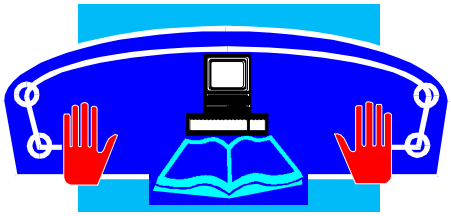

Discussion Material Re: Economic Analysis Of The Recreational Fisheries Of The N.w.t.

Type of Study: Analysis/review

Date of Report: 0

Author: None Indicated

Catalogue Number: 3-29-9

DISCUSSION MATERIAL RE ECONOMIC ANALYSIS OF THE RECREATIONAL FISHERIES OF THE N.W.T.

INTRODUCTION

Normally, there are a diversity of interests which exist with respect to any development proposal. There may be different perceptions of what are the relevant benefits and costs. There may also be differences in the incidence of the benefits and costs of the proposal. Proposals which relate to the maintenance or development of the recreational fisheries of the Northwest Territories provide a good example of the diversity of interests which might exist. These viewpoints might encompass:

1. the angler - for the individual angler, the objective is an experience which provides at least as much utility or satisfaction as could be obtained with equal expenditures of time and money elsewhere. Presumably, the angler has in fact arranged his consumption choices in a manner which provides him with the highest level of satisfaction possible.
2. the service sector - for private sector investors, the objective is to maximize monetary profit given the constraints set by the physical and socio-economic setting and the investor's limited resources.
3. the Government of the Northwest Territories (GNWT) - for the GNWT, there are an array of possible objectives on all public policy matters which result from potential tradeoffs in efficiency in resource allocation to equity in income distribution. However, for recreational fisheries issues it might not be an oversimplification to suggest that regional employment and income impacts are

pa. ramount. Presumably, the satisfactions of res i den t anglers are also a high priority.

4. the Government of Canada - publ i c policy analysis of the federal government is also concerned wi th a range of obj ecti ves which result from poss i b 1 e tradeoffs between efficiency and equity from a national viewpoint. Nevertheless, i t might not be an oversi mpl i fi cati on to suggest that recreational fishing from the national viewpoint should be considered pri mari "iy i n 1 i ght of i ts abi 1 i ty to create net economic benefits to Canadian society.

No doubt, there is a degree of compl ementari ty among the objecti ves cf these four interest groups. In a wel l functi oni ng market the interaction of deinand and supply wi 11 resul t i na bal ance bei ng reached between the va 1 uati ons of an gl er's benef i ts of d i ffe rci n g amounts of recreation opportunity and the supply cos ts of provi d i ng that opportunity. This process wi 11 also generate empl oyment and incomes i n the region, which, under certain ci rcumstan ces wi l als u be considered benefits from a national viewpoint. It should also be evident that conflicts i n objectives may wel 1 exist. Increased consumer expenditure to achieve the same 1 evel of satisfaction is not an outcome which wou1 d be 1 ooked upon favourably by anglers. Yet these expendi tures wou 1 d i ncre as e gross revenues and li kel y net i ncome to the service sector. Were th e government sector to advoca te publ i c pol i ci es which emphasized regional income di stri buti orI at the expense of economic efficiency, there might be a real l ocati on between comrrrerci al and recreational uses. In bri ef, whi 1 e we can agree that the various interest groups have common interests there are also numerous areas of confl i ct.

NATIONAL ECONOMIC PERSPECTIVE

1 will not elaborate further upon the objectives of the anglersandthe service sector. These groups are wel 1 organized and q u i te ab 1 e of 1 oh byi n g the i r res pe c t i ve c as es. Nor does i t behove me to el aborate upon the GNWT objectives or thei r propri ety. As an economist wi thin a federal government agency charged wi th the management of the fisheries of the Northwest Territories, 1 can el aborate upon some of the current and future economi c issues i n the recreational fi she ry.

