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Western Arctic

Tourism Strategy

Interim Report: Economic Analysis

Western Arctic Visitors Association Economic Development and Tourism

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WESTERN ARCTIC ECONOMIC EVALUATION
ECONOMIC IMPACT EVALUATION (1989-1998)

1. CONTEXT AND CONDITIONS

In order to determine the economic impact of Western Arctic Tourism Strategy it is essential to clearly identify the various components in which economic impacts can be quantified. Although the Western Arctic Region covers a large territory, in terms of its economic composition, it represents a very isolated economy with very little leakage from other sectors. The smaller and less diversified the area, the greater the leakage from the economy. Also because of the relatively few alternative economic opportunities, tourism has become an important sector of growth over the last few years. Its growth in the past five years is mainly attributable to Travel Arctic/TIA-NWT marketing as well as WAVA development and promotion activities.

According to the NWT Data 1986-1987, some "70 hotels, 60 lodges, and 75 outfitters operate within NWT". The same source also indicates that "approximately 15,654 people visited the NWT during the summer of 1984 and spent some \$10,650,000.00 in the NWT". It is estimated that the distribution of expenditures, by area, was as follows:

52% in Fort Simpson Region (including Yellowknife)

26% in the Inuvik Region

16% in the Baffin Region

5% in Central Arctic

1% in the Keewatin Region

If we hold the above distribution constant and apply it to absolute dollars spent, we will see that some \$2.7 M would have been spent in the Inuvik Region in 1984. The focus of the economic impact evaluation will be to determine the impacts of proposed tourism capital expenditures on the local economy in terms of both capital expansion programs and from a point of view of "multiplier" impacts of such spending.

2. ASSUMPTIONS

Regional capital expenditures have been considered over a 1989-1998 time frame. Although a number of costs which would normally represent operating expenses are highlighted in the development costs (i.e. start up costs for campground, etc.) it was assumed that all costs were retained on a generic basis and treated as capital costs. Further analysis of cost structure could be provided if particular areas of capital expenditure highlighted the various construction periods, construction costs and the impact of capital renewals which may be necessary on an on going basis due to **seasonality**. All the capital expenditures proposed have been highlighted on the tables, by area, and by market segment.

3. MULTIPLIER IMPACTS

Multiplier impacts of both the tourist expenditures and capital spending was computed via the application of income and employment multipliers. A number of areas with similar economies were considered to determine the multiplier coefficients. Particular attention was paid to the economic structure of South Moresby Island for which similar studies were previously completed and concrete **input-output models** were constructed. A thorough analysis of the Western Arctic however, in terms of construction of an accurate economic input and output will be needed for a more concise measurement of multiplier impacts. It is recommended that such a model be established for the region in order to have a precise evaluation of the impact of tourism on the individual sectors of the economy. Application of the Moresby model resulted in the following multiplier coefficients being used for this study.

Income Multipliers:	Direct .2
	Indirect .043
	Induced .125
Employment Multipliers:	Direct .02
	Indirect .006
	Induced .019

The multiplier effects from 1987 to 1998 (see Table 8) have been calculated to be as follows:

In 1987, in terms of direct, indirect, induced, the total income impact is estimated to be \$4.79 M. By 1998 the same impact is expected to rise to \$27.588 M, resulting in a \$22.8 M increase over an eleven year time frame.

4. MODEL APPLICATION

The base year is 1989 as it represents the opening period of capital injections.

Briefly, the application of the input-output model of South Moresby Island involved the determination of the following factors:

- o the total dollar revenues generated, both directly and indirectly, through activities and various capital programs proposed;
- o the total dollar value of payrolls, measured in FTE's (full time equivalent jobs) and seasonal help;
- o the total indirect payroll generated through secondary sources; and
- o total tax implications were also considered along with the incremental impact of added incomes to the region.

A cost benefit analysis type of model was employed by application of NPV (Net Present Value) factors so that the feasibility of capital expenditures via total tourist revenue generation could be matched within the defined time frames. NPV has been defined as discounted value of future dollars into today's dollars. Gross tourist expenditures were also matched with the net present values of capital expenditures in order to determine the cost benefit ratios. A further "incremental" revenue analysis was conducted via utilization of 1989 as the base year, upon which incremental benefits would accrue. Net present values of incremental benefits were also matched against the net present values of capital expenditures in order to determine more realistic payout ratios. Briefly the following key information needs to be considered.

At approximately 10% NPW incremental expected revenues will provide a net value of \$35 M from 1989-1998. Within this period, total capital expenditures to be injected into the local economies, again at 10% NPV, would equate to \$15.7 M, indicating that from a cost benefit point of view the project is fully justified. Furthermore, in any capital expenditure situation the residual impacts of expenditures are normally felt over an extended period of time, benefiting the local areas far beyond the "defined" payout/analysis period. The attraction of the Western Arctic which has already been drawing high numbers of tourists will continue to improve as more services and attractions such as scheduled boat cruises, wildlife photography tours etc. become more available.

5. EMPLOYMENT

In terms of employment, although most of the positions created will be seasonal employment, the full impact of employment is expected to be some 70 FTE's (full time equivalents) which is expected to generate approximately \$1.3 M of payroll.

6. INCOME

Using very conservative multiplier coefficients, the direct, indirect and induced impact of tourist spending in the area is expected to be \$27.8 M in year 1998. For 1987 this impact has been computed at \$4.8 M.

