and how it should be changed. Decisions can also be made for goal and priority redefinition, activity planning and resource allocation.

2) Collecting data is necessary for improving accountability of governments to the citizens they serve; of public service executives to their elected bodies or appointed governing boards; of lower-level personnel to higher-level managers and executives; and of public sector contractors to the government organizations that fund them (Epstein 1992, 162). Accountability improvement is needed to ensure that everybody performs their tasks as they should and thus supervise how tax money is used.

Ultimately, as already stated, the purpose of informed decision making and improved accountability is to improve productivity.

Finally, the purpose of public productivity improvement is to make better use of public money and to adjust the performance of public services to meet the needs and desires of the community.

Techniques to improve problem-solving

Productivity improvement is a problem-solving process. Improving the productivity of the referral process means solving the problems it has, or removing the impediments that prevent the process from being productive. There exist certain techniques that can be used to improve problem-solving. They are mostly used to identify opportunities for improvement in current processes. Virtually all techniques rely on the concept of 'work simplification'. It refers to "the systematic use of common sense in the quest for better and easier methods of accomplishing work." (Cohen 1993, 135.) Nadler explains that "work simplification is the systematic analysis of any type of work to: 1) eliminate unnecessary work, 2) arrange remaining work in the best order possible and 3) make certain that the right method is used."[2]

Three of the methods for improving problem-solving, called charting techniques, present information in a way that is clear and concise, that helps visualize possible solutions, and that makes it easier to explain changes to the other people involved. All three techniques are

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[2] Nadler, G. *Work Simplification.* McGraw-Hill, New York, N.Y., 1957, p. 2; cited in Cohen 1993, 135.

described in Bennett (1993). The examples provided are drawn from the health care field, but the same principles can be applied to the referral process.

Flow process charts

These are charts where *all* single steps in a process are shown in their sequential order, accompanied by a definition of their type (transportation, inspection, delay, etc.) and their duration. By applying the principle of work simplification, some of the steps can be eliminated and the overall process can thus be made simpler and faster, and therefore more productive. Appendix J shows two flow process charts, one before and one after work simplification.

Flow diagrams

The flow process chart "is vertical in its nature of recording, thus excluding the benefits of viewing the problem situation in its more dynamic form." This constraint can be overcome by using flow diagrams. They "display graphically the paths of movement of people, paperwork, or materials in order to visualize the whole process. This capability is particularly desirable in work situations in which the distance traveled is excessive, the flow is complicated, the work area is congested, or backtracking is evidenced." (Bennett 1993, 40.)

An example of flow diagram before and after work simplification can be found in Appendix K.

Horizontal charts

"The horizontal chart is a multicolumn form that captures the descriptive words and symbols in a left-to-right sequence. The use of the horizontal chart is recommended when the procedure being studied involves the performance of many different work routines by individuals in different

departments. It may also be used for recording the step-by-step details of procedures that involve

printed forms with more than one part or more than one copy." (Bennett 1993, 42.)

An example of horizontal chart before and after work simplification is presented in Appendix L.

According to Bennett these three techniques can be applied in (1993, 46):

administration -- management functions such as planning, reporting, directing and scheduling

clerical operations -- office functions such as sorting, checking, recording and filing

communications -- presentation or transmission of verbal or written message from one point to another

transportation -- system or mode of conveyance of persons or materials from place to place

utilization -- method or manner in which personnel, space, or materials are used

loss or accident prevention -- performance control and safety functions to prevent loss or injury.

The referral process can benefit from all these techniques.[3]

Other - non-graphic - techniques can be used to improve problem-solving.

Make-ready, do, put-away approach

According to Cohen (1993, 135) every task can be seen as a "make-ready, do, and put-away

sequence of activities." To respond to a referral a person has to make ready (retrieve the file,

collect and review the relevant information), do the task (comment on the proposal, write it or

communicate it orally), and put away (make notations in the file, archive, etc.). The directly

productive part is the 'do' element. 'Make-ready' and 'put-away' are considered non-productive

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[3] A wonderful review of these and other graphic techniques to improve productivity is found in Roberts (1992).

elements, although they often require more time than the productive element. Visualizing every task as a three-element sequence helps perform work simplification. The three phases have to be analyzed with the objective to reduce the non-productive elements, that is, make-ready and put-away.

Quality circles

This is a technique for employee involvement as a means of improving productivity through organizational improvement. Quality circles are groups of employees (4-10) "who do similar work, and meet voluntarily on a regular basis to identify and analyze problems, make recommendations, and implement management-approved solutions." (Bowman 1992, 499.) The purpose of these meetings is "maintaining and improving the quality of the organization's output . . . by enabling employees who work directly with the output to state their observations and recommend changes in an organized way." This technique allows employees at low levels of the organization to influence decisions. It capitalizes on the expertise of the members of the group according to the idea that they "are the people who know the product and the service best and can, unlike some managers, observe the impact of the service firsthand." (Boissoneau 1993, 155-156.) As discussed in depth by Bowman, quality circles require careful planning: from how to form the groups to how to structure their internal dynamics, from how to organize the communication between them and the management, to how to incorporate their recommendations into organization policies. Nonetheless, they can be tremendously beneficial to the organizations. For an impressive list of the advantages of quality circles see Boissoneau (1993, 158).

The open system model

How to assess productivity in an organization is determined by the organizational theory or model that is accepted. According to Bouckaert (1992, 31) the predominant organization models can be summarized as follows: mechanistic, human resources and systemic.

The mechanistic model of an organization "assumes a fixed and closed goal-attainment model with known and predetermined means for these pre-fixed and unchanging goals." In the human resources model "the behavioural aspects are added to the purely mechanistic productivity and effectiveness conception . . . The motivational aspects . . . are included in the conception and operationalization of the criteria that indicate the success of an organization." (Bouckaert 1992, 32.) Both these models see organizations as closed systems.

The systemic model, on the contrary, presents organizations as open systems where "means and goals change as a consequence of interaction with the environment", and recognizes that "changing situations require changing strategies." (Bouckaert 1992, 32.) Thus, to be productive organizations have to be able to cope with a changing system and therefore to be both flexible and capable of controlling their environment. This is the case with the habitat referral process, that has to cope with changing information and knowledge, changing natural resources, changing values, changing tools (laws, etc.), and changing administrative resources.

These models can be used for describing processes as well as organizations. Given the objective of this thesis (to develop criteria to assess the productivity of the habitat referral process) it

seemed that an open-system model would better represent this administrative process. A systemic model for an administrative process can be visualized as follows:

```
┌───────┐                ┌──────────────┐              ┌────────┐              ┌─────────┐
│ INPUT ├───────────────►│Administrative├─────────────►│ OUTPUT ├─────────────►│ OUTCOME │
└───────┘                │   process    │              └────────┘              └─────────┘
   ▲                     └──────────────┘                    ╲                   ╱
   ┊                                                          ╲                 ╱
   ┊                                                         ┌──────────┐
   ┊........................................................│ Feedback │
                                                             └──────────┘
```
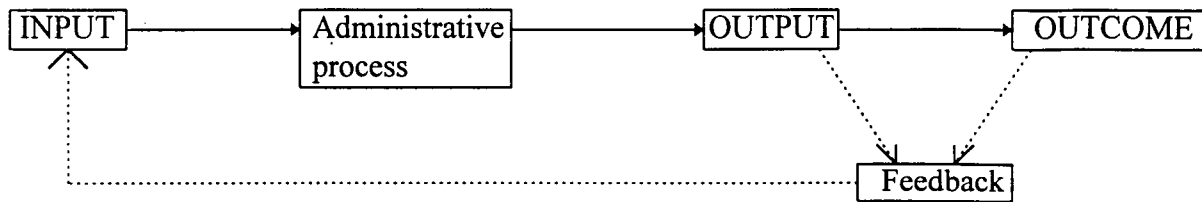
In the simplest version of the system, inputs feed the administrative process, which transforms them into outputs; then outputs lead to outcomes. In a more sophisticated version both outputs and outcomes originate feedback that enters the system again as input.

Input

In a very inelegant but practical definition inputs are what is there to work with to produce the desired results. Gordon (1978, 176) recommends to include as inputs the "demands for some action, resources with which to pursue organizational objectives, underlying values of those outside the organization (and within it), and support for, or at least passive acceptance of, its essential structure and goals."

A list, not necessarily complete, of inputs to the referral process follows:

- demand for a service (public needs)

- money (financial resources and expenditure pattern)

- people (accompanied by their individual characteristics such as: skills, personality, motivation, values and expertise)

- equipment and supplies

- time

- technology

- information (about the proposed project, about fish habitat)

- number of referrals that have to be processed

- ·politics.

Administrative process

The box called 'administration process' is "the means of responding to inputs". It includes "all formal and informal decision mechanisms, judgments about how or even whether to respond to particular inputs, past history of the organization in similar circumstances and the inclination or lack of it to follow precedent. . ." (Gordon 1978, 176.) Mechanisms such as procedures (e.g., routings of referrals) should also fall under this headline.

Output and outcome

Outputs and outcomes are what is directly or indirectly produced in the process; or, according to Bourckaert (1992, 33), output is the work done (for example, the number of referral responded to) and outcome is the results accomplished (effects of those responses in the environment and the community).

There is a demand for effects, not for output. For example, in the habitat referral process what matters is whether fish habitat is protected and whether the community is satisfied, not how many referrals were responded to and how many were neglected. Results are the most important

thing, or the ultimate desirable product of the whole process. Outputs are intermediate products or means to achieve that goal. It is important to distinguish between the two.

Focusing on output may be misleading. Outputs are at best *measures* of the ultimate objective or tools to achieve it. Whereas fundamental objectives are mostly fixed, means or measures may prove to be inappropriate and may need to be changed. Thus, courses of action undertaken to improve output may not lead to improvement in the outcome and therefore fail to improve the effectiveness of the process. It is a problem. Often efficiency measures aimed at improving performance focus more on means than ends. In spite of the fact that "in many situations efficiency does not mean a whole lot . . . Alone, efficiency says little about the effectiveness of providing a service." (Swain & White 1992, 652-653.)

Examples of **outputs** of the habitat referral process are:

- number of referrals responded to
- number of permits issued.

Examples of desirable **outcomes** of the habitat referral process are:

- protection of fish habitat (conservation, restoration and development of fish habitat)
- well-being of the community.

More outputs and outcomes will be discussed when developing criteria for assessing the productivity of the referral process.

Conclusion

To conclude this chapter on public sector productivity it is worth making a couple of last points.

Productivity improvement is the ultimate objective of productivity assessment, analysis and measurement. As a discipline, productivity improvement overall requires a lot of common-sense and personal judgment, and is not independent of values. This will be more obvious in the next section, where a set of criteria for assessing the performance of the referral process will be developed.

In the interviews that were conducted the belief was often encountered that having more money and more people would solve the problems of overload of existing personnel. This is what Zander (1993, 85) calls the 'more-is-better' approach. It assumes that the problem is the lack of resources and the solution is to continue doing as done so far, only on a larger scale (more people doing the job, or the same number of people working harder). It rarely occurs to people that this may not be the right approach.

An alternative approach is 'work smarter, not harder'. It implies that tasks cannot continue to be performed in the same way as it has been done so far, nor that people should work harder; rather,

it assumes that there has to be a *change*. The idea is to find *new* methods *to achieve the desired results* with the same resources that are currently available or even fewer. Possibly, neither service nor quality should be reduced because resources are not increased. Work simplification is the concept behind changing the production process.

FRAMEWORK FOR ASSESSING THE PRODUCTIVITY OF THE HABITAT REFERRAL PROCESS

The previous section indicates that we can rely on an open system model to describe the habitat referral process. The model is again graphically represented here as a summary and springboard for further discussion:

INPUT	→	Referral administrative process	→	OUTPUT (work done)	→	OUTCOME (results achieved)

People	Decision mechanisms	Number of referrals responded to	Protection of fish habitat (conservation,
Money			
Equipment	Judgments		restoration and
Supplies		Number of permits	development)
Technology	Procedures (routings, etc.)	issued	
Information			
Time			
No. of referrals needing review			
Etc.			

All the interviewees seemed to agree on the problems of the current habitat referral process: there appear to be too many referrals to review given the available resources, and the protection of fish

habitat may not be accomplished. In terms of the model, this would translate into inadequate or unbalanced INPUTS, and unachieved OUTCOME.

At first glance, one could think the solution to achieving the desired OUTCOME (protection of fish habitat) is:

a) to increase the OUTPUT (to respond to more referrals or to issue more permits)

b) by increasing some INPUTS (using more people, money or time)

c) and keeping other INPUTS constant or even allowing them to increase (the number of referrals needing review)

d) without drastically changing the ADMINISTRATIVE PROCESS.

However, this may not be the right solution - especially in view of further future cuts in government resources -, and it is certainly not the only one.

At a closer look, another solution becomes apparent. Rather than trying to increase the OUTPUT (respond to more referrals and issue more permits), the solution for achieving the OUTCOME (protecting fish habitat) may be to:

a) *change* some INPUTS, namely reduce the number of referrals needing response, or reduce the number of projects needing review in the referral process;

b) *change* the OUTPUT, namely respond to fewer referrals and issue fewer permits, but with a higher quality of the service offered (for example: conduct more thorough reviews, provide more timely responses, issue clearer permits). After all, outputs are simply means of

achieving the desired outcome, and the same outcome can be achieved through different means; and

c) by *changing* the ADMINISTRATIVE PROCESS, for example modifying the routings of the remaining referrals and the decision mechanisms (pre-screening, priorities, etc.).

This type of solution is in line with the trends identifiable in the referral process and has implications for the governance system. In the section *Evolution of the referral process* two conclusions were reached:

1) the referral mechanism is evolving towards handling fewer day-to-day referrals and engaging in more comprehensive and proactive planning, and

2) the referral process is part of a broader and evolving governance system.

This implies that changes in the number of applications reviewed through the referral process have to be paralleled with changes in the context in which the referral process operates, the governance system.

The next chapter will deal with two issues:

- first, it presents and discusses the set of criteria to assess the productivity of the referral process; that is, the features that would make the habitat referral process productive;

- second, it discusses the implications on the governance system of reducing the number of applications reviewed through the referral process.