First, let me outl i ne what I perce i ve the i nteres ts of tl ie Department of Fisheries and Oceans to be. The Department Of Fi sheri es and Oceans is res pens i bl e for the management of the fisheries resources of the No rthwes t Territories. As stewards cf the resource, there are a number of economi c i ssues whi chshoul d be examined. These issues mi ght reasonably be expected to become more s i gni f i cant over time. The department should be i n a position where i t can eval uate the contribution of fisheries-based acti vi ty i n the NorthwestTe rri tori es to the regi onal and Canadian economies. The department shoul d uncle rstand the rel at-i onshi p between current and i ncremental resource management expenditures and the contribution of the fisheries to the Canadian economy. There should be an economi c rati onal e for Ic ource al 1 oc ation decis i ons between recrea ti onal , commerci al and domes ti c fi sheri es and between fi sheri es-based activity and competing uses.

NATIONAL ECONOMIC BENEFITS

The focus of my discussion wi 11 be the concept and measurement cf the net national benefits generated by the recreational fishery. The "accountingstance"or "perspecti ve" of lily di scuss i On

wi 11 be the Canadian economy as a whol e. Relevant benefits and costs are those which accrue to Canada. Thus, net benefits which are generated to non-resi dents are external to the framework of my discuss i on. Simi 1 arly, benefits and costs which are relevant from a local or regional viewpoint may be considered transfers in a national perspective.

PRIMARY BENEFITS AND COSTS

Primary benefits of recreational development are determined by the interaction of two forces, the demand for the recreation opportunity and the supply costs of that opportunity. By demand for the right to fish, the economist refers to the relationship between the price charged and the quantity sought, the amount that people would be willing to pay for a day's access to "the fishery, over and above all private expenditures on travel, equi pment, l odging and the l i ke necessary to parti ci pate i n the fishery. Market demand, the horizontal summation of all consumers in the market, can be looked upon as the maximum valuation of different quantities of recreational opportunity. Against these demands or benefits, it is necessary to examine the costs of supply. This cost, in an economic sense, examines the minimum compensation required by factor owners to, produce extra units of the commodi ty. In a recreational fisheries context where fisheries are managed by the public sector, supply describes the economic costs incurred by pubi ic sector agencies in assessing and monitoring biological populations, in controlling fishing effort and, in some cases, in enhancing the availability of fish. Less obvious, but no less relevant is that there may be an opportunity cost of the resource itself. The cost of making the resource available to the recreational industry may entail foregoing a return to the resource in commercial or domestic use.

Net national economic benefits from primary recreational fishing activi t.y result where the prima ry benefi ts are greater than the costs incurred, where thewil?ingness of i ndi vi duals to pay for the right of access to th c fishery is greater than the opportunities foregone in al locating and managing the fishery for recreational use. In accordance with our perspective of nati onal net economic benefits , any s urpluses accruing to non-residents a re exte rn a 1 to ou r account i n g framework. Interes t i rI these pri marybenefi ts to non-res i dents is important, however, i n dete rmi n i ng a pri ci rig strategy for non-res i dent access to the fishery.

SECONDARY BENEFITS AND COSTS

The secondary recreational fishing industry encompasses two groups, a service sector directly dependent on the provision of recreational fishing opportunity, such as lodges, marinas, and outfitters establ ishments and secondly, an indirect service sector whose bus i n ess act i v i ty i nc reases but is not wholly dependent upon the recreational fi shery, such as service stations, restaurants and hotels. The economic evaluati on of" secondary industry benefits and costs is problematic. From a national perspective, for al 1 economi c evaluations, i t is conventi onal ?y advocated that secondary effects sh ou 1 d b e t. }-e ated wi thcaution. ?fthere is general ly ful 1 empl oyment, reasonablemob i 1 i ty of "1 abou r a nd capi t a 1 res ources, some s emb 1 an ce c f competi ti ve condi t.i ons, then thegain to the nati on al economy from this added activity is minimal . I f these conditions are met then any secondary benefi ci a l i mpactsasa consequence of the fishery bei ng ava i 1 abl e are s i reply local or regi onal i n nature with offsetting impacts els whet-e, Thus, wi.th reference to res i dent. spending, the