7. TAXES

Overall income impact of proposed capital expenditures, both in terms of wages earned and goods purchased, from 1989 to 1998 is expected to be approximately \$180 M, resulting in \$23 M federal sales tax, \$27.5 M federal and provincial (i.e. Alberta, B.C.) income taxes.

When the various revenue, employment and tax impacts have been matched with the overall attraction of the area for long term tourism development, the proposed capital expenditures within the defined payout periods of 1989-1998 is more than fully justified.

8. FINANCIAL AND ECONOMIC ANALYSIS

Tables 1, 2 and 3 provide an overview of the estimated market projections, broken down by the market segment and the year. Average length of stay as well as average per diem dollar expenditure are also highlighted.

Table 4 provides average length of stay in certain market segments, by number of total days. The basis of determining these projections is the Dempster Highway Survey of 1987 as well as data obtained from a document produced by Canadian Facts, in December 1984, titled "Visitors to the Northwest Territories".

Table 5 provides an overview of the proposed capital expenditures by year and community. As shown on the table, most of the expenditures are proposed to be incurred from 1989 to 1992, gradually decreasing from 1992 to 1998. Total expenditure proposed is \$21.098 M. When this dollar amount is expressed in terms of net present values, say at 8%, the realistic value of total expenditure becomes \$16.613 M. Or, restated at various interest factors, values computed are as follows:

Net present value @ 9% - \$16.158 M
Net present value @ 10% - \$15.723 M
Net present value @ 12% - \$14.905 M
Net present value @ 14% - \$14.152 M
Net present value @ 15% - \$13.797 M

As will be seen with the above numbers, the proposed capital expenditures numbers become a lot more meaningful when restated.

In order to properly match the capital expenditures with benefits, they will accrue both the multiplier income values and the incremental impacts of tourist spendings have been expressed in terms of net present values.

Total tourist expenditures in terms of total dollars spent by market segment have been computed and are shown on Table 10. This particular table derives its base numbers from the projected market segments, average length of stay, and average spending patterns in various segments. Briefly the impact of such expenditures can be highlighted as follows:

<u>YEAR</u>	<u>TOTAL TOURIST EXPENDITURES</u>
1987	\$13.016 M
1988	\$16.403 M
1989	\$20.592 M
1990	\$26.032 M
1991	\$31.966 M
1992	\$39.064 M
1993	\$44.600 M
1994	\$49.299 M
1995	\$54.585 M
1996	\$60.565 M
1997	\$67.346 M
	Consolidated
1998	<u>\$74.966 M</u>
Total 1987-1998	\$498.434 M
	Approximately 500 M

If we consolidate total projected tourist expenditures from 1987 to 1998 and express this consolidated number in terms of net present values, the impact can be summarized as follows:

Net present value @ 8% \$289.881 M
 Net present value @ 9% \$274.474 M
 Net present value @ 10% \$260.183 M
 Net present value @ 12% \$234.577 M
 Net present value @ 14% \$212.401 M
 Net present value @ 15% \$202.425 M

Even with the highest interest factor, say at 15%, the total benefits that tourism dollars will bring into the area represent dollars which are approximately ten times higher than the **total** value of proposed capital expenditures. The question then becomes why spend some \$21.098 M in capital expenditures if the momentum of tourism spending continues and grows at approximately the same speed that has been happening over the last few years. The answer is very simple. Such capital expenditures will in fact safeguard and continue the flow of visitors into the region by simply providing better and improved options for the tourist and enhance the quality of such offerings.

Attractions such as organized boat cruises, **wildlife** photography, wilderness experience camps, etc. will continue to generate additional tourist spending and with each new capital expenditure will come increased revenues to the region.

Table 8 **highlights** the impact of such expenditures. Briefly, **commencing** in 1989 consolidated direct, indirect and induced impacts can be expected to generate some \$7.588 M of total income for the region. By 1998 this impact can be expected to rise to \$27.588 M. Within a nine year time frame, this increase of some \$20.00 M can be considered a major economic achievement. In terms of tax implications which is summarized on Table 14, in 1987, Federal income taxes are estimated to be \$1.447 M. By 1998 this number has been projected to increase to \$8.336 M, seventeen times higher. Tax implications as highlighted on Table 14, have been further broken down on Tables 12 and 13. These two tables indicate the sources of taxation and the basis of their computation.

Because of the "lag" effect of capital expenditures and because of the attempt to match the proper payouts of the proposal, an "incremental revenue analysis" has been adopted as shown on Table 15. This particular table simply uses 1988 as the "base" year to derive the benefits from the recognized "fallout" impact of capital expenditures from year to year as the proposed spending is spread over from 1989 to 1998.

Because it is not a "one shot" expenditure, proper analysis for the project and the benefits it will accrue has to be computed on an incremental basis. Expected incremental revenues from 1989 to 1998 have been summed up at \$51.781 M. When we also revalue these benefits, in terms of present values the following results as shown on Table 9 become very meaningful.