Chapter 6. <u>CRITERIA FOR ASSESSING THE PRODUCTIVITY</u>

<u>OF THE HABITAT REFERRAL PROCESS</u>

PREAMBLE

As stated in the introduction, the purpose of this thesis is to develop a set of criteria to assess the

productivity of the referral process (the 'tool'), and to apply it to the habitat referral system. Such

a tool was nowhere to be found in the literature or among government documents. A new set of

criteria had therefore to be developed.

It is important to emphasize that the tool does two jobs - it provides two types of information:

whether a process is productive, and - if it is not - *what* needs to be changed (or *where*

improvement is needed). In other words, it is not just a formula to find out if a good job is being

done; it also offers guidance as to how to improve.

This distinction is of great significance. Determining that something in a process is wrong may

be easy. It has already been mentioned, for example, that backlogs, delays, overtime or

complaints are direct signs that there are problems somewhere (see *Problem statement*).

However, often there is no indication of *where*. It would therefore be helpful to have a means to

identify the problems *and* possible solutions. A checklist, which is what is being created with the

set of criteria, could be one of the means for doing this.

In terms of the definitions, concepts and theories examined in the preceding chapter, by developing a set of criteria to assess the productivity of the referral process we are doing productivity assessment. This checklist tool is therefore a piece in the jigsaw puzzle of productivity improvement.

Scope

The focus of this research is the productivity of the habitat referral *process*. It is not to evaluate the performance of an *organization*, say DFO or the Habitat Management Sector; it is to evaluate the performance of a *process*, which involves several organizations (DFO, DOE, MOE, MOF, etc.).

The set of criteria is conceived from DFO's point of view. This does not mean, however, that it is only valid for DFO. In fact it can be used by all agencies involved in the habitat referral system who want to improve its performance (lead agencies, other referees).

The performance of the habitat referral process is assessed *qualitatively*, not quantitatively. No performance measurement is conducted; instead, a series of features are listed, that are considered desirable in a referral process, and whose presence constitutes the criteria to determine whether the process is productive.

The focus here is mainly on *procedural mechanisms*. The author recognizes that performance improvement goes far beyond procedure improvement, and that there are other concerns that should be addressed (personnel gratification, for example). However, these other issues will not

be discussed in this thesis. Yet, the user of this tool should remember that productivity is the result of several factors. If one wants to be successful at improving the process, one should consider all of them.

The absence of any feature of the list (the criteria of productivity) from the referral process under assessment is an indication of where the problem *may* be. Please note that the mere absence of an item does not necessarily signify that the problem is there. There may be good reasons why that particular feature does not appear in the process. The list of criteria attempts to be as comprehensive as possible and includes features that may be needed in only *some* referral processes, not in all. *The set of criteria is simply a list of characteristics that need to be checked, not all of which must always be present.* The task of the assessor is thus to verify which criteria are met, and to identify the reasons why some criteria are not met. He will find that some features are not there but should not be there either; and that some features are not there but should be. Only the latter indicate the cause of a problem. In this case, a feature that does not appear in the process (that is, a criterion that is not met) also indicates the direction for improvement.

Sources of the criteria

Sources of, and inspiration for, the set of criteria were the interviews, the evolution of the referral process, and 3 of the studies discussed in the *Literature review* (Alexander 1991, Dane 1980, Reith 1982).

The literature on public sector productivity and some concepts from the decision-analysis theory helped to develop a framework to structure the criteria (from the fundamental objectives, to the sub-objectives, to the indicators).

Constraint

Productivity assessment and improvement are value-laden. They are not exact sciences. The tool itself that is being developed in this thesis involves a great deal of value judgment. In at least two instances. Firstly, the *genesis* of the set of criteria is value-laden. Regardless of how hard she tries, there is no guarantee that the author will be absolutely objective when she develops her criteria. Most probably they will be chosen according to what she thinks is important. Secondly, the *use* of the tool will be value-laden. Practitioners will use it according to their set of values. As already said, it is a list of factors that have to be checked. Some features may be absent from the process under assessment. The task of the assessor is to decide which of the absent features are rightly so and can therefore be ignored, and which are absent but should be there. All courses of action for improvement depend on this first judgment.

CHART OF CRITERIA FOR ASSESSING THE PRODUCTIVITY OF THE REFERRAL PROCESS

The enclosed tree chart has been prepared to offer an overview of the criteria.

The two branches to the far left are the fundamental objectives of a productive habitat referral process. Moving from left to right more branches are found, that represent sub-objectives or means of achieving the objectives. The farther right the branches, the more specific the means of achieving the objectives. As you move from left to right, you are traversing the ends-means spectrum.

Criteria for assessing the productivity of the habitat referral process: Objective A

(means-ends relationships are identified)

A) Protection of fish habitat

1. Process is acceptable to proponents
   - a. Process is clear
     - The review process is clear to proponents
     - Proponents are kept informed on the status of their application
   - b. Process is easy
     - The fewer applications proponents make for the same project, the better
     - The fewer responses proponents receive following their application, the better
     - The response is clear
   - c. Process is timely
     - The timing of the process is appropriate
     - The duration of the process is kept to a minimum

2. Project reviews are meaningful
   - a. Decisions are based on adequate information
     - Information is appropriate
     - Information is reliable
   - b. Time for review is adequate
   - c. Reviewers are qualified

3. Permits are meaningful
   - a. All relevant recommendations are incorporated
   - b. Conditions do not conflict with each other
   - c. Conditions are clearly communicated

4. There is compliance

5. There is enforcement
   - a. Compliance monitoring is conducted
   - b. Penalties are applied

6. There is a mechanism for feedback
   - a. Effect monitoring is conducted

LEGEND:

⟵——— = "Has an influence on"

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Criteria for assessing the productivity of the habitat referral process: Objective B

(means-ends relationships are identified)

1. Process is clear ← a. There is an established procedure

B) Minimize administrative resources used and/or maximise return from resources used

2. Process is simple

a. There is no unnecessary back-tracking

b. There is no unnecessary duplication of efforts

There is intra- and inter-agency coordination

There is a clear division of responsibilities

There is communication among parties

There is effort to move towards single-window approaches

3. Process is timely

a. There is fast communication

Standard forms are employed

Communications are not procrastinated

Technology is employed

b. There is prompt decision-making

There is a known standard procedure

There is use of standards and guidelines

4. *Process is adaptive*

5. *Process is flexible*

LEGEND:

← = "Has an influence on"

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DESCRIPTION AND COMMENTS ON THE CHART

The fundamental objectives of the habitat referral process

As described in the *Theory* section, productivity is the sum of A) effectiveness and B)

efficiency:

$$Productivity = Effectiveness + Efficiency$$

If one refers to the open-systems model used to describe the referral process:
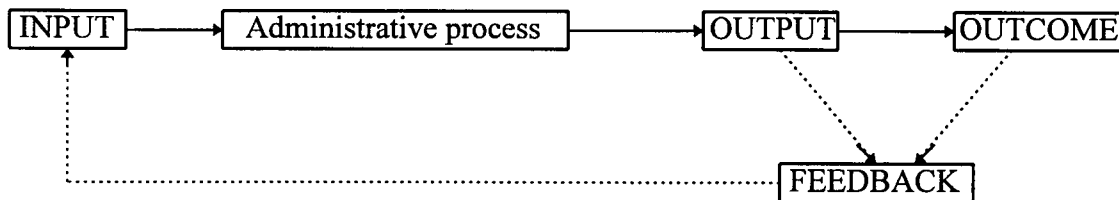
effectiveness and efficiency correspond respectively to A) achieving the desired

OUTCOME and B) achieving the highest OUTPUT/INPUT ratio.

It follows that the fundamental objectives of a *productive* habitat referral process are:

A) protecting fish habitat, and

B) doing so minimizing the use of administrative resources or maximizing the return for the

resources used.

It should be remembered that the expression 'protection of fish habitat' has be chosen to summarize the objective of the no-net-loss policy, and includes the concepts of conservation, restoration and development of fish habitat.

A) Protection of fish habitat as the first fundamental objective

DFO Habitat managers have declared in the interviews that the objective of the habitat referral process is either 1) to fulfill their responsibility to the *Fisheries Act*, or 2) to achieve the goals of the *Policy for the Management of Fish Habitat* (no-net-loss policy). Almost all interviewees have expressed the same concepts, even if they have phrased it differently. From the discussion in the *Administrative and Regulatory context* section we know that both 1) and 2) are concerned with the protection of fish habitat. Choosing this as the fundamental objective of the habitat referral process seems therefore logical and it also reflects the mandate of DFO and the Habitat Management Sector.

B) Minimize administrative resources used and maximize return as the second fundamental objective

'Minimize the administrative resources used and/or maximize the return for the resources used' is a way of describing efficiency. This definition includes both quantitative and qualitative objectives, as 'return' can be the quantity and the quality of the service provided.

Both these fundamental objectives of the productive referral process contribute to the broader goal of sustainable fisheries advocated in Canada's Green Plan.

In the chart all that follows the fundamental objectives A and B are sub-objectives or the *means* to achieve them. Certain means (branches of the tree) are repeated for both objectives because their implementation would help achieve both.

In the text the paragraphs that are indented and in italics are attempts to 'operationalize' the criteria. They function as the last level of specificity and illustrate what the branches of the tree signify in concrete terms. One could call them 'indicators', as they are ways of measuring whether the criteria are met. Those provided here are simply *examples*, added to clarify what the author means: the users of the tool can find other examples. When the words 'you' or 'your' are found in these paragraphs, they refer to DFO.

The reader should have the chart of criteria in front while reading the text. Objective A is described first.

A) <u>Means of achieving the fundamental objective of protecting fish habitat</u>

Protection of fish habitat will be achieved if:

1) the process is acceptable to proponents;

2) project reviews are meaningful; and

3) permits are meaningful.

And if:

4) there is compliance;

5) there is enforcement; and

6) there is a mechanism for feedback.

The two sets of sub-objectives are kept separate as the first one is specific to the referral process only, and the last one also refer to other processes in the habitat protection business (the governance system, remember?).

A1) The process has to be acceptable to proponents

Proponents are a key element in the mechanism: they trigger the referral process applying for a permit to undertake a project (physical development or activity); in most cases they collect and provide information about the project and the site; they are responsible for implementing the terms expressed in the permit. It is important, then, that proponents find the process accessible and smooth, because so much of the success of the referral process depends on them. As one interviewee put it,

Frustrated proponents are less cooperative proponents, and the environment suffers if the proponent is alienated . . . [The interest of the environment] is achieved by keeping the frustration level of the proponent with the bureaucracy as low as possible.

There are three major ways of keeping the frustration level of the proponent low: making the process a) clear, b) easy, and c) timely. The overall idea is that the process should not be confusing or stressing for the proponent, nor more costly than is necessary.

A1.a) The process has to be clear

At no stage in the process should there be any unnecessary uncertainty for the proponents. They have to be able to plan in advance the use of their resources to pace themselves.

- The review process has to be clear. The review phases and their duration have to be clearly explained to proponents. It should be unambiguous how they should make their applications, what information they should provide, whom to contact if they have questions, to whom applications should be sent, who will review them, from whom proponents will hear back, and what are the criteria used to decide on applications. An interviewee said:

The better you know a plan and the guidelines for development, the closer your application comes to being perfect.

Examples for putting into practice (operationalization):

A brochure explaining the procedure is available.

A telephone number is available to proponents for any type of inquiries.

Proponents are given a list of pieces of information to provide with their

application.

- Proponents have to be kept informed on the status of their application. At any point in time proponents have to be able to check where in the process their application is. If delays to the review schedule occur, proponents should be notified. Also, proponents should be told who is reviewing their applications and whether and when they should expect a response from them.

Examples for putting into practice:

In case of a delay a written notification is faxed or mailed to proponents, or

a personal telephone call is made (by you if you are responsible for the

delay, by other agencies/branches if they are responsible).

A telephone number is available to proponents for inquiries about the status

of their application (alternatively, an automated answer service where

proponents can punch in their application number).

Proponents are notified which other agencies, if any, are reviewing the

applications, and are advised to wait for all their responses before starting

the project (this should be the responsibility of the lead agency or the

referral coordinator).

A1.b) The process has to be easy

The less demanding the process is for the proponents, the better. In the words of an interviewee:

Unless people are purposely trying to [make your life difficult], which does happen, when you deal with people you should try to make it as easy as you can for them to get through the process and at the same time protect your resources. You don't unnecessarily put obstacles in front of them.

Ideally, the best process is the one that offers a single-window access and exit. If this is not feasible, the process should come as close as possible to the single-window approach by reducing the number of agencies that interact directly with the proponent.

- The fewer applications proponents have to make for the same project, the better.

- The fewer responses proponents receive following their application, the better.

Both these entries facilitate the proponent's task. They reduce the amount of paper work both for the proponent and the agencies, and help avoid duplication of effort. Information about the project is not presented repeatedly, and there is less 'patching' work to do with the responses if fewer of them are received. Also, these two criteria would help the government use its resources more efficiently, as the same project would undergo fewer separate reviews (see B1).

Examples for putting into practice:

You discuss with representatives of other agencies/branches to concert

consolidated responses.

Another agency/branch is delegated to review the project and respond for

you.

You have been delegated by another agency/branch to respond for them.

- *The response (permit) has to be clear.* The agencies' answers or permits given to the proponents have to be understandable. It cannot be overwhelming for proponents to interpret the content of the permit. This entry is also found in A3.c.

Examples for putting into practice:

The reason for rejecting the application, or the rationale for the conditions

in the permit, are explained to proponents.

The use of jargon is minimized.

The sections of law referred to in the response are attached. The full

references of the documents (guidelines, etc.) mentioned in the response are

provided, together with information on where proponents can obtain copies

of them.

A1.c) The process has to be timely

Time and timing are two important considerations for proponents.

- The timing of the process has to be appropriate. Referrals are a mechanism to prevent loss of fish habitat. In order to be effective, the review process has to be completed before proponents make irreversible commitments to implementing their plans, and certainly before the project has started. Moreover, the procedure should not have to be interrupted because of details that could have been taken care of earlier in the process (e.g., requesting some information after a study of the site has already been commissioned and concluded). This means that there has to be coordination among the different phases within the process.