nati onal perspective takes the approach that, apart from the surpl us gained i n the primary fishing activity, the angler cou1 d obtain equal s ati sf acti on by spending his ti me and money on subs ti tu te economi c acti vi ty, recreation or otherwise. These substitute activities may or may not coincide with the existing regional di stri buti on of impacts , but from a national v" ewpoi nt they are cons i dered to be of fsetti n g i n the i r econorni c effect Implicit i n this approach is the assumption that the next best alternative activity occurs wi thin the national boun dary. The treatment of non-resident expenditure data is not strai ght forward at al 1. on the one hand, there are analysts who woul d treat al 1 secondary effects , whether res i den t or non- res i dent spend i n g, i n the s ame fashion. Secondary benefi ts are assumed to equal secondary costs. Al ternati vely, some analysts woul d incorporate the non- res i dent expenditure data, subject to some further analysis, directly into a valuation of the fishery. In this approach, it is first necessary to determi ne what, : porti on of the expendi tures can be attributed to the recreational fishery. If the fisherman comes to the regi on for the sole purpose of fishing, then al 1 the expenditures are attributed to the fishery. If it is determined that the trip is a multi-purpose vis i twhi ch would take place i n the abs ence of the fishing opportuni ty, then none of the expenditures are .i nci uded. Once the portion of expenditures whi ch can be attributed to the fi shery are estimated, the analysis then proceeds to estimate net econorni c benefi ts by netting out the costs of servi cing angl ers. Whi l e the approach may serve as a pragmatic compromis e to the val uat i on problem , i t is clearly not wi thout its 1 i mi tati ons. What are the subs ti tute acti Vi ti es fOr the acti vi ty being valued and do they l ie within or external to the

national economy? If within the national economy, should we not adopt the same approach as for the treatment of resident spending and suggest these secondary effects will cancel out. If these opportunities were external to the national economy, a case may exist for the inclusion of net secondary benefits as being relevent economic benefits, However, once we have included these benefits should we not proceed to determine the net secondary effects, if any, of all competing uses if we seek consistency in our value measure. That is, the debate might become one of comparing primary and secondary benefits of recreational fishing with commercial fishing, with competing industrial uses, and so on. At this stage, I do not think we should categorically accept or reject the importance of non-resident spending to a valuation of the recreational fishery. Some conceptual and empirical hurdles remain to be crossed before we adopt one position or the other.

ANALYTICAL TECHNIQUES

- I would now like to move to a discussion of some of the analytical techniques, "tools of the trade", which have been used to measure the benefits of outdoor recreation activity.

Perhaps I run the risk of confusing you even further, but I would like to start with a digression on one approach which is not considered to be of much use as a measure of value. I have already hinted that the gross expenditure approach to valuation is not widely accepted. The idea underlying this approach is that the value of recreation is believed to be at least equal to expenditures - incurred for transportation, food and lodging, and equipment in order to engage in the activity. The problem is, while these measures may be useful

in measuring the regional impact of the activity prov " ding the locat' on of the expenditures can be traced, the expenditures do not directly indicate the value of an additional recreation opportunity to the consumer. They are not a measure of willingness to pay. They are riot very us e ful i n val uati on of the resource. This is not a radical view whi ch I am presenting. For example, cons i der the fol 1 owi ng comment i n 1961 on the relevance of an expenditure survey conducted by the United States Fish and Wi 1 dl i fe Service:

> "Absolutely nothing. These expenditures were for food, lodging, travel, clothes, guns, rods and similar items. These values account for the . . . dollars (spent), and there is nothing left over as. a return to the recreational use of the land.
>
> Certainly the particular" groups serving the recreationists are benefiting from these expenditures, and data on expenditures may well be highly useful in gaining the support of such groups in lobbying for higher budgets for recreation. But from a broader public standpoint, all that is achieving is a transfer of expenditures from one group to another: there is little if any net gain to society from this level of effects . The social case for publi C support of recreation must rest on the value to the users, not the increased profits of certain recreational service i ndustri es. " (Zivnuska, 1961)

professional opinion, over the years, has not waivered. For example> in 1970 the following analogy was drawn:

> "Prior to the development of market simulation techniques, one of the most common method of recreational evaluation was based on equating the gross expenditures users made to visit a recreational site with the benefits generated by that recreational resource. It is true that the costs associated with reaching a recreational area are an important variable affecting the decision whether or not to visi t the area. Yet, regardless -of the level of travel and other associated expenditures, access to the site itself is usually enjoyed free even though most recreati onists would be wi 11 ing to pay some positive price rather than be excluded from the s ite. If the site were eliminated, these

> recreationists would suffer a loss in their level of welfare or well-being as a result of being forced to their second choices. It is this welfare loss that measures the value of the site to the recreationists. The gross expenditure approach is analogous to measuring the value of a filet mignon dinner in an exclusive restaurant by looking at the cost of travelling from your residence to the restaurant, whereas the correct measure of value is what you are willing to pay for the dinner when you get there. The gross expenditure approach is still used occasionally as a crude indicator of site value because it is so simple to apply. Unfortunately, its simplicity does not compensate for the fact that this method is generally invalid even if only crude estimates are required." (Laub, 1970)

Principal criticisms of the gross expenditure approach:

- the values derived may be useful in measuring the impact of a recreation site on regional expenditures (providing the location of these expenditures can be identified). However, they do not directly indicate the value of an additional recreation opportunity to the consumer, they are not a measure of willingness to pay.
- many expenditures treated as recreational expenditures are normal expenditures made in different circumstances i.e. those for food and lodging. Moreover, most recreational expenditures are for the provision of services ancillary to the actual use of the site.
- the approach does not produce a measure of value which is consistent with other value measures. It has little to offer public expenditure decisions, which routinely involve tradeoffs among a number of resources or uses.
- it is a measure of gross expenditures, whereas a measure of net benefit is desired.

Variations of the gross expenditure method include the net expenditure method which seeks the difference between gross expenditures and the costs of inputs used in providing the food,

gasoline, equipment and supplies purchased. However, the basic limitations remain.

A more sophisticated, though no less flawed, approach to valuation through the use of expenditure data is the technique of input-output analysis. This method traces the relationships between the flows of input into a particular industry from all other industries and households and likewise the flow of outputs from one industry to other industries and demand sectors.

Expenditure data., even if we consider it to be a gross indicator, must be considered to be a poor indicater of the values to Canadian society of the recreational fishery. For example, consider these three cases where expenditure data may lead to very poor public policy choices:

Example 1

If fish stocks were reduced then, all other things being equal, commercial. fishermen would incur higher costs of fishing. The profitability of the commercial industry would have declined Logically, we would conclude that some adjustments in the fishing industry should be considered - the industry should contract in size with human, capital and natural resources moving to more productive opportunities. From the gross expenciture point of view, however, taking the same quantity of fish at higher costs generates more inputs in terms of employment and gear to harvest the fish. Therefore, more human, capital and natural resources should be allocated to commercial fishing, perhaps drawing upon resources currently allocated to recreational use. Clearly, if this approach were advocated by the commercial industry as a guide to resource allocation, the recreation

lobby would be quick to point out its flaws. In contrast, how can the recreation lobby legitimately argue from the basis of gross expenditure data that more and more resources should be allocated to recreational use?

Example 2

Another example would be an increase in costs incurred by recreational fishermen, whether fuel and travel costs, or costs of charter vessels and fishing gear. If these costs increase, so would the induced impacts from an increase in recreational fishing. It does not seem sensible, however, to suggest that a rise in these costs make recreators "better off".

Example 3

Another example would be a decrease in fish density available to recreational fishermen. Expenditures in a region are a function of user-days rather than fish caught per se. Consequently, a decrease in fish density would have no apparent impact and no induced impacts on the regional or national economy.