<u>INTEREST %</u>	<u>NPV OF CAPITAL SPENDING</u>	<u>NPV OF INCREMENTAL REVENUES</u>
8%	\$16.614 M	\$38.436 M
9%	\$16.159 M	\$36.666 M
10%	\$15.723 M	\$35.016 M
12%	\$14.904 M	\$32.038 M
14%	\$14.151 M	\$29.433 M
15%	\$13.797 M	\$28.253 M

Even under the highest interest rate factors i.e. a 15% NPV payout ratio that is, total proposed expenditures vs total benefits they will accrue, is 3.6 times better. Expressed in a different way, the project will pay itself off 3.6 times within the given time frames. It is also important to recognize that any benefits to accrue from undertaking a capital project will continue far beyond the normal payout period well into the future as the useful lives of the assets created" or acquired are a lot longer than the defined payout period of a project. Accordingly, the payout ratio computed above can be expected to be rough higher if we consider time frames beyond 1998.

In light of the above analysis and in recognition of the importance of tourism in the Western Arctic, the implementation of the proposed capital expenditures is fully justified.

9. DEFINITIONS

Direct Impacts

The initial injection of tourist spending is called the direct expenditures. This particular expenditure creates a direct revenue source to hotels, motels, lodges and campgrounds.

Indirect Impacts

The indirect component refers to those types of businesses whose turnover will be augmented by the portion of initial expenditure that remains within the region as factor incomes such as wages, rents and salaries.

Induced Impacts

The induced effect normally constitutes a general increase in the overall economic activity due to increase household consumption as the incremental wages injected into the local economy provide additional consumption power.

10. COST AND BENEFIT ANALYSIS

By utilizing the "cost and benefit" method as well as the "incremental revenue" approach as the relevant capital costs and the matching revenues to be generated via tourist spending and multiplier impacts were computed. Given the scope of capital injections and the peculiar tourist attractions of the region, it would be feasible to consider the project particularly in light of its economic impacts which is essential from a regional "wealth generation" point of view. It is also interesting to note that such expenditures will be seasonal and cyclical in that weather conditions will necessitate some degree of assurance that increased tourism activity in the area will undoubtedly increase thus resulting in added capital formations and injections.

TABLE 1
MARKET PROJECTIONS FOR THE WESTERN ARCTIC

MARKETS	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
RUBBER TIRE												
RV	4,543	5,906	7,677	9,980	12,475	15,594	17,933	19,727	21,700	23,870	26,257	28,823
AUTO	790	1,027	1,335	1,735	2,168	2,710	3,116	3,583	4,121	4,739	5,450	6,267
COACH	649	690	750	810	870	930	990	1,054	1,123	1,196	1,274	1,356
SMALL VAN	41	83	113	143	173	193	230	253	278	306	337	370
HUNTING												
BEAUFORT AREA	86	95	96	104	112	120	125	126	128	129	130	131
BEAR AREA	180	204	228	252	276	300	320	323	326	330	333	336
AKLAVIK/MCPHERSON		5	10	20	30	40	45	45	46	46	47	47
FISHING												
TROPHY	260	300	360	440	520	560	600	642	687	735	786	842
WILDERNESS	92	100	120	200	260	300	320	342	366	392	419	449
ADVENTURE TRAVEL												
HIKING		30	60	120	240	360	420	490	572	668	779	909
CANOE/KAYAK	57	100	130	170	220	286	352	433	533	655	806	991
BOAT CRUISE		20	72	88	106	140	160	190	200	220	240	260
WILDLIFE PHOTO	18	60	120	180	270	351	456	593	771	1,002	1,302	1,693
CULTURE ARTS&CRAFTS WORKSHOPS		20	40	60	80	120	140	160	180	200	220	240
AIR												
	750	790	830	870	915	960	1,056	1,162	1,278	1,406	1,546	1,701
TOTAL	7,472	9,400	11,941	15,172	18,715	22,964	26,263	29,124	32,309	35,894	39,926	44,416

TABLE 2
TOTAL NUMBER OF DAYS STAY/BASED ON PROJECTED MARKET SEGMENTS

MARKETS	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
RUBBER TIRE												
RV	48,156	62,604	81,376	105,788	132,235	165,296	190,090	209,106	230,020	253,022	278,324	305,524
AUTO	8,374	10,886	14,151	18,391	22,981	28,726	33,030	37,980	43,683	50,233	57,770	66,430
COACH	6,879	7,314	7,950	8,586	9,222	9,058	10,494	11,172	11,304	12,678	13,504	14,374
SHALL VAN	498	880	1,198	1,516	1,834	2,046	2,438	2,682	2,947	3,244	3,572	3,922
HUNTING												
BEAUFORT AREA	860	950	960	1,040	1,120	1,200	1,250	1,263	1,275	1,288	1,301	1,314
BEAR AREA	1,530	1,734	1,938	2,142	2,346	2,550	2,720	2,747	2,775	2,802	2,830	2,859
AKLAVIK/MCPHERSON	0	38	75	150	225	300	338	341	344	348	351	355
FISHING												
TROPHY	1,820	2,100	2,520	3,080	3,640	3,920	4,200	4,494	4,809	5,145	5,502	5,894
WILDERNESS	506	550	660	1,100	1,430	1,650	1,760	1,881	2,013	2,156	2,305	2,471
ADVENTURE TRAVEL												
HIKING	0	150	300	600	1,200	1,800	2,100	2,450	2,860	3,340	3,895	4,545
CANOE/KAYAK/ZODI	798	1,400	1,820	2,380	3,080	4,004	4,928	6,062	7,462	9,170	11,284	13,874
BOAT CRUISE	0	60	216	264	318	420	480	570	600	660	720	780
WILDLIFE PHOTO	180	600	1,200	1,800	2,700	3,510	4,560	5,930	7,710	10,020	13,020	16,930
CULTURE ARTS&CRA WORKSHOPS	0	100	200	300	400	600	700	810	900	1,000	1,100	1,200
AIR	750	790	830	870	515	960	1,056	1,162	1,278	1,406	1,546	1,701
TOTAL	70,351	90,155	115,394	148,007	183,646	226,840	260,143	288,640	320,579	356,512	397,025	442,170