Examples for putting into practice:

If reviewers respond directly to proponents, proponents are advised by lead or referee agencies that others are reviewing their application and that the project cannot start until they have received responses from all reviewers.

All the details are worked out at the outset.

- The duration of the process has to be kept to a minimum. People are always concerned with how long it will take to have things done. Time is money in most cases, and it is also tension: the longer the time to wait, the more nervous people become. This concept is addressed again in B3.a and B3.b.

Example for putting into practice:

There are no unjustified delays or time lags (this can be verified with the charting techniques described in Theory and shown in the appendices).

A2) Project reviews have to be meaningful

The review is a crucial phase indeed in the referral process. It is the phase where decisions about projects potentially affecting fish habitat are made. How an application is examined determines a) whether it will be rejected, approved or conditionally approved, and b) the conditions or recommendations contained in the permit. An interviewee said:

If an environmental review of a project has to be undertaken, it should be undertaken sufficiently carefully and in depth to make the results of it meaningful and valid . . . A review that is on paper but is not technically valid is more dangerous than no review at all. If we are not going to make a meaningful review I'd rather say that instead of sending a letter that the proponent can waive around but has no sense. The environment suffers more.

For a response to be meaningful, then, reviews have to be meaningful, too. They are so if: a) decisions are based on adequate information, b) there is adequate time to review projects, and c) reviews are conducted by qualified people.

A2.a) Decisions have to be based on adequate information

During the review the project is evaluated on the basis of what is known about it, the site, and the potential impacts on fish habitat. The type and quality of information surrounding the proposed undertaking are therefore important for making proper decisions. It is paramount that decisions be based on appropriate and reliable information.

- Information has to be appropriate. 'Appropriate' refers to the *type* of information, and it means relevant and complete. Only the information that is necessary to evaluate the project - and all of it - should be present. Information that is not relevant for making the decision should not be included in the application.

> *Examples for putting into practice:*
>
> *A list of the information required and how to collect it is provided to proponents.*
>
> *Or proponents are encouraged to submit a pre-application.*
>
> *Or, for complex projects, the agency produces terms of reference for gathering information, or reviews the terms proposed by the proponent.*
>
> *If the information presented by proponents is not deemed adequate, then agencies ask for more/different information.*

- Information has to be reliable. 'Reliable' refers to the *quality* of information, and it means that we can trust it and in good faith rely on it. It implies that the source is rigorous, the collection methods are sound, and the findings do not need to be questioned nor verified.

> *Examples for putting into practice:*
>
> *Proponents provide maps at a scale appropriately detailed for the review.*
>
> *Companies have their information prepared by biologists. Biologists are either permanent staff, or hired on contract to perform the task.*
>
> *If it is uncertain whether the information provided by proponents is reliable, reviewers conduct site visits.*

An interviewee said:

How is my staff to know that the information put forward by the proponent is proper? You have to go on site, dive on foreshore areas and see what is there. Otherwise you just rub stamps on papers and you have no idea of what is out there.

A2.b) Time for review has to be adequate

For a review to be meaningful, there should be sufficient time to analyze the information, understand the uncertainties, possibly ask for clarifications, and make a decision. This means that the deadlines for a response should be set accordingly. As someone said:

Sometimes there are attempts to set a maximum of 20 days for reviews but I think all we'll accomplish with that is not a credible, meaningful outcome. Yet, on paper it looks as if the project had been reviewed. It is not good enough to have a piece of paper showing that the project has been reviewed: that review has to be meaningful and credible . . . This means that [among other things] there has to be enough time to do it. We try to comply with the 30 day deadline and most of the time we do it. Sometimes we don't make it but this doesn't bother me if the extra time is spent looking at the project carefully.

Only apparently does this contradict point A1.c, namely that the process has to be timely and therefore its duration should be kept to a minimum. In fact, the two criteria can co-exist: sufficient time should be devoted to applications to allow for a thorough examination; however, thorough reviews should be conducted in a timely manner, without lingering. Both should be avoided: superficial responses prepared quickly because the deadline is unrealistically tight, and responses that take a long time because of bad coordination.

> *Examples for putting into practice:*
>
> *An extension is requested if you feel the deadline set for review does not give*
>
> *you enough time to conduct it thoroughly (the mechanism should allow for*
>
> *changes in the deadlines for projects that need longer to review).*

A2.c) Reviewers have to be qualified

Reviews are conducted by reviewers. The former will not be meaningful if the latter are not qualified for the task. In the view of two interviwees:

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If you hire the right people and give them the right training and guidance, making the right decisions is not an issue.

If we want to have an efficient habitat management we have to set up structures that keep people in the same area for a significant amount of time. The first two years are very much a learning period. The first thing would be to get people who have a demonstrated ability to stay in a job for a while, not people who are going to stay in the job for a couple of years and then leave. Spending time in the field is a very efficient way of spending time at the beginning of a job. There should be an overlap period between positions, between the newcomer and the old person, so that one can teach and the other can learn.

Given a) that the process requires analysis, professional judgment and personal discretion, and b) that these skills are acquired with experience, a good index of qualification is the training received and the experience accumulated.

> *Examples for putting into practice:*
>
> *Reviewers have been trained in the field of the referrals they handle.*
>
> *Or they have experience in the field.*
>
> *Or they are taught the task by their predecessor or someone competent.*
>
> *Or there is a manual that is continuously being revised.*

A3) Permits have to be meaningful

Permits are means of communicating the results of the review to proponents. They are important pieces of paper because they provide input to applicants for what to do next, and act as linkage between the recommendations developed by the government and their application in the field. To be effective, permits (or notifications of rejection of an application) have to: a) be formulated considering the input from all participants in the referral process, b) present their conditions in a consolidated fashion where conflicts are removed, and c) communicate their conditions clearly.

A3.a) All relevant recommendations have to be incorporated

A permit issued without considering the comments of all referees is not representative of the whole spectrum of concerns. As a consequence, it may fail to protect some of the very interests the referral process was set up to protect. Moreover, it may frustrate some participants in the process who feel their contribution is not taken into account.

> *Example for putting into practice:*
> *Your comments are incorporated in the permit, although they may be phrased differently to accommodate other concerns. If they are consistently not incorporated in the permit, send them directly to the proponent and notify the lead agency.*

A3.b) Conditions do not conflict with each other

A permit should clearly explain to proponents what they have to do next. If the permit contains conflicting recommendations, applicants will be confused and the permit will have defeated its purpose.

> *Examples for putting into practice:*
>
> *The conflicts among recommendations are resolved before the permit is issued.*
>
> *There exist criteria or priorities to choose among recommendations, or another system to classify responses according to their level of bindingness.[1]*

A3.c) Conditions are clearly communicated

This entry has already been found in A1.b. The reason for repeating the same concept twice is that it can be used to achieve both sub-objectives: make the process easy for the proponent, and make the permits effective. For a discussion of this entry, please see A1.b.

> *Examples for putting into practice:*
>
> *As in A1.b: The reason for rejecting the application, or the rationale for the conditions in the permit, are explained to proponents.*
>
> *The use of jargon is minimized.*

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[1] See the example provided in the section entitled *Evolution of the referral process*, under the headline 'Standard response forms'.

The sections of law referred to in the response are attached. The full

references of the documents (guidelines, etc.) mentioned in the response are

provided, together with information on where proponents can obtain copies

of them.

There are three other features the interviewees have repeatedly mentioned as lacking but

extremely important in the habitat referral process. These features apply not only to the

habitat referral process, but also to all other processes and mechanisms that are part of the

broad habitat protection system. Since they relate to the whole governance system they are

treated separately.

A4) There has to be compliance

The conditions expressed in the permit have to be implemented in the field. Compliance is

paramount if the habitat protection system has to be effective. It can be detected through

'compliance monitoring".

A5) There has to be enforcement

To ensure compliance there have to be mechanisms to enforce it. These are in the form of incentives and disincentives, of which there exist different kinds. Penalties, as one of the disincentives, have to be available and have to be applied. In most cases enforcement is only possible after compliance monitoring has been conducted. However, as two interviewees pointed out:

Enforcement is a tool that you have to use in certain circumstances; but you don't use it indiscriminately. You cannot get everybody who's breaking the *Fisheries Act*: it's impossible, there are too many.

Personally I consider enforcement a failure of the system because at that point the environment has already been damaged. If you do a meaningful review that provides relevant, valid comments, as a result there are very good chances of preventing that project from becoming an enforcement problem down the road. Enforcement is a far more difficult, costly and draining of resources, and far less certain, than upfront planning, proper design and proper implementation.

A6) There has to be a mechanism for feedback

Collecting feedback is the only way to learn from what is done, and its importance will never be stressed enough. It tells if objectives are being met, and indicates what needs to be

improved. Feedback can come from people, or it can come from the reaction of the environment to human intervention. The latter is gathered through effect monitoring. In the case of the referral process, feedback will say whether the recommendations expressed by the agencies and included in the permit do accomplish what they intend. A few comments on monitoring follow:

Monitoring would be useful to ensure three things: did the proponent clearly understand all the recommendations? Did the proponent's contractors follow them? Were the recommendations effective? We are not omnipotent: we are making our best guesses and these should be tested.

We say 'yes' or 'no' to things and we don't check if they do what we say. Most of the time we don't know what we say. And we never even check if what we say makes sense. We say for example to build a salt marsh. The proponent spends thousands of dollars to build it. Did it work? We never check. But we say the same thing to the next ten proponents.

And an unusual perspective:

Tax-payers have the right to know if proponents do what they are supposed to do.

B) Means of achieving the fundamental objective of minimizing the use of administrative resources and maximizing return

The fundamental objective of efficiency will be achieved if:

1) the process is clear;

2) the process is simple; and

3) the process is timely.

These concepts have already been discussed in objective A from the point of view of the proponent. They are addressed in objective B again, but from the point of view of DFO and the other agencies.

Efficiency will also be achieved if:

4) the process is adaptive; and

5) the process is flexible.

These are features common to all processes within the governance system and not specific to the habitat referral process alone.

B1) The process has to be clear

One of the principal features of an efficient referral process is its clarity. If a process is confusing and ambiguous, some resources (money, time) will likely be wasted by mistakenly taking the wrong route or trying to clarify the confusion.

B1.a) There has to be an established procedure

To avoid this risk, there has to be an established procedure, one that is well known and agreed upon by those who are involved in it. This would help prevent misunderstandings, useless paperwork and delays, contributing to an overall conservation of resources.

It should be clear and unambiguous, for example, what routing each referral should follow. Each time a referral is sent where they are not interested in it, it is a waste of time for both the sender and the recipient, even if it is not responded to. Or each time a relevant referee is by-passed, it can be a big inconvenience for several reasons: the complaints of the neglected referees, or the inclusion of their comments later in the process will create delays; and the fact that their comments may not be incorporated at all may render the final permit ineffective. (The advantages of having an established procedure are discussed further in B3.b.)

The need for an established procedure should be seen in light of what is said in B5 about the flexibility of the process.

Example for putting into practice:

There is a flow chart available showing the procedure/routing of the specific

referrals you are working on.

B2) The process has to be simple

Another principal feature of an efficient referral process is its simplicity. If a process is represented by its start point, its end point and the possible itineraries between them, the quickest way from start to end determines the simplest process. Different processes are graphically shown below:

1.
Start — End

Back-tracking

2.
Start — End

Duplication of efforts

3.
Start — End

4.
Start — End
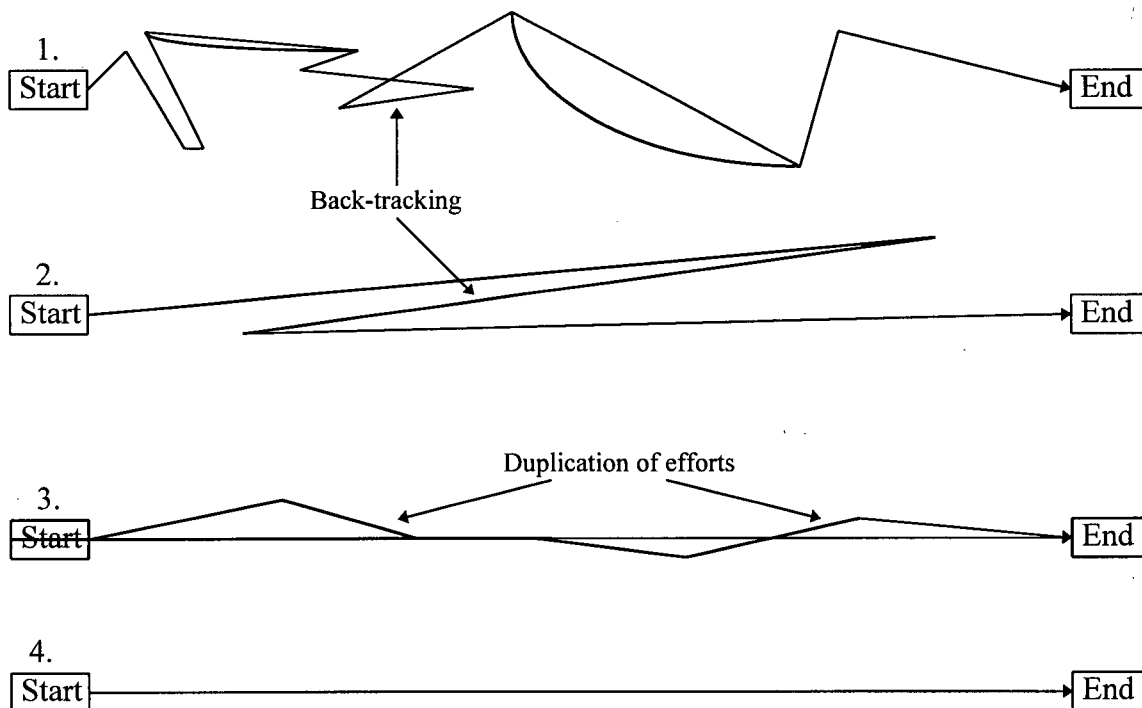
Obviously, the simplest process is number 4, which is the most direct one. Simple processes have no unnecessary a) back tracking and b) duplication of effort.