Having digressed on one approach which is not accepted as providing much insight to the issue at hand, let me briefly describe two streams of thought on the valuation of outdoor recreation.

1. the simulation of a market mechanism.

   Where nominal or zero prices are determined through an administrative management scheme, a relatively well functioning market is not considered to be operating. Two methods have been developed which seek to estimate the demand for recreation opportunities in the absence of a market mechanism. Both approaches are based on the concept of the willingness to pay for

the ri cjht of access. The first approach, referred to as the travel-cost method, generates esti mates of demand and value from observed economi c. behavi our s uch asparti ci pati on or vis i tat i on rates. The second approa ch, the direct survey method, seeks to el i Ci t a meas ure of wi ll i n gness to pay from the respondents based on a range ofhypothetical ci rcums tan ces. In spite of the limitations of these two approaches to val uati Gn, the techniques have achieved some measure of acceptance by the economics profess i On.

2. the creati on of a market mech an i sm

There are cri ti ci sms that economic eval uations have overly emphas i zed the non -ma rk et nature of outdoor re creati on. Tradi t i onal pri cing pol ici es are accepted without reference to the economic consequences of these po? i ci es. Chal ? engers to this convention, wh i ? e cross i n g both rei mbursemer t, p ol i cy and measurement q ues t i OnS , have argued that resource commi tments to recreation should be based " on direct use of the price system. Price is a powerful management tool , which can contri bute to the efficient conduct of government programs. Whi le there are technical conditions where a zero pol i cy haseconomicrati onal e, greater scope for pricing recreational resources is advocated. blot surprisingly, such a fundamental Ci-i ti ci sm ofconventi onal approaches generates heated debate.

PROPOSAL

The Department of Fisheries and Oceans requires the capacity to examine economic issues in the freshwater fisheries. There is a need to understand the factors which influence the demand for and supply of recreational fisheries opportunities. Both the opportunity and the need to address these issues exist in the Northwest Territories. Support and commitment for the program should be sought from the Government of the Northwest Territories.

The program can proceed in three separate though interrelated phases. Initially, it is proposed that a profile of the nature, size and dimensions of the primary and secondary recreational fisheries be conducted. This profile can be developed through (a) the 1980 national survey of anglers and (b) the profile of the secondary fishing industry discussed as a cooperative GNWT, DFO and Travel Industry Association of the Northwest Territories (TM-NWT). This phase should improve the understanding of the industry. Insofar as this work will in turn raise more detailed concerns and will be useful in regional impact analysis, it should be looked upon as serving more than descriptive and general information needs. The second phase of the program should proceed to apply existing economic techniques in the areas of demand analysis, supply analysis, and the role of pricing mechanisms for recreational *resources*. Given the reservations with current techniques, more thought should be given to testing the various approaches to valuation and searching out new measurement techniques, if need be. Presumably, the profile and analysis phases of the program will bring the department to the point where it can enter "Phase 111" and provide economic assessment and rationale for resource allocation decisions.

This capacity, if successfully developed, should enhance the departments ability to respond not only to the N.W.T. issues but to all freshwater fisheries issues with recreational implications. At this stage, while cognizant of the overall direction of the program, we restrict ourselves to the presentation of two projects which might constitute "Phase 1" of the program.

Phase I : Economic Profile of the Recreational Fishery of the Northwest Territories

Purpose : To provide a detailed description of the nature, Size and dimensions of the primary and secondary recreational fisheries of the Northwest Territories.

To conduct a regional impact analysis of the recreational fisheries of the Northwest Territories;

To identify economic issues and concerns which require mere detailed analysis.

Projects:

1. National Survey of Anglers

The Department of Fisheries and Oceans, in cooperation with the provinces and the territorial governments, conducted a national survey of anglers in 1975. It is intended that similar surveys be conducted at 5 year intervals. Preliminary plans for the 1980 survey are now available. The survey would provide (a) profile of the distribution of fishing activity, (b) profile of expenditures on recreational fishingand (c) a socio-economic profile of recreational anglers. The preliminary design and purpose of the national survey should be reviewed by retjional DFO staff and the GNWT to ensure that the survey will adequately meet the needs of the respective agencies.