TABLE 3
AVERAGE PER DIEM DOLLAR EXPENDITURE BY MARKET SEGMENT

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
RV	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157
AUTO	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157
COACH	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157
SHALL VAN	\$157	\$157	\$151	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157	\$157
HUNTING												

BEAUFORT AREA	\$1,241	\$1,241	\$1,241	\$1,241	\$1,241	\$1,241	\$1,241	\$1,241	\$1,241	\$1,241	\$1,241	\$1,241
BEAR AREA	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600
AKLAVIK/MCPHERSON	\$700	\$700	\$700	\$700	\$700	\$700	\$700	\$700	\$700	\$700	\$700	\$700
FISHING												

TROPHY	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200
WILDERNESS	\$175	\$175	\$175	\$175	\$175	\$175	\$175	\$175	\$175	\$175	\$175	\$175
ADVENTURE TRAVEL												

HIKING	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
CANOE/KAYAK/ZODI	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150	\$150
BOAT CRUISE (PAC)	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200
WILDLIFE PHOTO	\$280	\$280	\$280	\$280	\$280	\$280	\$280	\$280	\$280	\$280	\$290	\$280
CULTURE ARTS&CRA	\$175	\$175	\$175	\$175	\$175	\$175	\$175	\$175	\$175	\$175	\$175	\$175
WORKSHOPS												
ATR												

AVG.	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500	\$500
TOTAL	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330

TABLE 5
CAPITAL COSTS
BY EACH COMMUNITY

	1989	1990	1991	1992	1993	1994-1998	TOTAL	NPV @ 8 %	NPV @ 9 %	NPV @ 10 %	NPV @ 12 %	NPV @ 14 %	NPV @ 15 %
INUVIK	\$855,000	\$305,000	\$1,085,000	\$980,000	\$760,000	\$450,000	\$4,435,000	\$3,435,612	\$3,335,460	\$3,239,782	\$3,060,855	\$2,897,004	\$2,820,227
AKLAVIK	\$170,000	\$225,000	\$245,000	\$125,000	\$60,000	\$20,000	\$845,000	\$690,115	\$674,001	\$658,489	\$629,158	\$601,905	\$588,996
PORT MCPHERSON	\$160,000	\$415,000	\$615,000	\$400,000	\$290,000	\$195,000	\$2,055,000	\$1,587,896	\$1,540,753	\$1,495,652	\$1,411,134	\$1,333,532	\$1,297,098
ARCTIC RED RIVER	\$50,000	\$90,000	\$113,000	\$55,000	\$30,000	\$20,000	\$363,000	\$291,237	\$283,853	\$276,762	\$263,395	\$251,027	\$245,187
SACHS HARBOUR	\$30,000	\$245,000	\$175,000	\$25,000	\$30,000	\$10,000	\$615,000	\$514,434	\$503,781	\$493,489	\$473,923	\$455,614	\$446,896
PAULATUK	\$85,000	\$185,000	\$240,000	\$280,000	\$165,000	\$30,000	\$985,000	\$764,841	\$742,502	\$721,111	\$680,970	\$644,052	\$626,698
TUKTOYAKTUK	\$60,000	\$255,000	\$420,000	\$420,000	\$250,000	\$60,000	\$1,665,000	\$1,309,440	\$1,273,275	\$1,238,624	\$1,173,547	\$1,113,624	\$1,085,431
NORMAN WELLS	\$250,000	\$200,000	\$365,000	\$330,000	\$270,000	\$245,000	\$1,560,000	\$1,180,814	\$1,143,145	\$1,107,222	\$1,040,218	\$979,072	\$950,493
FORT GOOD HOPE	\$165,000	\$175,000	\$290,000	\$285,000	\$290,000	\$185,000	\$1,290,000	\$963,865	\$931,551	\$900,754	\$843,364	\$791,059	\$766,638
FORT NORMAN	\$70,000	\$190,000	\$285,000	\$215,000	\$110,000		\$970,000	\$779,440	\$759,759	\$740,844	\$705,163	\$672,116	\$656,502
FORT FRANKLIN	\$160,000	\$355,000	\$445,000	\$335,000	\$90,000		\$1,285,000	\$1,020,654	\$993,280	\$966,961	\$917,284	\$871,245	\$849,483
CULVILLE LAKE	\$		\$35,000	\$220,000	\$260,000	\$30,000	\$545,000	\$385,347	\$369,750	\$354,933	\$327,456	\$302,585	\$291,035
DEMPSTER HIGHWAY	\$235,000	\$365,000	\$290,000	\$155,000	\$140,000	\$170,000	\$1,355,000	\$1,077,073	\$1,048,904	\$1,021,927	\$971,286	\$924,672	\$902,742
VISITOR CENTRE/CULTURAL CENTR	\$0,000,000	\$675,000	\$900,000	\$335,000	\$180,000	\$40,000	\$3,130,000	\$2,613,025	\$2,558,691	\$2,506,280	\$2,406,866	\$2,314,115	\$2,270,049
TOTAL CAPITAL EXPENDITURES	\$3,375,000	\$3,680,000	\$5,503,000	\$4,160,000	\$2,925,000	\$1,455,000	\$21,098,000	\$16,613,793	\$16,158,705	\$15,722,830	\$14,904,620	\$14,151,621	\$13,797,475