B2.a) There should be no back-tracking

Back-tracking is returning over the same route, or going back to stages or operations that have already been passed or performed. This should not happen. There are exceptions to this: at times returning to previous stages is inevitable. But these cases should be carefully pondered before deciding that they are acceptable. More normally, every time a stage in the process is touched, all activities that can be performed in that stage should be completed so that there will be no need to go back to it.

For instance: at the preparation of information stage, when proponents gather and present the information required by the reviewers, *all* the information needed should be requested. The government should not return to proponents later with a request for more information because they had not thought of it earlier, unless this is due to new events. There should be more use of planning and coordination, leading to one agency requesting at once *all* the information that is needed, even that needed by other agencies. Thus, applicants will not have to repeat the same operation of collecting information. The same applies to responses: the response given to proponents should have been designed carefully. It would certainly be a failure if the response given had to be replaced by a different one because of new elements that had not been considered earlier (this will be called 'operational' back-tracking).

Another example is the routing of a referral. A referral can arrive twice on the same desk only if there is a good reason: there should be value added at both stops, and the two stops cannot be condensed into one (this will be called 'spatial' back-tracking).

Back-tracking can be identified and corrected with the use of charting techniques. They have been described in the *Theory* section. The removal of back-tracking from the process requires considerable coordination and other features that will be discussed in B2.b below.

> *Examples for putting into practice:*
>
> *Proponents are encouraged to submit FREMP-like pre-applications.*
>
> *Or information checklists are available.*
>
> *Or the lead agency supplies or reviews the terms of reference for collecting information before the study starts.*

Consider what a practitioner said:

We have promoted the pre-application discussions with the proponents. We encourage them to talk to the Environmental Review Committee before they submit their application to make sure that their application is complete. When this is done we always get much better information.

B2.b) There should be no duplication of effort

Every time the *same* task is performed by more than one person or agency, there is duplication of efforts. Like back-tracking, it can be a waste of resources, unless the same task is performed by two parties, but they tackle it from different angles. In this case there has to be an excellent coordination and a very clear division of responsibilities.

In the habitat referral process an example of duplicated effort is site visits conducted by both federal and provincial fisheries personnel (DFO Habitat Management and MOE Fish and Wildlife). They may both go to the same site and both look at fish and habitat, but the focus is on different species. DFO's is anadromous fish; MOE's is freshwater fish. They would both be better off if they looked after each other's species and divided their jurisdiction geographically. It would therefore take one visit by one representative of either agency to take care of the interests of both.

Duplication of effort and back-tracking can be avoided by using coordination and a clear division of responsibilities.

- *There has to be coordination.* Intra- and inter-agency coordination is paramount to avoid both back-tracking and duplication of effort.

- *There has to be a clear division of responsibilities.* Duplication of efforts may happen because of three main reasons: mandates are overlapping, there is confusion on who is

responsible for what, and it is not known what the other parties are doing. A clear division of responsibilities, proposed and agreed upon by the parties involved, may overcome the problem of overlapping mandates and confusion about who should perform certain tasks.

Examples for putting into practice, common to coordination and clear division of responsibilities:

There are Memoranda of Understanding, harmonization agreements, or other formal or informal arrangements with other agencies/branches.

- *There has to be communication among parties.* Good communication among parties may solve the problem of not knowing what the others are doing.

Example for putting into practice:

There are periodic meetings with other agencies/branches to discuss about issues.

- *There has to be an effort towards single-window approaches.* Reviews of the same application should be conducted jointly with one or more other agencies, so to reduce the number of agencies that interact directly with proponents. This would avoid or decrease the number of duplicate reviews.

Example for putting into practice:

There are arrangements with other agencies/branches to conduct joint

reviews or to delegate tasks.

There are geographic partnerships.

B3) The process has to be timely

Another main feature of an efficient referral process is its timeliness. Processes are timely

when there are: a) fast communication, and b) prompt decision-making.

B3.a) Communication has to be fast

Communication plays a dominant role in all phases of the referral process. It is used to

transmit various types of messages: intentions, information, requests, decisions, etc. In fact,

the whole referral process can be seen as a communication flow: a proponent submits an

application for a permit (he declares his intentions), the government asks for data about the

project (it expresses a request), the proponent provides data (he supplies information),

applications are referred to other agencies (information is conveyed to other reviewers),

responses are sent to the lead agency (referees transmit their comments), a permit is issued

(the government communicates its conclusions to the proponent).

Thus, given its dominant role, it is extremely important that communication be smooth and fast. There are a few devices that can be used for this purpose: standard forms and technology.

- Standard forms have to be employed as much as possible. Pre-prepared forms should be used whenever possible to alleviate the workload. They can be devised for various stages of the communication flow: application forms, requests for information, referral forms, response forms, permit forms. Standard forms take care of routine projects and communications. They can drastically reduce the paper work and save time, thus freeing up resources to handle non-routine issues. Practitioners seem to agree:

Crown Lands has streamlined its forms. "No objection", "approval with the following conditions"... It made it a lot easier to respond. We don't have to write a whole letter: we just fill in their form, photocopy it, put the copy in our file and send their copy to them.

> *Examples for putting into practice:*
>
> *Standard application forms, requests for information, referral forms,*
>
> *response forms (from referees), and permit forms are all available and*
>
> *employed.*

- Communications cannot be procrastinated. If something needs to be communicated, it should be done immediately without postponing it to later.

- Technology has to be employed as much as possible. Today's bureaucracy can benefit

from technology that was not available in the past. If used wisely, it can tremendously ease

and speed up communication.

> *Examples for putting into practice:*
>
> *The available technology (telephone, fax-simile, computer elaborations and*
>
> *electronic mail) is used whenever current communications channels would*
>
> *benefit from the use of it. Of course, not all type of messages can be*
>
> *communicated with these devices (large maps, etc. cannot be transmitted via*
>
> *fax or e-mail, for example).*

B3.b) Decision-making has to be prompt

Decision-making plays the other dominant role in the referral process. The mechanism is

not just a flow of communications, it is also a genesis of decisions. At various stages,

explicit or implicit decisions are made. Examples of explicit decisions are: the referees

formulate comments and conditions on the applications, and the lead agency issues a permit

or a rejection to the applicant. Examples of implicit decisions are: the lead agency selects

the referees that will review the application, the referees decide whether or not they will

respond to referrals, the reviewers determine whether they need more information about the

project and whether they should personally visit the site. Since decision points are

profusely disseminated in the referral mechanism, decisions should be prompt so that the

whole process is not slowed down. Some tricks to expedite decisions are: having a

standardized procedure and being familiar with it, using standards and guidelines, and having a priority system.

- There has to be a known standardized procedure. Having a standard procedure means that it can be followed mechanically, without having to re-develop a new strategy every time. This can relieve the process of a multitude of small decisions, as they are made routine. For instance, if there is an established procedure the lead agency will not have to re-select the referees again and again. (Other advantages of having an established procedure are discussed in B1.a.)

Example for putting into practice:

As in B1.a: There is a flow chart available showing the procedure/routing of the specific referrals you are working on.

- There has to be use of standards and guidelines. Standards and guidelines also ease decision-making. They do so by providing the criteria to make a decision. They can help referees formulate comments on applications, lead agency issue permits; reviewers determine whether they need more data.

Example for putting into practice:

Standards and guidelines are available.

Reviewers rely on standards and guidelines when deciding on applications.

- There has to be a priority system. Decisions are easier if priorities are clear, as the latter provide criteria for decision-making. Knowing what the priorities are allows decision-making without too much pondering. For example, it would be immediately clear to the referees which referrals have to be responded to and which one can be deferred, without having to decide on each individual one.

> *Example for putting into practice:*
>
> *There is a 'triage' approach: referrals are classified according to their urgency. (For example: those that have to be responded to as soon as possible, those that are responded to only if there is time, those that do not need to be responded to.)*

The next two features apply to the habitat referral process as well as to the entire governance system.

B4) The process has to be adaptive

By definition, an open system has to be adaptive. This means that it has to adjust to changes within itself and in its external environment. Changes are inevitable: they may be intentionally induced - such as the development of new legislation or the introduction of

new technology - or they may just occur - such as unpredictable changes in the natural environment, or new information becoming available. A productive process has to adapt to the altered conditions, tailoring itself to new circumstances. It then becomes a learning process. In the case of the referral process adaptiveness can mean incorporating the feedback received from effect monitoring, and formulating recommendations that reflect the new knowledge.

B5) The process has to be flexible

The system has to be able to address atypical issues that need to be handled with non-standard procedures. As the Auditor General of Canada puts it, "the strength of organizations lies partly in their ability to "routinize" what should be routinized. However, it also lies in their ability to deal with problems that are beyond routine, for which people must create new solutions. The extent to which an organization is able to deal successfully with unusual problems through innovation and flexibility is a measure of this strength."[2] Of course, what is here said about organizations can be extended to processes. In the case of the referral process this feature means that besides established procedures as those described here in A1.a (e.g., standard routings of referrals), there should be openness to new, creative ways of reviewing those applications that do not lend themselves to being handled in the orthodox fashion.

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[2] Auditor General of Canada. Attributes of Well-Performing Organizations. In: *Report of the Auditor General of Canada*. Fiscal Year Ended March 1988. Ottawa, 1989, par. 4.49.

CONCLUSIONS ON THE SET OF CRITERIA

Most of the criteria described may sound obvious. However, the purpose of this study was not so much to conceive of new and unusual criteria but more to gather them together, obvious ones and subtle ones, and organize them in a useful framework.

The set of criteria to assess the productivity of the referral process has two important characteristics: 1) it is a collection of features likely to indicate when a process is effective and efficient, and 2) it can identify the causes of poor productivity through the absence of one or more features in the referral process under review. The discussion of the criteria offers examples of how one can be sure that the criteria are met. These examples (and others can be found by the user of the tool) are also potential solutions to the problems identified in the review.

The set of criteria should be used as a checklist. Reviewers of referral systems should systematically go through the criteria and determine how the system they are reviewing performs on each of them. This should be done in light of the warning contained in the *Preamble*, namely, that *the set of criteria is simply a list of characteristics that need to be checked, not all of which must always be present.*

Reviewers should focus on those criteria that are not met by the referral system. If there are good reasons why the system does not present those features, and their absence does not affect the performance of the process then they need no further attention. (Here is where personal judgment comes into play, as mentioned in the *Preamble*, as reviewers will base their decisions on their own set of values.) Conversely, those features that are unjustifiably absent and whose absence reduces the productivity of the process merit attention as they identify problems. By addressing those missing features, reviewers work on solving the problems.

Chapter 7. <u>CONCLUSIONS</u>

CONTEXT OF THE HABITAT REFERRAL PROCESS: THE GOVERNANCE SYSTEM

It is time for a quick review of the argument so far.

1) It has been said that the evolution of the referral process has paralleled the evolution of the governance system, and that the referral process is part of a much broader system (in *Evolution of the referral process*).

2) It has been suggested that the solution to the problems of the habitat referral process is to review fewer applications and increase the quality of the service offered (in *Framework for assessing the productivity of the habitat referral process*).

3) It has been professed that a set of criteria be utilized to assess the productivity of the habitat referral process (in *Criteria for Assessing the Productivity of the Habitat Referral Process*).

But how do these three ideas come together? It is time to revisit the context for the habitat referral process.

Clearly, if the referral process is clogged, ways to alleviate the workload have to be found. Reducing the number of referrals that enter the process sounds like a good idea. Increasing the performance of the process for those applications that are still reviewed through this mechanism also sounds like a good idea. But what happens to those projects that are no longer reviewed through the referral process?

To achieve the objective of fish habitat protection it is necessary that all projects potentially affecting habitat be identified and appropriately responded to. Projects that are ignored or go undetected should not exist. Thus, the projects that are not reviewed through the referral process - as the referral process tends towards handling fewer and fewer of them - have to be addressed somewhere else in the governance system. Since the responsibility for the projects that may affect habitat is a shared one, to improve the productivity of the referral process we have to rely on people and the other mechanisms in the system to cooperate and accept their share of the task. The various mechanisms that together constitute the governance system have already been introduced and are represented in figure 8 (chapter 3). An example of coordination among different habitat protection processes is shown in figure 9. It illustrates how re-arranging the system can reduce the emphasis on referrals.