The national survey is in the design stage. The latest details on the survey will be provided agency representatives as soon as possible. Originally, it was intended that the survey be administered to a sample of licensed anglers with the first mailout in January, 1981. Requirements for federal/territorial participation in this survey require that the preliminary draft of the survey be reviewed as to its acceptability by the end of November. Licences must be consistent dated by year end to enable drawing a sample. Sampling techniques, sample size, and determination of the sample will be addressed as early in 1981 as possible. Three mail-outs have been proposed. Tests of response biases will be conducted. The data will be coded and screened for reliability in the regional DFO office. Data analysis will be conducted by the headquarters staff of DFO. The analysis stage will span a period of several months. A draft report will then be prepared for the review of participating agencies. Exclusive of the resource commitments of DFO headquarters to the conduct of the national survey, it is anticipated that DFO Western Region will expend .$5,000 0 & M and O. 5 MYR in the conduct of the survey. No additional funding is sought from GNWT. GNWT cooperation is sought in all phases of the survey, however, and especially in the consolidation of licences there may be some implicit costs to the GNWT.

2. Profile of the Secondary Fishing Industry

A cooperative endeavour between DFO, GNWT and T IA-NWT is currently being discussed. The objectives of this study are to provide:

(a) a description of the present size, capacity and utilization of the secondary fishing industry in the N.W.T.

(b) analysis of the financial and economic performance of the secondary industry.

(c) regional impact analysis to examine employment and income impacts to the N.W.T. in relation to total employment arid expenditure patterns of the secondary fishing industry.

(d) perceptions of lodge owners with respect to resource management and allocation issues.

The information necessary for this study will require that a survey be designed then administered to members of TIA-NWT. While GFO and GNWT would cooperate in the design and preparation of the questionnaire, TIA-NWT should administer the survey inorder to generate support for the project. Given the current size of the industry and the likelihood that establ ishments vary in the scale and nature of operations, the survey should be based on an enumeration of establishments rather than a sample. A series of alternatives exist in the analysis of the survey. DFO would be in a position to collate, edit and aggregate the survey data and perform the necessary accounting and economic analysis. If this approach is of concern to the TIA-NWT membership, a private consultant could be hired to conduct the preliminary analysis and aggregation of data. Strict guidelines would have to be agreed upon before this latter approach were endorsed by DFO.

The analysis to be conducted should be clearly stated before the study proceeds. A tentative outline of the project outputs follows:

(a) Description of the size, capacity and utilization of the secondary recreational fishing industry.

GNWT and IA-NWT files and results of the survey should enable documentation of:

1. number of lodges by geographic area and/or type of access in 1980;
2. trend in the number of lodges operating by geographic area and/or type of access in recent years, 5 year trend or longer;
3. number of lodges by size of establishment in 1980, where size is defined by either licensed daily guest capacity or number of accommodation units;
4. trend in the number of lodges by size of establishment in recent years, 5 year trend, or longer;
5. number of lodges by level of services offered;
6. operating season of the lodge industry in number of days;
7. lodge capacity in terms of the number of guest days capacity and length of season;
8. occupancy rate over the 1980 season;
9. trends in occupancy rates in recent years, 5 year trend or longer;
10. profile of clientele in 1980 by residency of client: N.W.T. residence, other Canadians, non-resident Americans, other foreign clients;
11. Average length of stay of clientele in 1980 by number of days.