TABLE 6
EMPLOYMENT CREATED BY THE ARCTIC PROJECT

	SEASONAL	F.T.E	1986 EXPECTED PAYROLL	1989 EXPECTED PAYROLL
INUVIK	3)	12	216,000	226,800
AKLAVIK	18	6	100,000	113,400
PORT MCPHERSON	18	6	108,000	113,400
ARCTIC RED RIVER	8	3	54,000	56,700
SACHS HARBOUR	14	6	108,000	113,400
PAULATUK	10	3	54,000	56,700
TUKTOYAKTUK	15	6	108,000	113,400
NORMAN WELLS	14	6	108,000	113,400
FORT GOOD HOPE	13	5	90,000	94,500
FORT NORMAN	9	4	72,000	75,600
FORT FRANKLIN	15	6	108,000	113,400
COLVILLE LAKE	5	3	54,000	56,700
DEMPSTER HIGHWAY	8	3	54,000	56,700
VISITOR CENTRE/CULTURAL CENTR	4	1	18,000	18,900
TOTAL CAPITAL EXPENDITURES	181	70	1,260,000	1,223,000

TABLE 7
ESTIMATED DIRECT & INDIRECT & INDUCED EMPLOYMENT
1987-1998

YEAR	DI RECT	INDI RECT	INDUCED	TOTAL
1987	260	78	247	586
1988	328	98	312	738
1989	412	124	391	927
1990	521	156	495	1,171
1991	639	192	607	1,439
1992	781	234	742	1,758
1993	892	258	847	2,007
1994	986	296	937	2,218
1995	1,092	328	1,037	2,456
1996	1,211	363	1,151	2,725
1997	1,347	404	1,280	3,031
1998	1,499	450	1,424	3,373
TOTAL	9,959	2,991	3,470	22,450

TABLE 3
ESTIMATED DIRECT & INDIRECT & INDUCED
1987-1998

YEAR	DI RECT	INDIRECT	INDUCED	TOTAL INCOME
1907	\$2,603,230	\$559,694	\$1,627,013	\$4,789,943
1988	\$3,280,686	\$705,347	\$2,050,429	\$6,036,462
1989	\$4,110,417	\$885,460	\$2,574,011	\$7,570,888
1990	\$5,206,491	\$1,119,396	\$3,254,057	\$9,579,944
1991	\$6,393,344	\$1,374,569	\$3,995,840	\$11,763,753
1992	\$7,812,890	\$1,679,771	\$4,883,057	\$14,375,718
1993	\$8,919,949	\$1,917,789	\$5,574,968	\$16,412,706
1994	\$9,859,731	\$2,119,842	\$6,162,332	\$18,141,305
1995	\$10,917,086	\$2,347,173	\$6,623,179	\$20,087,438
1996	\$12,112,981	\$2,604,291	\$7,570,613	\$22,287,896
1997	\$13,469,342	\$2,895,909	\$8,418,339	\$24,783,590
1998	\$14,993,248	\$3,273,548	\$9,270,780	\$27,537,576
TOTAL	\$99,697,395	\$21,432,790	\$62,304,622	\$183,424,808

TABLE 9
COST & BENEFIT ANALYSIS

	NPV CAPITAL COSTS	EXPECTED GROSS REVENUE	NPV EXPECTED INCREMENTAL COST/BENEFIT ANALYSIS	
			INCREMENTAL REVENUE 1987-1995	COST/BENEFIT BASED ON GROSSREV. ON INCR. REV.
AT 8 % NPV	\$16,613,793	%289,880,890	\$38,436,033	17.45
AT 9 % NPV	\$16,158,705	\$274,473,616	\$36,665,822	16.99
AT 10 % NPV	\$15,722,830	\$260,183,102	\$35,016,010	16.55
AT 12 % NPV	\$14,904,620	\$234,577,325	\$32,038,368	15.74
AT 14 % NPV	\$14,151,621	\$212,401,073	%29,433,684	15.01
AT 15% NPV	\$13,797,475	\$202,425,524	\$28,252,364	14.67
EXPECTED REVENUE 1987-1995	EXPECTED REVENUE 1989-1995	EXPECTED INCREMENTAL REVENUE 1987-1995		
\$13,016,149				
\$16,403,429				
\$20,592,086	\$20,592,086	\$4,188,657		
\$26,032,456	\$26,032,456	\$5,440,370		
\$31,966,721	\$31,966,721	\$5,934,265		
\$39,064,452	\$39,064,452	\$7,097,731		
344,539,746	\$44,599,746	\$5,535,232		
\$49,298,654	\$49,298,654	\$4,638,908		
\$54,585,429	\$54,585,429	\$5,286,775		
		\$3,973,470		
\$295,559,122	\$266,139,544	\$7,619,527		
		\$51,781,004		