(i) CONVENTIONAL APPROACH

OCP → Zoning Bylaws → Development Proposals → REFERRALS

(ii) IMPROVED APPROACH

Community Watershed Guidelines

Land Development Guidelines

OCP

Environmentally Sensitive Areas (ESA) Studies

Zoning and Environmental Bylaws including:
Density Bonuses
Development Permit Areas
Comprehensive Development Areas
Conservation Zones

Development Proposals

Shared Database and Resource Mapping
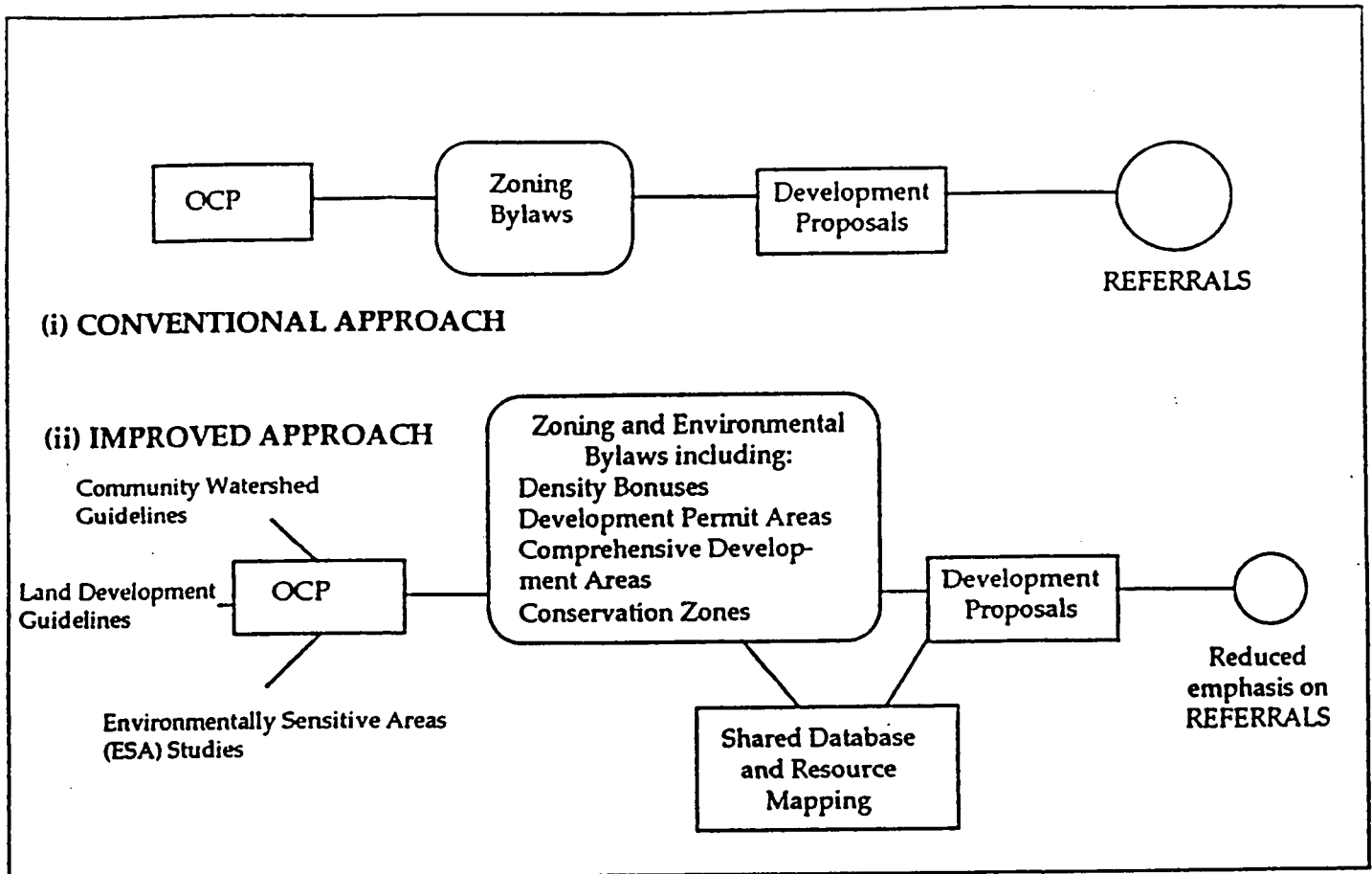
Reduced emphasis on REFERRALS

Figure 9. Example of coordination among different habitat protection processes. (From: Dovetail Consulting 1994, 7.)

What follows is a brief description of the processes and mechanisms that, together with referrals, constitute the emerging governance system. This summary, albeit fast and concise, will prove useful to practitioners who intend to improve the performance of the referral process. When they review a specific referral process they should be able to determine 1) whether they would be better off having it abolished and those projects

reviewed through other mechanisms, or 2) whether it should stay as a referral process *per se*. In this second case, they can then move on to improving the referral process itself. To do so they need to apply the criteria that are developed in the previous section.

Some mechanisms have already been touched upon in other sections of the thesis, and the reader is referred to those section for further discussion.

Guidelines

(Also discussed in *Evolution of the referral process* and in *Administrative and regulatory context.*)

Guidelines can drastically reduce the number of referrals at the origin: since they clearly prescribe what is acceptable and how undertakings should proceed, fewer projects have to be referred to the various agencies for comments. In this case the protection of fish habitat is ensured not through project reviews, but through making the allowable terms of construction and operation clearly available, and therefore avoiding reviews. Only non-standard projects, some of whose aspects are not covered by the guidelines, would still have to be individually reviewed.

Task forces and committees

(Also discussed in *Evolution of the referral process.*)

Complex projects or issues, because of their nature, cannot be decided upon only with the aid of guidelines. Nor can they be reviewed by only one person. They need a thorough

review, often with different experts working side by side. Committees are permanent, created to deal with recurring issues of the same nature. Task forces are usually temporary, their existence being contingent on the solution of a particular issue. They are often created to make decisions or formulate recommendations in conflict situations.

Special project review processes

These are review processes with a well-defined procedure. They are tailored to investigate specific types of projects. They are 'permanent', in the sense that the procedure is established and is triggered each time a project of a certain nature is proposed. However, they can be dormant for a long time if no development is being propounded. They are usually in three stages. Typically, in the first stage either the application submitted by the proponent is rejected or it is recommended that further investigation should be undertaken. In the second stage, the projects that were not rejected undergo a complete review and may be referred to public hearings. In the third stage the project is definitively approved or rejected. Throughout the process, several intermediate phases intervene: committees can be called to prepare the terms of reference for a complete review, panels can be formed to conduct the assessment, and different paths can be taken depending on the results of previous stages. Two kinds of special project review processes come to mind: the Environmental Assessment and the Mine Development Review Processes. The first has been extensively discussed in *Administrative and regulatory context* and has general applicability. The latter is specific for mine projects and is a process exclusively provincial.

Small area plans: e.g., official community plans and zoning by-laws

Protection of fish habitat starts at the municipal level. Official Community Plans (OCPs) and zoning by-laws are used by local governments as a guide for land use decisions in the area covered by the plan. OCPs set the goals and objectives of the community, and the terms of reference for land use decisions. They identify which areas of the municipality will be used for commercial, industrial, institutional, residential, recreational or conservation purposes. OCPs can incorporate Development Permit Areas, Environmentally Sensitive Areas, and Comprehensive Development Areas.

Zoning by-laws regulate the present use of the land. They specify the land uses that are permitted in the areas identified by the OCPs, dividing the areas in zones and providing for their more detailed planning. They determine, for example, what types of industry, and of what size, are allowed in the industrial areas.

Together, OCPs and by-laws set the terms for land use. They do not waive, however, the requirement that the necessary permits be obtained. Before proceeding with a project, it is the applicant's responsibility to acquire those permits.

Other Integrated Resource Planning initiatives: e.g., larger area plans

Beside OCPs there are other, larger-scale, forms of Integrated Resource Planning: some of them are (to list only a few, and from the smaller- to the larger-scale ones): Local Resources Use Plans (LRUPs), Land and Resource Management Plans (LRMPs), and the

B.C. Commission on Resources and Environment (CORE). There are many others. Some that are not listed here are mono-resource-driven (for example smaller- and larger-scale forestry plans). Those listed are efforts to manage all the resources collectively. The different landlords and owners of the resources (federal, provincial, local and First Nations) participate together in planning and decision-making. Area plans are attempts to solve conflict at the origin and set the terms for land and resource use. The fate of fish habitat, of course, is determined also at these early stages.

Single-window systems

(Also discussed in *Evolution of the referral process.*)

Some sophisticated forms of area plan are BIEAP and FREMP. Now others are being considered or organized, stimulated by the success of the first two. They are flourishing attempts to provide single-window access to the permitting-licensing-leasing process, and at the same time to consider the cumulative impact of development on the area. These programs rely on area designation. The possible uses of the areas are decided in advance according to various considerations, of which ecology is certainly one. It is conceptually and visually easy to determine whether projects will be allowed just on the basis of the colour code assigned to the areas: red, yellow and green. Needless to say, area designation limits the number of projects that enter the process for review. Smaller-scale areas at times planned in the same fashion are harbours. Harbour Commissions are authorities in charge of managing well-defined areas, and often offer single-window access to the users.

CONCLUDING REMARKS

Summary

Although referrals have been the main activity in which the Habitat Management Sector of DFO is involved, they are not the only mechanism available to protect fish habitat. In fact fish habitat can be protected by means of the many other mechanisms and processes that together constitute the governance system described above. The Department has been involved in some of these processes for quite some time (task forces, committees and single-window systems, for example) and has recently started to enter more comprehensive and proactive planning processes (e.g., Integrated Resources Planning and Official Community Plans). The trend towards more involvement in planning exercises for DFO and other agencies traditionally "fond of referrals" is very clear: all interviewees have advocated a change in this direction and some examples where this has been implemented can already be found (round tables and management plans where DFO is one of the participants).

DFO's involvement in upfront planning will reduce the number of projects the Department will need to review through the referral mechanism and will therefore reduce the overall number of referrals entering the process. This - the reduction of the number of referrals - is the first step in improving the productivity of the referral mechanism.

The second step in improving the productivity of the referral process is to increase the effectiveness and efficiency of the referrals that will still exist after engaging in more upfront planning. The important point here is that *there is an observable trend and a declared intention to reduce the number of referrals, yet referrals will not disappear*, as certain projects do not lend themselves to be addressed in any way other than the referral mechanism. As the Habitat Vision Document describes (DFO 1994, 11), in the future

> the referral system as we know it today will not exist. Through agreements and the application of specific guidelines and regulations most projects will be addressed at lower levels of government. There will always be projects which DFO will have to review. These include projects that require compensation (hence authorizations), are contentious or technically complex, or politically sensitive. The responsibility for reviewing these projects will be borne largely by our [DFO] field staff, supported (to the extent possible) by [Regional Headquarters] staff, Science staff or private sector consultants. The types of projects that are likely to be included in this category are mine developments, pulpmills, hydro facilities, major linear developments, foreshore and port developments and some urban developments. It will also include very small projects that require an authorization and compensation agreement before they can proceed with certainty. In general, it will mean [DFO] will no longer be reviewing projects in the forestry sector or urban developments unless variances from the guidelines are proposed that would require an authorization.

The tool presented in this thesis has been developed to improve the productivity of these 'survivor' referrals. It has several strengths:

First of all the tool is an organized collection of criteria to assess the productivity of referral processes. Only few criteria are subtle and new; most of them are obvious, straightforward and other people had thought of them before, at least in other contexts. But never before have they been gathered together, divided according to efficiency and effectiveness and organized in a means-ends framework.

Secondly, the tool is like a checklist or a handbook and is very easy to use. The criteria are features for which referral processes have to be checked.

Thirdly, the set of criteria is a tool to 1) assess whether referral processes are productive, 2) identify where the problems are, and 3) find solutions to the existing weaknesses. In other words, not only does it identify which referral processes work well as they are, and which ones should be allocated attention and resources because they need improvement: it also indicates how to improve the latter.

Fourthly, the set of criteria provides practitioners with an evaluation tool and therefore enables them to evaluate the referral processes in which they are involved. This thesis does not evaluate their referral processes for them. It does much more: it gives them the tool to do it themselves repeatedly and independently. The only requirement for use of the tool is to be familiar with the referral mechanism under review or have access to data and people who are knowledgeable about it.

Finally, these criteria for assessing the productivity of the habitat referral process have validity beyond the habitat referral process itself. By substituting objective A 'Protection of Fish Habitat' with the mandate of other agencies (protection of migratory birds, protection of navigable water, etc.) the criteria developed for the habitat referral system can be applied to other referral systems (i.e., used by other agencies to assess the referral process in which they participate).

Planning implications

The implications of this thesis are at two levels. First, there are implications at the governance system level. Since 1) improving the productivity of referral processes will involve reducing the number of referrals and 2) the projects that are not addressed in the referral mechanism have to be addressed in other processes of the governance system, an important consequence of improving the productivity of the referral process is that the rest of the governance system has to adjust to a different division of responsibilities. Ultimately, by improving the performance of the referral mechanism the productivity of the entire governance system will be improved.

Secondly, the tool developed in this thesis has implications for the actual performance improvement procedure. Bennett concludes his article *Work Smarter, Not Harder* with a plea (1993, 46):

> There is only one response to the question, "*When* should the search for improvement occur?" and that is, "On a *continuing* basis, of course." The response is the endless retort, "I'd do it, if I could only find the time." Chances are slim in today's hurried world in which most people are performing assigned tasks that any individual will find the time demanded by the search for a better way. What is required is that the individual *make* time. Interestingly, one sure way of gaining the luxury of "loosening up" the constraints of time is to find ways to save time through effective problem-solving practices and techniques capable of eliminating, combining or simplifying elements of work previously thought to be immutable.

The set of criteria developed in this thesis contributes to the "search for a better way". In particular, it helps reviewers of the referral process to identify problems and possible solutions. By providing a framework and a set of criteria for performance assessment, this study allows reviewers to dive into designing and applying the appropriate solutions without spending time on the preliminary phases.

Recommendations

Three logical next steps are recommended:

1) ask people involved in the habitat referral process to review the tool;

2) conduct a pilot implementation of the tool to test its applicability and usefulness; and

3) prepare a final and ready-to-use version of the chart and the set of criteria.

In a sense, by recommending to conduct a pilot implementation and to test the tool on a case study - the habitat referral process - it is recommended to adopt the adaptive management approach. According to this approach management strategies can evolve as the knowledge and experience of the *manager* evolves; management strategies are continuously tested and refined and are seen as dynamic entities rather than static; the effects of management strategies are treasured as necessary feedback; and failures are opportunities to learn rather than something to avoid at any cost. The author of this thesis stresses the importance of learning from the implementation of the tool on the case study, and of limiting the application of an untested tool to a case study before making it available to other referral processes.

The key element to the improvement and implementation of the tool are the people involved in referrals, in particular - given the case study - people in the Habitat

Management Sectors of the DFO Pacific Divisions and people from other agencies involved with DFO in the habitat referral process (MOE, DOE, etc.) They have a knowledge and experience of the referral process that is unsurpassed and upon which it is wise to capitalize. Nothing can replace the direct experience that comes from handling referrals every day, in all circumstances and from inside the system. People involved in referrals are the only ones who can rightly determine whether this tool is useful and how to improve it.

The first steps in implementing the recommendations would be to contact people in Habitat Management at DFO or their counterparts in the provincial government, to submit and explain the tool to them, and to gather their comments. Their comments should be sought on the framework and the set of criteria with the objective of refining and improving them. In particular, they may have criteria to add and some to remove, or they may suggest different examples of how to put the criteria into practice. Once a refined chart of criteria has been prepared, the pilot implementation can be conducted. This phase should be undertaken working side by side with those same people and observing all they do: their activities, the materials they use, the people they contact, etc. Many questions should be asked and answers sought. Only by working in close contact with practitioners can someone test the tool and tailor it to those who will have to use it. At this early stage of development of the tool, it will be helpful to have a knowledgeable and independent analyst carry out the pilot test.