(i)) Industry Performance

The survey should be designed to enable accounting and financial analysis of the performance of the secondary industry including selected operating statistics for 1980 operations. This area will be problematic. The types of organized industry wide data that have proven useful to public and private sector management in other industries are, by and large, just not available. This study is intended to eliminate this gap in our understanding of the fishery. The following data are essential to the conduct of the study:

1. documentation of the price structure of lodge operations in 1980 by type of service and by geographic area;
2. trends in the price structure of lodge operations over time, 5 year trend or longer;
3. documentation of 1980 operations in a uniform accounting framework. This would include gross income by type of revenue and expenses by major cost categories including cost of goods sold, maintenance and repairs, depreciation, wages (explicit and implicit), interest, advertising and miscellaneous expenses;
4. documentation of capital investments in buildings and equipment including details on initial (replacement?) costs of land, buildings, boats, wharves, airstrips, equipment, motors and skidoos, cars and trucks;
5. cash flow analysis to determine the return on investments and the present value of the industry.

(c) Regional Impact Analysis

These are concerns not only with the total revenues and expenditures incurred by the industry, but also with the regional incidence of these receipts and expenses and their related employment impacts. A distinction in this study should be drawn between expenditures which remain within the N.W.T, and those made outside the N.W.T., commonly referred to as leakages in the System. Initial expenditures are a dollar flow which may or may not be translated into incomes to local residents. Dependent upon the kind of commodity or service purchased, more or less must in turn be paid out for the stocks or materials used. Some may accrue as profit and other payments to non-residents. The extent to which this occurs in the N.W.T. is unknown, but is understood to be an area of concern to the GNWT. A similar argument is presented with respect to the employment impacts which arise from recreational fishing expenditures in the N.W.T. This concern leads to the following areas of focus:

1. what is the distribution of costs of the secondary fishing industry between N.W.T. expenditures and expenditures in all other regions;
2. What is the local income component of expenditures made in the N.W.T.? That is, what are the wages, salaries, profits and rents remaining in the N.W.T. as a consequence of N.W.T. expenditures?

(d) Attitudes of the secondary industry with respect to resource availability, management of the resource and the potential for industry expansion

A survey of this nature provides a means for lodge owners to ventilate concerns with respect to resource management and development issues. This aspect of the survey, while not strictly necessary, has the potential to clarify industry attitudes towards public policy matters. A "free form" response to current issues would be useful. Possible areas of discussion:

1. the relationship between resource availability and business viability;
   - what is the relationship between availability of fish and their ability to attract clientele?
   - is there a minimum catch per day required to attract clientele on a sustained basis?
   - is there greater significance to the size of the catch than to the numbers of fish available?

   are there annual production requirements necessary to maintain current levels of operation?

   are there any controls on the catch per angler day other than existing bag limits?

   what are the perceptions towards the current allocation of resources for recreational use? Is there a surplus or shortfall?

2. the relationship between the prices charged for licence fees and business volume and profitability:

   what would be the effect on business volume if licence

feeswereeliminated?if fees were doubled? tripled? quadrupled?

- should the government introduce a price system for recreational fisheries which reflects the economic scarcity of the resources allocated to recreation?

3. the potential for expansion of the recreational fishery:

what is the nature of the market for recreational Fishing in the N.W.T.? Would the entry of a new lodge or the expansion of existing lodges result in a greater vacancy rate than is currently experienced.

is the productive capacity of the fisheries resource constraining the possibility of expansion of the lodge industry?

what is the current balance between the proauction potential of fisheries resources and current use patterns between recreational, domestic and commercial fisheries?

what opportunities are there to expand the recreational fishery?

what role should the public sector play in the development of the recreational fishery?

howshouldconflicts between resource users be resolveal?

RELATED ISSUES

There are several issues which remain to be discussed. These include:

(a) resource requirements - The cost of the project cannot-be adequately projected until details as to what will be done, who will do it and within what time frame are resolved. The allocation

of costs between each agency will have to be determined.

(b) coverage of the survey - The first approach should be to enumerate all establishments. The possibility exists that establishments in total will not be willing and/or able to respond to the survey. Extreme care should be taken to ensure that the process of voluntary response to the survey provides a representative profile of the lodges by geographic area and by size and type of establishment.

(c) confidentiality - the sensitive nature of much of the information to be generated in this study leads to an obvious concern. How will the information be used and who will have access to it? Agreement on this matter is integral to the conduct of the study.