TABLE 10
TOTAL TOURIST EXPENDITURES BY SEGMENT

MARKETS	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
RUBBER TIRE												
RV	\$7,560,461	\$9,828,765	\$12,776,063	\$16,608,716	\$20,760,895	\$25,951,535	\$29,844,099	\$32,829,673	\$36,113,140	\$39,724,454	\$43,696,899	\$47,967,237
AUTO	\$1,314,718	\$1,709,133	\$2,221,707	\$2,887,387	\$3,607,986	\$4,509,982	\$5,185,647	\$5,962,829	\$6,858,168	\$7,886,644	\$9,069,890	\$10,429,541
COACH	\$1,080,066	\$1,148,298	\$1,248,150	\$1,348,002	\$1,447,854	\$1,547,706	\$1,647,558	\$1,754,067	\$1,868,897	\$1,990,383	\$2,120,191	\$2,256,655
SHALL VAN	\$78,217	\$138,129	\$188,055	\$237,981	\$287,307	\$321,191	\$382,766	\$421,043	\$462,648	\$509,245	\$560,835	\$615,754
SUB-TOTAL	\$10,033,462	\$12,824,325	\$16,433,975	\$21,082,086	\$26,104,641	\$32,330,413	\$37,060,070	\$40,367,611	\$45,302,852	\$50,110,726	\$55,447,816	\$61,269,187
HUNTING												
BEAUFORT AREA	\$1,067,037	\$1,178,704	\$1,191,111	\$1,290,370	\$1,389,630	\$1,488,889	\$1,550,926	\$1,566,435	\$1,582,100	\$1,597,921	\$1,613,900	\$1,630,039
BEAR AREA	\$918,000	\$1,040,400	\$1,162,800	\$1,285,200	\$1,407,600	\$1,530,000	\$1,632,000	\$1,648,320	\$1,664,803	\$1,681,451	\$1,698,266	\$1,715,248
AKLAVIK/MCPHERSON	\$0	\$26,250	\$52,500	\$105,000	\$157,500	\$210,000	\$236,250	\$238,613	\$240,999	\$243,409	\$245,843	\$248,301
SUB-TOTAL	\$1,985,037	\$2,245,354	\$2,406,411	\$2,680,570	\$2,954,730	\$3,228,889	\$3,419,176	\$3,453,368	\$3,487,901	\$3,522,780	\$3,558,008	\$3,593,586
FISHING												
TROPHY	\$364,000	\$420,000	\$504,000	\$616,000	\$728,000	\$784,000	\$840,000	\$898,800	\$961,800	\$1,029,000	\$1,100,400	\$1,178,800
WILDERNESS	\$88,550	\$96,250	\$115,500	\$132,500	\$250,250	\$288,750	\$308,000	\$329,175	\$352,275	\$377,300	\$403,288	\$432,163
SUB-TOTAL	\$452,550	\$516,250	\$619,500	\$808,500	\$978,250	\$1,072,750	\$1,148,000	\$1,227,975	\$1,314,075	\$1,406,300	\$1,503,688	\$1,610,963
ADVENTURE TRAVEL												
HIKING	\$0	\$15,000	\$30,000	\$60,000	\$120,000	\$180,000	\$210,000	\$245,000	\$286,000	\$334,000	\$389,500	\$454,500
CANOE/KAYAK/ZODIAC	\$119,700	\$10,000	\$273,000	\$357,000	\$462,000	\$600,600	\$739,200	\$903,300	\$1,119,300	\$1,275,500	\$1,692,600	\$2,081,100
BOAT CRUISE (PACKAGE)	\$0	\$12,000	\$43,200	\$52,800	\$53,600	\$84,000	\$96,000	\$114,000	\$120,000	\$132,000	\$144,000	\$156,000
WILDLIFE PHOTO	\$50,400	\$68,000	\$336,000	\$504,000	\$756,000	\$982,800	\$1,276,800	\$1,660,400	\$2,158,800	\$2,805,600	\$3,645,600	\$4,740,400
CULTURE ARTS/CRAFTS	\$0	\$17,500	\$35,000	\$52,500	\$70,000	\$105,000	\$122,500	\$140,000	\$157,500	\$175,000	\$192,500	\$210,000
WORKSHOPS	\$170,100	\$422,500	\$717,200	\$1,026,300	\$1,471,600	\$1,952,400	\$2,444,500	\$3,058,700	\$3,841,600	\$4,822,100	\$6,064,200	\$7,642,000
SUB-TOTAL	\$375,000	\$935,000	\$1,415,000	\$2,435,000	\$4,457,500	\$7,480,000	\$9,280,000	\$981,000	\$639,000	\$703,000	\$773,000	\$850,500
AIR	\$170,100	\$422,500	\$717,200	\$1,026,300	\$1,471,600	\$1,952,400	\$2,444,500	\$3,058,700	\$3,841,600	\$4,822,100	\$6,064,200	\$7,642,000
SUB-TOTAL	\$375,000	\$935,000	\$1,415,000	\$2,435,000	\$4,457,500	\$7,480,000	\$9,280,000	\$981,000	\$639,000	\$703,000	\$773,000	\$850,500
TOTAL TOURIST EXPENDITURE												
TOTAL	\$13,016,149	\$16,403,423	\$20,592,086	\$26,032,456	\$31,966,721	\$39,064,452	\$44,599,746	\$49,298,654	\$54,585,429	\$60,564,907	\$67,346,711	\$74,966,238