Following the pilot test, a revised, final and ready-to-use tool would be prepared. Once this is available to practitioners they will be able to evaluate all the referral systems in which they are involved: foreshore lease referrals, navigable waters referrals, urban referrals, linear development referrals, etc. By checking these referral systems for the features on the chart of criteria, practitioners will have a sense of which ones need more improvement than others (those that meet only few criteria as opposed to those that meet almost all criteria). This will allow them to set priorities and to allocate their attention and resources where improvement is most needed and urgent.

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APPENDICES

APPENDIX A

PEOPLE INTERVIEWED
(in alphabetical order within agencies)

<u>DFO Headquarters</u>

1. Mike Flynn - Acting Head, Water Quality Unit, Habitat Management Sector
2. John Payne - Head, Habitat Conservation Unit, Habitat Management Sector
3. Gordon Ennis - Chief, Habitat Management Sector, Eastern B.C. Division

<u>DFO Area Offices</u>

4. Rick Higgins - Chief, Habitat Management Sector, South Coast Division
5. Dale Paterson - Chief, Habitat Management Sector, Fraser River Division
6. Les Powell - Chief, Habitat Management Sector, North Coast Division
7. Al von Finster - Chief, Habitat Management Sector, Northern B.C. & Yukon Division

<u>DOE, Environmental Conservation Branch</u>

8. Adrian Duncan - Coordinator and reference liaison, Environmental Assessment Division
9. John Millen - Head, Environmental Assessment Division
10. Steve Sheehan - Mining review process, Environmental Assessment Division

<u>DOE, Environmental Protection Branch</u>

11. Mike Nassichuk - Acting Manager, Pollution Abatement Division
12. Martin Pomeroy - Head, Industrial Programs Section, Pollution Abatement Division
13. Bob Shepherd - Head, Waste Management Section, Pollution Abatement Division
14. Michael Wan - Scientist, Commercial Chemicals Division

<u>MOELP</u>

15. Geoff Chislett - Head, Resource Impacts Unit, Integrated Management Branch, Victoria
16. Brian Clark - Manager, Planning & Assessment, Lower Mainland Region and
     Program Manager of BIEAP

<u>FEARO</u>

17. John Mathers - Operations Manager

<u>Non-government</u>

18. John Werring - Biologist, Salmon Habitat Protection Project, Vancouver

APPENDIX B

INTERVIEW QUESTIONS

How the current system functions:

Which agency administers what kinds of referrals (what kind of referrals does that particular agency handle)?

What leads agencies to initiate referrals (a development proposal, other)?

What is the routing of a referral: from what agency does DFO receive it, to what agency does DFO give it, what other steps does it go through? (For each kind of referral which DFO handles, we want to build a chart showing the routing.)

How is the agency organized (centralized/decentralized)?

At what level of the organization are decisions made?

Within the agency, who deal with referrals and what is their level of authority (technician, senior staff...) ?

What is the agency approach: are the staff handling referrals specialists or generalists? What is good and bad about it?

How much time is devoted to referrals?

Has your division ever commissioned or attempted itself an evaluation of the referral system? If yes, were the proponents consulted (were they asked if they were happy with the referral system?). If yes, were any changes introduced on the basis of the results of the evaluation?

What works and what does not work in the existing referral system:

Is your branch able to respond to all referrals addressed to them? How has this changed in recent time?

Do all projects potentially affecting fish habitat come to your branch attention? Do some projects go unreported, therefore not receiving the benefits of the recommendations?

Are there gaps in the transmission of information or problems with communication in general? Is the information provided to DFO, and according to which DFO issues referrals, reliable? Does DFO address the real issues in referrals or it is not in a position to do so because of false or incomplete information?

Whose responsibility is to provide information? What guidance is there for people who have to provide info?

How adequate is the information based on which DFO makes decisions? How much site-specific information is usually available about projects and resources?

What are the criteria for making the decisions? Are there guidelines or standards?

To what extent is the referral system discretionary, based on the staff best judgment?

Does the referral system consider cumulative impact?

To what extent are DFO recommendations adhered to? Does the permit issued to the proponent reflect DFO recommendations correctly? Is something missing or intentionally changed during the transmission?

If recommendations were not incorporated in the final decision, what prevented it?

Do monitoring and follow-up site visits ever take place after permits have been issued? Is there a mechanism allowing DFO to assess the efficacy of its recommendations for the protection and management of fish habitat?

Are the objectives of DFO, other agencies, and DFO staff met in the referral system?

What is good and what is bad about having specialist or generalist staff?

Objectives

As far as you know, what are the fundamental objectives of the agency requesting or issuing referrals (what is the purpose of the referral)?

What are your branch/directorate objectives when issuing referrals? (From the organization point of view)

How good is the existing referral system at achieving these objective? Give answers on a 1-7 scale

What are your own objectives as far as the referral system is concerned? (From your own personal point of view)

How good is the existing referral system at achieving these objective? Give answers on a 1-7 scale

As far as you know, does your staff (the person who handles referrals) have different objectives?

To elicit objectives (something desirable to achieve):

What are you trying to achieve with the referral process for fish habitat?

What do you like or dislike about the existing referral system (captures values, objectives and measures).

Scenario of disaster or great success (to find out what is good and bad about the referral system).

How did they deal with this problem in the past?

What should be changed:

Is the time allocated to referrals well spent? Could the same amount of time be used differently and more effectively to protect and manage fish habitat?

What does the interviewee think the issues are?

What would be a good alternative system?

NAVIGABLE WATERS PROTECTION ACT
LETTER OF APPLICATION

'AVIGABLE WATERS
CANADIAN COAST GUARD
Suite 620 - 800 Burrard Street
Vancouver, B.C.
V6Z 2J8   (604) 631-3730

NWPA FILE NO: _____

Owner of the Works

Name: _____

Address: _____

_____

_____

Business phone: _____

Residence phone: _____

Owner's Representative

Name: _____

Address: _____

_____

_____

Business phone: _____

Residence phone: _____

"Works" are in the navigable waters of: _____ (name of waterway)

Legal description of land works are in or fronting on: _____

Local address of works (number, street, road, etc.): _____

he work is: ____ proposed ___ existing ___ proposed & existing

Proposed "works" will consist of: _____

Existing "works":   Approved?   ____Yes ____No   NWPA file number:_____

Consist of: _____ _____ _____

Marine chart number: _____ Topographical map number _____

Other file numbers: _____
                        (provincial, fisheries, environmental, Crown Lands, lease, etc.)

Remarks: _____

_____

CHECK LIST

____ All works shown
____ Dimensions (scale)
____ High & Low water marks
____ Waterlot lease boundaries
____ Markers (buoy/light/sign)
____ Anchor systems
____ Navigational clearances

Name (*please print*):_____

Signature: _____

Title: _____

Date: _____ _____

(PLEASE ENCLOSE <u>12</u> COPIES OF THE PLAN WITH YOUR APPLICATION)

<u>ENVIRONMENTAL INFORMATION SHEET</u>

...MPLE... AND ACCURATE INFORMATION PROVIDED HEREIN IS <u>ESSENTIAL</u> FOR THE PROCESSING
THE ENVIR... 'MENTAL ASSESSMENT REQUIRED AS PART OF THE NWPA APPROVAL PROCEDURE

JF ?PLICATION WILL BE ON HOLD UNTIL WE RECEIVE YOUR COMPLETED ENVIRONMENTAL
Oh...ATION SHEET.

BE COMPLETED BY THE OWNER OF THE WORK

= NO: _____

?LICANT: _____

)RESS: _____

5CRIPTION OF WORK: _____

TERWAY: _____

You intend to build/modify _____
                                        (identify work)

What is the purpose of the work? _____

Name of waterway _____

What is the minimum width of the waterway at your location? _____

Is the water level controlled on your waterway   ☐ Yes   ☐ No

If yes, by what agency _____

Is your waterway subject to tides   ☐ Yes   ☐ No

What is the approximate rate of the current————————knots or

                                                                    ☐ Slow

                                                                    ☐ Medium

                                                                    ☐ Fast

Are you the owner of the upland property that the work is fronting?

                                                        ☐ Yes   ☐ No

If no, who is the owner? _____

Are there marine facilities adjacent to the works being applied for?

                                                        ☐ Yes   ☐ No

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CONSTRUCTION OF WORK

1   uild your work will construction entail:

1) Site Survey	☐ Yes	☐ No
2) Soil/hydrological testing	☐ Yes	☐ No
3) Environmental study	☐ Yes	☐ No
4) Site clearing	☐ Yes	☐ No
5) Excavation/dredging/trenching	☐ Yes	☐ No
6) Waste disposal	☐ Yes	☐ No
7) Dumping (Fill)	☐ Yes	☐ No
8) Water course diversion/channelling	☐ Yes	☐ No
9) Blasting/drilling	☐ Yes	☐ No
10) Erosion control	☐ Yes	☐ No
11) Silting control	☐ Yes	☐ No
12) Temporary structures	☐ Yes	☐ No
13) Removal of structures	☐ Yes	☐ No

sε `any toxic materials. Please list:

_____

_____

ιpe of preservatives:

NIL ☐   Or _____

HAS THE APPLICATION BEEN SUPPORTED WITH RELEVANT DATA OR STUDY RESULTS ON THE FOLLOWING ENVIRONMENTAL COMPONENTS?

1) Water Quality	☐ Yes	☐ No
2) Waterflow/current/littoral drift	☐ Yes	☐ No
3) Aquatic plants/animals	☐ Yes	☐ No
4) Migratory birds	☐ Yes	☐ No
5) Migratory routes of aquatic animals/birds	☐ Yes	☐ No
6) Shoreline plants/animals	☐ Yes	☐ No

7) Wetlands   ☐ Yes   ☐ No

8) Aesthetic features (scenery/noise)   ☐ Yes   ☐ No

9) Water use   ☐ Yes   ☐ No

10) Historical features   ☐ Yes   ☐ No

11) Underwater archaeology
    (Vessel with historic significance)   ☐ Yes   ☐ No

12) Lifestyle/health/or well being   ☐ Yes   ☐ No

CONSTRUCTION SCHEDULE

You intend to commence work on   _____
                                     (Year/Month/Day)

You intend to complete work on   _____ _____
                                     (Year/Month/Day)

**Type of equipment to be used. If vessels are to be used, please identify by type, dimensions, name
and/or registry number:**

_____

_____

CERTIFICATION

I hereby certify that the information provided herewith is complete and accurate to the best of my knowledge.

_____   _____
      Owner's name   or   Owner's Representative

_____   _____
      Signature   Signature

Address/Telephone Number:
(If it is different from letter of Application)

_____

_____

_____

Province of British Columbia	Ministry of Crown Lands	**APPLICATION FOR CROWN LAND**

PLEASE PRINT
INDIVIDUAL(S) —
PROVIDE NAME(S)
FULL

*INDICATE
JOINT TENANCY
OR TENANCY
IN COMMON ►

JOINT TENANTS ☐
TENANTS IN COMMON ☐

OR COMPANY NAME

ADDRESS
(*PROVIDE
BOTH STREET
AND MAILING) ►

APT NO	STREET NO	STREET	POST OFFICE BOX NUMBER
CITY - TOWN		PROVINCE	POSTAL CODE

HOME TELEPHONE	BUSINESS TELEPHONE	COMPANY INCORPORATION NO	NON-REFUNDABLE APPLICATION FEE ENCLOSED ☐

AGE - 19 YRS OR OVER	YES ☐ NO ☐	CANADIAN CITIZEN	YES ☐ NO ☐	PERMANENT RESIDENT OF CANADA	YES ☐ NO ☐	DATE STAMP

LOCATION ► OF CROWN LAND

AREA - HECTARES

RECEIVED

B.C. LANDS
Vancouver Island Region

DESCRIPTION ►

☐ SURVEYED
GIVE LEGAL
DESCRIPTION

OR

☐ UNSURVEYED
GIVE METES
AND BOUNDS
DESCRIPTION

DATE LAND STAKED
AS PER FORM 1

* NOTE ► 1. ATTACH OUTLINE OF INTENDED DEVELOPMENT 2. ATTACH A SKETCH MAP OF AREA

INTENDED LAND USE AND PERIOD REQUIRED

ANY OTHER CROWN LAND HELD
BY APPLICANT OR SPOUSE

☐ YES ☐ NO

IF YES
STATE TYPE
AND TENURE

I HEREBY CERTIFY THAT ALL INFORMATION GIVEN IN THIS APPLICATION FOR CROWN LAND IS TRUE AND CORRECT AND THAT I AM AN AUTHORIZED AGENT / SIGNATORY (IF COMPANY).

APPLICANT —
SIGNATURE(S)

DATE _____ OCCUPATION (IF INDIVIDUAL(S)) _____

―――――― FOR OFFICE USE ONLY ――――――

DATE APP. REC'D	YR.	MTH.	DAY	REGIONAL OFFICE	APPLICATION IS ☐ NEW ☐ REPLACEMENT	FILE NO.

APPLICATION IS ☐ LAND ACT	LAND IS IN PROVINCIAL FOREST	YES ☐ NO ☐	PROVINCIAL FOREST	APPLICATION FOR ☐ AQUATIC ☐ OTHER LAND	PRELIMINARY ESTIMATE OF LAND VALUE $

TYPE OF TENURE FOR APPLICATION

LEASE	LICENCE OF OCCUPATION	EASEMENT ☐ RIGHT OF WAY ☐ CROWN GRANT	☐ SECTION 10 PERMIT	REPLACES SUP. ☐ YES ☐ NO

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T.A.S. CODING

APPENDIX E: PROSPECTUS FOR LOG HANDLING AND STORAGE

Province of British Columbia — **Ministry of Forests and Lands**

PROSPECTUS
Log Handling and Storage

*This form is to accompany applications for log handling and storage purposes.

APPLICANT NAME AND ADDRESS ▶	Ministry File No.
	NTS Map No.
APPLICANT CONTACT NAME AND TITLE ▶	Phone

Development Location	Name of proposed development (if applicable)	Is project new application ☑ renewal application ☐

PROJECT JUSTIFICATION
(Attach separate sheets if necessary.)
1. Summarize the economic and operational reasons why this project is important to the company.
2. Describe briefly alternative sites and/or methods of operation which were considered for this project site. Summarize the reasons for selecting the proposed project over the alternatives considered.