TABLE 11
NET PRESENT VALUE OF TOURIST EXPENDITURES FROM 1989-1998

MARKETS	@8 %	@9 %	@10 %	@12 %	@14 %	@15 %
RUBBERTI RE						
RV	\$189,235,458	\$179,160,836	\$169,815,061	\$153,065,806	\$138,556,127	\$132,028,076
AUTO	\$35,629,252	\$33,666,560	\$31,848,916	\$28,599,469	\$25,793,904	\$24,534,832
COACH	\$11,096,729	\$10,561,500	\$10,063,534	\$9,167,142	\$8,385,980	\$8,032,732
SHALL VAN	\$2,479,472	\$2,349,495	\$2,288,885	\$2,012,629	\$1,825,165	\$1,740,778
HUNTING						
BEAUFORT AREA	\$9,798,151	\$9,347,702	\$8,927,656	\$8,168,998	\$7,504,795	\$7,203,557
BEAR AREA	\$10,093,825	\$9,623,896	\$9,185,828	\$8,395,001	\$7,703,128	\$7,359,502
AKLAVIK/MCPHERSON	\$1,239,291	\$1,174,824	\$1,114,867	\$1,007,012	\$913,118	\$870,722
FISHING						
TROPHY	\$5,500,671	\$5,227,433	\$4,973,383	\$4,516,515	\$4,118,871	\$2,929,318
WILDERNESS	\$1,911,246	\$1,912,534	\$1,720,819	\$1,556,062	\$1,412,882	\$1,348,308
ADVENTURE TRAVEL						
HIKING	\$1,356,794	\$1,276,171	\$1,201,641	\$1,068,772	\$954,497	\$903,369
CANOE/KAYAK/ZODIAC	\$5,650,072	\$5,316,794	\$5,009,050	\$4,461,287	\$3,391,156	\$3,781,123
BOAT CRUISE (PAC)	\$620,301	\$587,148	\$556,397	\$501,295	\$453,573	\$432,107
WILDLIFE PHOTO	\$10,775,884	\$10,102,255	\$9,481,646	\$8,380,768	\$7,440,319	\$7,021,694
CULTURE ARTS&CRA	\$761,775	\$719,153	\$679,668	\$609,051	\$548,052	\$520,670
WORKSHOPS						
AIR	\$3,731,969	\$3,547,316	\$3,375,750	\$3,067,528	\$2,799,606	\$2,678,740
TOTAL	\$289,880,890	\$274,473,616	\$260,183,102	\$234,577,325	\$212,401,073	\$202,425,524

TABLE 12
TAX EFFECTS INCOME TAXES DUE TO TOURISM

YEAR	INVESTMENTS			OVERALL INCOME	FEDERAL AND PROVINCIAL TAX
	WAGES	GOODS	TOTAL		
1907				\$4,709,943	\$718,491
1988				\$6,036,462	\$905,469
1989	\$1,345,521	\$2,018,281	\$3,363,802	\$8,923,408	\$1,136,683
1990	\$1,469,917	\$2,204,875	\$3,674,732	\$11,043,861	\$1,436,392
1991	\$2,196,196	\$3,294,294	\$5,490,490	\$13,959,949	\$1,764,563
1992	\$1,659,379	\$2,489,063	\$4,148,449	\$16,035,038	\$2,156,358
1993	\$1,166,000	\$1,749,001	\$2,915,001	\$17,578,707	\$2,461,906
1994	\$577,707	\$866,680	\$1,444,467	\$18,719,691	\$2,721,286
1995				\$20,087,428	\$3,012,116
1996				\$22,287,886	\$3,343,183
1997				\$24,703,590	\$3,717,538
1998				\$27,587,576	\$4,138,136
				\$191,839,608	\$27,513,721

TABLE 13
TAX EFFECTS INCOME TAXES DUE TO TOURISM

YEAR	SALES TAX COMPUTATIONS	TAX	TOTAL	
	TAXABLE			
1987	\$13,016,148	\$9,111,304	\$7213,904	\$1,447,396
1988	\$16,403,428	\$11,482,400	\$918,592	\$1,824,061
1989	\$20,532,085	\$14,414,460	\$1,153,157	\$2,283,840
1990	\$26,032,455	\$18,222,719	\$1,457,817	\$2,894,809
1991	\$31,966,720	\$22,376,704	\$1,790,136	\$2,554,633
1992	\$39,064,451	\$27,245,116	\$2,187,599	\$4,343,367
1993	\$44,599,744	\$31,219,821	\$2,497,586	\$4,959,492
1994	\$49,298,652	\$34,509,057	\$2,760,725	\$5,482,010
1995	\$54,585,427	\$38,209,799	\$2,056,734	\$6,069,900
1996	\$60,564,904	\$42,395,433	\$3,291,625	\$6,734,817
1997	\$67,346,709	\$47,142,636	\$3,771,415	\$7,488,954
1998	\$74,966,235	\$52,476,365	\$4,198,109	\$8,336,246
				\$498,436,960
				\$348,905,872
				\$23,714,361
				\$47,089,945