REQUIRED INFORMATION

⋅JECT ⋅ATION ▶
Provide information relevant to the project. Check ☒ the categories included as applicable.

A. Project area map
(To define the site location in relation to surrounding facilities and services)

Proposed site ☐

Existing and proposed roads ☐

Construction borrow sources ☐

New and existing upland facilities neighbouring the proposed site ☐

Waste and dredge material disposal areas ☐

Other facilities related to the project: Describe briefly

B. Proposed site map (state the scale)

(To show location of development and improvements within the site)

Boundaries of proposed site ☐

Construction works or improvements ☐

Area to be dredged ☐

Area to be filled ☐

Total project site area in hectares ☐

Existing works, improvements or fill on the proposed site claimed by applicant
☐ Yes. ☐ No.

Other information related to the project: Describe briefly ☐

C. Marine chart (if necessary)

D. Indicate the approximate slope of the application area (percent and direction)

PROJECT DESCRIPTION ▶

A. TYPE OF DEVELOPMENT (Check ☒ all applicable categories)

1. Log sorting   Dry land sort ☐   Water sort ☐

2. Log dumping   Logs bundled (dry land) ☐   Logs bundled (in water) ☐   Loose logs ☐

3. Barging   Log barge loading ☐   Log barge unloading ☐

4. Log booming (indicate percentages)   Flat rafts   % ☐   Bundle booms   % ☐

5. Log boom storage   Continuous base ☐   Intermittent basis ☐   Emergency only ☐

6. Conversion plants   Sawmill   % ☐   Pulpmill   % ☐   Shakemill   % ☐   Other (specify)   % ☐

7. Location

L49 (R 88)

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B. LOG FLOW

1. State the origin of the logs
   to be handled at the proposed site.
   Give type of tenure (i.e., TFL) location
   and name or number and life of tenure (no. of years).

2. List type and percentage of log
   species to be handled.

3. Anticipated log volume to be handled   Daily .... m^3
   (give ranges expected).
                                                  Annually .... m^3

4. Average turn-over period for the logs.

C. DEVELOPMENT

1. Duration of construction period.

2. Anticipated date to begin
   construction.

3. Method and timing of dredging
   and/or filing.

4. Life span of proposed project
   in years ....

5. Volume to be dredged .... m^3

6. Area to be filled .... m^2

D. Indicate the following as applicable.

Upland ownership   Crown ☐   Company ☐   Other private ownership ☐   Uncertain ☐

Attach any available information describing nature of discharges or accumulations and proposed remedy, if applicable.

ADDITIONAL
INFORMATION ▶

(Attach separate sheets
if necessary.)

Briefly describe any
other project
planning and
assessment studies
which the company
feels are required.

Provide any
information which the
company feels is
necessary to clarify or
expand upon the
questions answered.

_____   _____   _____
           DATE   SIGNATURE   TITLE

Canadian

Coast Guard

Navigable Waters

RECEIVED

Suite 620
800 Burrard Street
Vancouver, BC
V6Z 2J8

ENVIRONMENT
CANADA

Our File

Date

Tel (604) 631-3732
Fax (604) 631-3747

COAST GUARD REFERRAL

TO:

☐ Environment Canada, Adrian Duncan

☐ Crown Lands - Fort St. John - #840

☐ BC Ministry of Environment - Prince George, Richard Kriebel

☐ DFO - Habitat -

☐ DFO - Subdistrict Office -

☐ Min. of Agriculture & Fisheries, Michael Coon

☐ Council of Marine Carriers, Peter Woodward

☐ Council of B.C. Yacht Clubs

☐ Commercial Fishing Industry Council
Scott Hanna

☐ Dept. of Indian and Northern Affairs,
Lyonal Munaweera

☐

☐

☐ **FOR YOUR INFORMATION ONLY.**
(Please advise applicant directly
of your concerns)

☐ **YOUR RESPONSE IS REQUESTED WITHIN 45 DAYS.**

Contact:

Re:

RESPONSE:

_____

_____

_____

_____

_____

Chart:

_____

Topo:

APPENDIX G: STANDARD REFERRAL FORM FOR LAND REFERRALS

| | Province of British Columbia | Ministry of Crown Lands | *Land Referral* 188 |

Please advise the applicant of any serious concerns with a copy to this office

APPLICANT PROPONENT NAME		REGIONAL OFFICE ADDRESS AND PHONE No.	Vancouver Island Region 851 Yates Street Victoria V8V 1X4 (604) 356-2732 Fax (604) 356-1871
APPLICATION PROPOSAL DATE	REF. MAP No.		OUR FILE No.

ENVIRONMENT CANADA
ENVIRONMENT PROTECTION SERVICE
CONSERVATION AND PROTECTION
224 W ESPLANDADE
NORTH VANCOUVER BC   V7M 3H7

You are requested to comment on the following application. Your response should be received within 30 days by the undersigned. Where the time limit for response cannot be met, a verbal response should be made. Details of the application are provided

This is to advise you that information you supply will become part of the Crown Land Registry, which is routinely made available to the public under freedom of information legislation. This information is collected for the purpose of administering Crown land, pursuant to the Land Act.

If you have any questions about this collection, please contact the FOI Advisor, Richard Brunning, at 356-2705.

LOCATION OF LAND		PARCEL SIZE ha
LEGAL DESCRIPTION		
INTENDED LAND USE AND PERIOD REQUIRED		
ADDITIONAL INFORMATION RELATED TO THE FOLLOWING IS AVAILABLE ON REQUEST		

YOUR COMMENTS MAY BE DISCLOSED TO THE PUBLIC TO JUSTIFY DECISIONS MADE
Lack of response will be considered as a positive reaction to the application.

AUTHORIZED SIGNATORY _____ DATE _____

RESPONSE SUMMARY   DATE

☐ APPROVAL RECOMMENDED   ☐ INTERESTS UNAFFECTED BY PROPOSED USE

☐ APPROVAL RECOMMENDED SUBJECT TO   ☐ APPROVAL NOT RECOMMENDED DUE TO
   CONDITIONS OUTLINED ON REVERSE   REASONS OUTLINED ON REVERSE

☐ PERMIT REQUIRED   ☐ PLEASE INFORM US OF OUTCOME

SIGNED BY _____ TITLE _____

FOR _____

L229 R (08-90)   HS 1341

	Agency	Legislation	Description
F	Department of Fisheries and Oceans	Fisheries Act	Approval for activities that impact fish and fish habitat
E	Transport Canada: Canadian Coast Guard	Navigable Waters Protection Act	Permit for activities in, around and over navigable water
D	Canadian Environmental Assessment Agency (soon to be established)	Canadian Environmental Assessment Act (soon to be proclaimed)	Requirement for impact assessment, mitigation and compensation
E	Environment Canada: Environmental Protection Branch	Ss. 36-42 of the Fisheries Act / Canadian Environmental Protection Act	Pollution prevention / Protection of environment and human health
R A L	Environment Canada: Canadian Wildlife Service	Canada Wildlife Act / Migratory Birds Conventions Act	Permission for activities affecting wildlife and its habitat / Approval for activities affecting migratory birds and their habitat
P	Ministry of Environment, Lands and Parks: Fish and Wildlife Branch	Fisheries Act	Approval for activities that affect fish and fish habitat / Provincial wildlife regulations for endangered species
	Ministry of Environment, Lands and Parks: Water Management Branch	Water Act	Approval for storage and diversion of water / Approval of alterations and work in and about a stream
R O V	Ministry of Environment, Lands and Parks: Environmental Protection Branch	Waste Management Act	Permits for the discharge of effluents or contaminants into air, land or water
	Ministry of Environment, Lands and Parks: Crown Land Branch	Land Act	Regulation of the sale, lease and licence of occupation, rights of way, special use permits, assessments, map reserves and construction on crown lands
I N	Ministry of Environment, Lands and Parks: Environmental Assessment Branch	Environmental Management Act	Requirement for impact assessment and environmental protection as ordered
C I A L	Ministry of Agriculture, Fisheries and Food: Agricultural Land Commission	Soil Conservation Act / Agricultural Land Commission Act	Permit for the removal of soil from an Agricultural Land Reserve / Regulations to prevent or control soil erosion / Approval to use land in the ALR for other than farm use
	Ministry of Health	Health Act	Approval of construction camps / Regulations for potable water supply, sewage disposal, sanitation and food supply operations
	Ministry of Forests	Forest Practices Act (soon to be introduced)	Approval of forestry activities
L O C A L	Regional and municipal governments	Municipal Act	Permits for construction / Approval of zoning and re-zoning / Regulation of setbacks, development densities, local land use and building codes

Province of
British Columbia

MINISTRY OF
ENVIRONMENT,
LANDS AND PARKS

BC Environment

LOWER MAINLAND REGION

10334 — 152 A Street
Surrey
British Columbia
V3R 7P8
Telephone: (604) 582-5251
Facsimile: (604) 660-8926

Our File: 76910-60

July 27, 1993

<Field:1>

Attention: Planning/Engineering Departments
              Consulting Engineers

Re: Work In and About Watercourses -
       New BC Environment Procedures

In earlier correspondence dated June 3, 1993, a new, less formal process for dealing with work in and about watercourses was outlined for certain categories of projects. BC Environment is extending these new procedures to a number of other types of work. Even though these projects no longer require approval under Section 7 of the Water Act, please note that it is still a requirement to submit project proposals to BC Environment. A response from the Ministry must be in the proponent's possession before any work in and about a watercourse may proceed.

Generally, approval under Section 7 of the Water Act will be required, except for the types listed in the attached "Schedule A". Where a Water Act Approval is required, the current procedure will continue unchanged, i.e application to be made for Section 7 Approval accompanied by the appropriate fee.

Work listed in the attached **Schedule A** may or may not require approval; these proposals must be submitted (4 copies, no fee) to:
       BC Environment,
       Planning and Assessment Section
       10334 - 152 A Street
       Surrey BC   V3R 7P8

These submissions will undergo a coordinated review including provincial and federal fisheries agencies. If there are no complications, a response should normally be issued within 30 to 60 days of the submission. Either a Water Act Approval or an affirmative response by the Planning and Assessment Section represents approval by BC Environment. Either of the two procedures will be handled as a one window approach; in case of doubt about the appropriate application process, the procedures for work listed in the Schedule A should be used.

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Schedule A

Works or Changes which MAY or MAY NOT Require Water Act Approval:

1. The construction or maintenance of *storm sewer outfalls*.

2. The construction or maintenance of *pipeline crossings*, provided that:
    i) the pipeline is installed in the dry below the maximum scour depth of the stream; and
    ii) in the case of an aerial crossing, the crossing shall be clearspan and the cross-sectional area of the stream channel is not reduced.

    The construction of large scale projects, unusual design, crossings of rivers and large water courses will likely require Water Act approval.

3. The construction or maintenance of a *dock or wharf* in a lake or stream, provided that the flow and ebb of water and littoral drift is not obstructed.

4. The construction of *fish counting fence, screen or fish or game guard* across a stream by the Crown of either Canada or the Province, or their agents, provided that it is designed, constructed, maintained or used so as not to obstruct the flow of water in the stream.

5. The construction or maintenance of a *flow or water level measuring device* in a stream by the Crown of either Canada or the Province, or their agents.

6. *Maintenance of stream channels/water courses* carried out by Municipalities or Regional Districts (ie. sediment/debris removal, brushing, etc.)

7. The construction or maintenance of a *culvert*, provided that:
    i) site preparation, construction and maintenance of the culvert is carried out in the dry; and
    ii) on streams supporting fish populations the culvert installation is capable of fish passage under all flow conditions.

8. The construction or maintenance of a *clear span bridge* provided that:
    i)   site preparation, construction and maintenance of the bridge is carried out in the dry;
    ii) the bridge abutments are aligned parallel to the direction of the flow of water in the stream;
    iii) the bridge shall be clear span and the effective unobstructed width of the channel under the constructed bridge shall not be less than that between the stream banks; and
    iv) the height to the underside of the bridge shall also be adequate to pass flood flows and to provide a free passage of flood debris.

9. The *maintenance or repair of bank protection works*. (Construction of new bank protection works do require approval under Section 7 of the Water Act).

10. The restoration and maintenance of *stream channels and fish habitat enhancement* by the Province or its agents. (Projects proposed by SEP or other proponents will require Water Act approval.)

APPENDIX J

FLOW PROCESS CHARTS

Flow Process Charts, before (this page) and after (next page) work simplification (from Bennett 1993, figs. 1-2, pp. 41-42).

FLOW PROCESS CHART

PAGE 1 OF 1

JOB *USE OF MEDICATION CARDS ON NURSING FLOOR*

☐ MAN OR ☐ MATERIAL

CHART BEGINS *IN CARD BOX*

CHART ENDS *IN CARD BOX*

CHARTED BY _____ DATE *6/12/62*

SUMMARY	PRESENT		PROPOSED		DIFFERENCE	
	NO.	TIME	NO.	TIME	NO.	TIME
◯ OPERATIONS	7					
⇨ TRANSPORTATIONS	5					
☐ INSPECTIONS	1					
D DELAYS	3					
▽ STORAGES	2					
DISTANCE TRAVELLED	75 FT.		FT.		FT.	

	DETAILS OF PRESENT/PROPOSED METHOD		DISTANCE IN FEET	QUANTITY	SEC.	NOTES
1	MEDICATION CARD IN MEDICATION CARD BOX					LOCATED IN TRAY ROOM
2	CARD TAKEN FROM BOX					OCCURS APPROXIMATELY 50 TIMES EACH DAY ON EACH FLOOR
3	CARRIED TO NURSES' DESK		25	15		
4	CHECKED WITH KARDEX			30		
5	CARRIED TO MEDICINE CABINET		25	15		
6	PLACED ON TRAY					
7	WAITS WHILE MEDS ARE POURED					
8	CARRIED TO BEDSIDE WITH MEDS			VARIES		
9	WAITS WHILE MEDS ARE GIVEN					
10	PLACED IN NURSES POCKET					
11	CARRIED BACK TO DESK			VARIES		
12	REMOVED FROM POCKET					
13	PLACED ON DESK					
14	WAITS WHILE MEDS ARE CHARTED			45		
15	PICKED UP FROM DESK					
16	CARRIED TO MED. CARD BOX		25	15		
17	PLACED IN MED. CARD BOX					Located in Tray Room
18	REMAINS IN MED. CARD BOX UNTIL NEXT MED IS GIVEN					

Flow Process Chart showing present method of using medication cards on the nursing floor. Reprinted with permission from Preston Publishing Company, New York, New York.