TABLE 14
ESTIMATED TAX IMPACT OF TOURIST SPENDING AND INVESTMENTS

YEAR	FEDERAL AND PROVINCIAL	SALES TAXES	
	INCOME TAXES	FEDERAL	TOTAL
1987	\$718,491	\$728,904	\$1,447,396
1988	\$905,469	\$918,592	\$1,824,061
1989	\$1,136,683	\$1,153,157	\$2,289,840
1990	\$1,436,992	\$1,457,817	\$2,894,809
1991	\$1,764,563	\$1,790,136	\$3,554,699
1332	\$2,156,358	\$2,187,609	\$4,343,967
1993	\$2,461,306	\$2,497,586	\$4,959,492
1394	\$2,721,286	\$2,760,725	\$5,482,010
1995	\$2,013,116	\$3,056,784	\$6,069,900
1996	\$3,343,183	\$3,391,635	\$6,734,817
1997	\$2,717,529	\$3,771,416	\$7,489,954
1938	\$4,133,138	\$4,198,109	\$8,335,246

TABLE 15
INCREMENTAL EXPECTED REVENUES DUE TO INVESTMENTS

MARKETS	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
RUBBER TIRE										
RV	\$2,947,298	\$3,832,653	\$4,152,179	\$5,190,640	\$3,892,564	\$2,985,575	\$3,283,467	\$3,611,314	\$3,972,445	\$4,270,337
AUTO	\$512,574	\$665,680	\$720,593	\$901,996	\$675,665	\$777,181	\$895,340	\$1,028,476	\$1,183,246	\$1,359,651
COACH	\$99,852	\$99,852	\$99,852	\$99,952	\$99,852	\$106,509	\$114,830	\$121,487	\$129,808	\$136,464
SHALL VAN	\$49,926	\$49,926	\$49,326	\$33,284	\$61,575	\$38,277	\$41,605	\$46,598	\$51,590	\$54,919
SUB-TOTAL	\$3,609,650	\$4,648,111	\$5,022,556	\$6,225,772	\$4,729,656	\$3,907,542	\$4,335,241	\$4,807,874	\$5,337,089	\$5,821,372
HUNTING										
BEAUFORT AREA	\$12,407	\$99,259	\$99,259	\$99,259	\$62,037	\$15,509	\$15,664	\$15,821	\$15,979	\$16,139
BEAR AREA	\$122,400	\$122,400	\$122,400	\$122,400	\$102,000	\$16,320	\$16,483	\$16,648	\$16,815	\$16,983
AKLAVIK/MCPHERSON	\$26,250	\$52,500	\$52,500	\$52,500	\$26,250	\$2,363	\$2,386	\$2,410	\$2,434	\$2,458
SUB-TOTAL	\$161,057	\$274,159	\$274,159	\$274,159	\$190,287	\$34,192	\$34,534	\$34,879	\$35,228	\$35,580
FISHING										
TROPHY	\$84,000	\$112,000	\$112,000	\$56,000	\$56,000	\$58,800	\$63,000	\$67,200	\$71,400	\$78,400
WILDERNESS	\$19,250	\$77,000	\$57,750	\$38,500	\$19,250	\$21,175	\$23,100	\$25,025	\$25,988	\$28,875
SUB-TOTAL	\$103,250	\$189,000	\$169,750	\$94,500	\$75,250	\$79,975	\$86,100	\$92,225	\$97,388	\$107,275
ADVENTURE TRAVEL										
HIKING	\$15,000	\$30,000	\$60,000	\$60,000	\$30,000	\$35,000	\$41,000	\$48,000	\$55,500	\$65,000
CANOE/KAYAK/ZODIAC	\$63,000	\$84,000	\$105,000	\$138,600	\$138,600	\$170,100	\$210,000	\$256,200	\$317,100	\$388,500
BOAT CRUISE [PACKAGE]	\$31,200	\$9,600	\$10,800	\$20,400	\$12,000	\$10,000	\$6,000	\$12,000	\$12,000	\$12,000
WILDLIFE PHOTO	\$168,000	\$168,000	\$252,000	\$226,800	\$294,000	\$383,600	\$498,400	\$646,800	\$840,000	\$1,094,800
CULTURE ARTS&CRAFTS WORKSHOPS	\$17,500	\$17,500	\$17,500	\$35,000	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500
SUB-TOTAL	\$294,700	\$309,100	\$445,300	\$480,800	\$492,100	\$624,200	\$772,900	\$980,500	\$1,242,100	\$1,577,800
AIR	\$20,000	\$20,000	\$22,500	\$22,500	\$48,000	\$53,000	\$58,000	\$64,000	\$70,000	\$77,500
TOTAL INCREMENTAL REVENUES	\$4,188,657	\$5,440,370	\$5,934,265	\$7,097,731	\$5,535,293	\$4,698,908	\$5,286,775	\$5,973,478	\$6,781,805	\$7,619,527

NPV AT 8 % 38,436,033
 NPV AT 9% 36,665,822
 NPV AT 10% 35,016,010
 NPV AT 11 % 33,476,554 (-----)
 NPV AT 12% 32,038,368 NET PRESENT VALUES 1989-1998 [CONSOLIDATED]
 NPV AT 13 % 30,693,230 OF INCREMENTAL CASH FLOWS
 NPV AT 14% 29,433,684 DUE TO INVESTMENTS.
 NPV AT 15 28,252,964