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FLOW PROCESS CHART

JOB *USE OF MEDICATION CARDS ON NURSING FLOOR*

☐ MAN OR ☐ MATERIAL _____
CHART BEGINS _IN CARD BOX_
CHART ENDS _IN CARD BOX_
CHARTED BY _____ DATE _6/12/62_

SUMMARY

	PRESENT		PROPOSED		DIFFERENCE	
	NO.	TIME	NO.	TIME	NO.	TIME
◯ OPERATIONS	7		7		0	
⇨ TRANSPORTATIONS	5		3		2	
☐ INSPECTIONS	1		1		0	
D DELAYS	3		3		0	
▽ STORAGES	2		2		0	
DISTANCE TRAVELLED	75 FT.		25 FT.		50 FT.	

DETAILS OF (PRESENT / PROPOSED) METHOD

#	Details	Symbols	Distance in feet	Quantity	Time	NOTES
1	MEDICATION CARD IN MEDICATION CARD BOX	◯⇨☐D▽				ON TABLE NEXT TO NURSES DESK
2	CARD TAKEN FROM BOX	◯⇨☐D▽				OCCURS APPROXIMATELY
3	CHECKED WITH KARDEX	◯⇨☐D▽		30		50 TIMES EACH DAY ON EACH FLOOR
4	CARRIED TO MEDICINE CABINET	◯⇨☐D▽	25	15		
5	PLACED ON TRAY	◯⇨☐D▽				
6	WAITS WHILE MEDS ARE POURED	◯⇨☐D▽				
7	CARRIED TO BEDSIDE WITH MEDS	◯⇨☐D▽	VARIES			
8	WAITS WHILE MEDS ARE GIVEN	◯⇨☐D▽				
9	PLACED IN NURSES POCKET	◯⇨☐D▽				
10	CARRIED BACK TO DESK	◯⇨☐D▽	VARIES			
11	REMOVED FROM POCKET	◯⇨☐D▽				
12	PLACED ON DESK	◯⇨☐D▽				
13	WAITS WHILE MEDS ARE CHARTED	◯⇨☐D▽				
14	PICKED UP FROM DESK	◯⇨☐D▽				
15	PLACED IN MED CARD BOX	◯⇨☐D▽				ON TABLE NEXT TO NURSES DESK
16	REMAINS IN MED CARD BOX UNTIL NEXT MED IS GIVEN	◯⇨☐D▽				
17		◯⇨☐D▽				
18		◯⇨☐D▽				

Flow Process Chart showing proposed method of using medication cards on the nursing floor. Reprinted with permission from Preston Publishing Company, New York, New York.
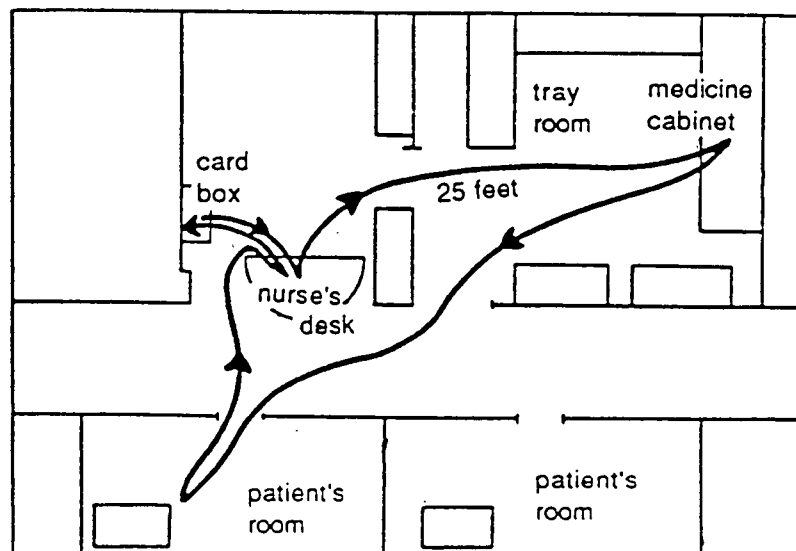
APPENDIX K

FLOW DIAGRAMS

Flow diagrams, before and after work simplification (from Bennett 1993, figs. 3-4, p. 43).
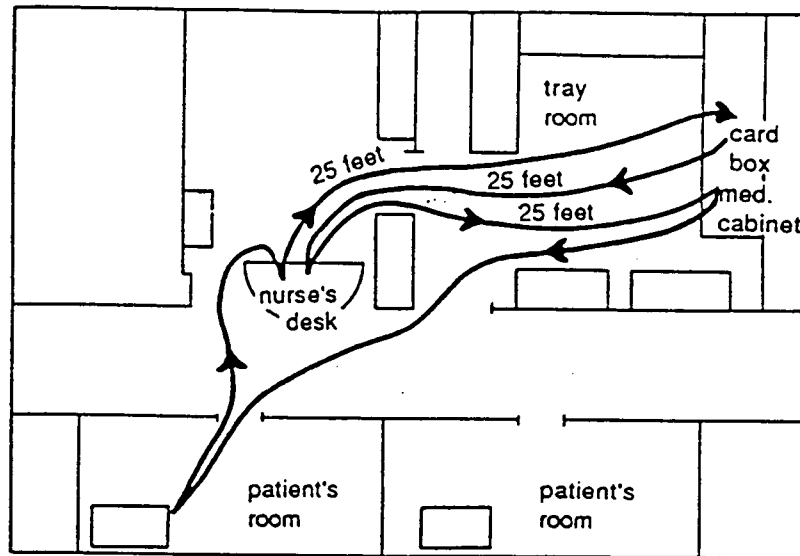
Flow Diagram showing present method of using medication cards on the nursing floor. Reprinted with permission from Preston Publishing Company, New York, New York.
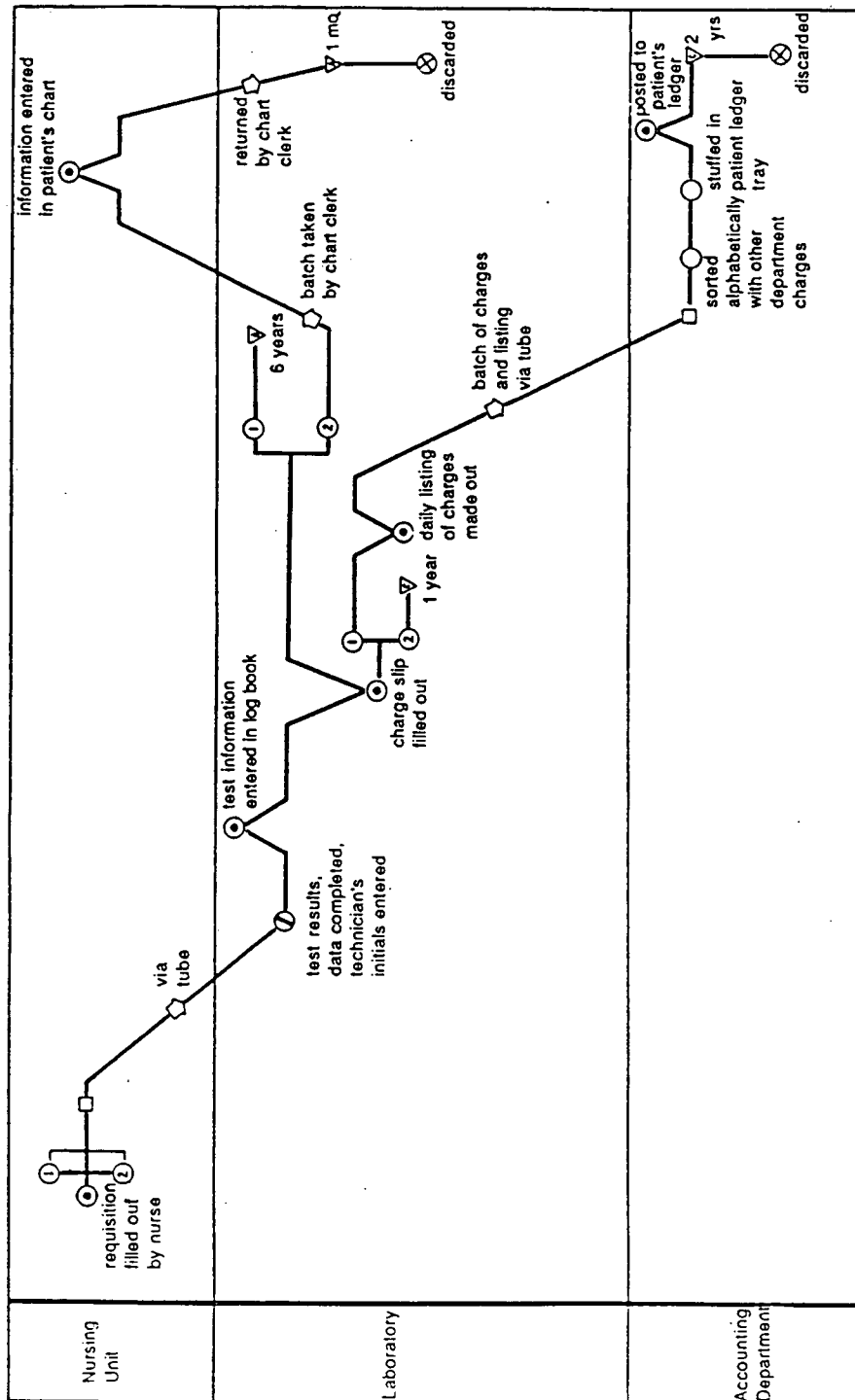

Flow Diagram showing proposed method of using medication cards on the nursing floor. Reprinted with permission from Preston Publishing Company, New York, New York.
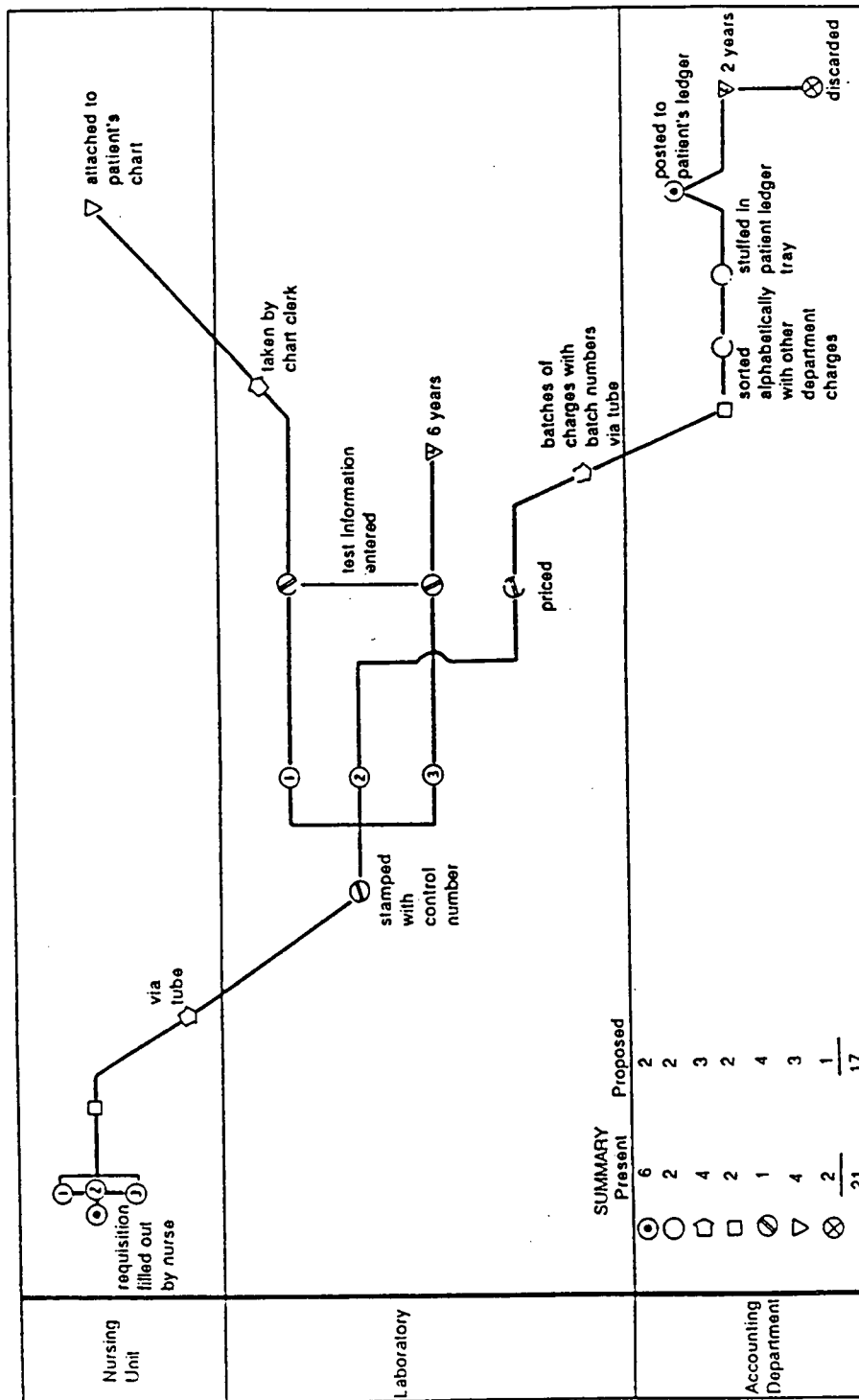
HORIZONTAL CHARTS

Horizontal charts, before (this page) and after (next page) work simplification (from Bennett 1993, figs 5-6, p. 44-45).

Horizontal Chart showing present method of laboratory requisition and charge procedure. Reprinted with permission from Preston Publishing Company, New York, New York.

Horizontal Chart showing proposed method of laboratory requisition and charge procedure. Reprinted with permission from Preston Publishing Company, New York, New York.