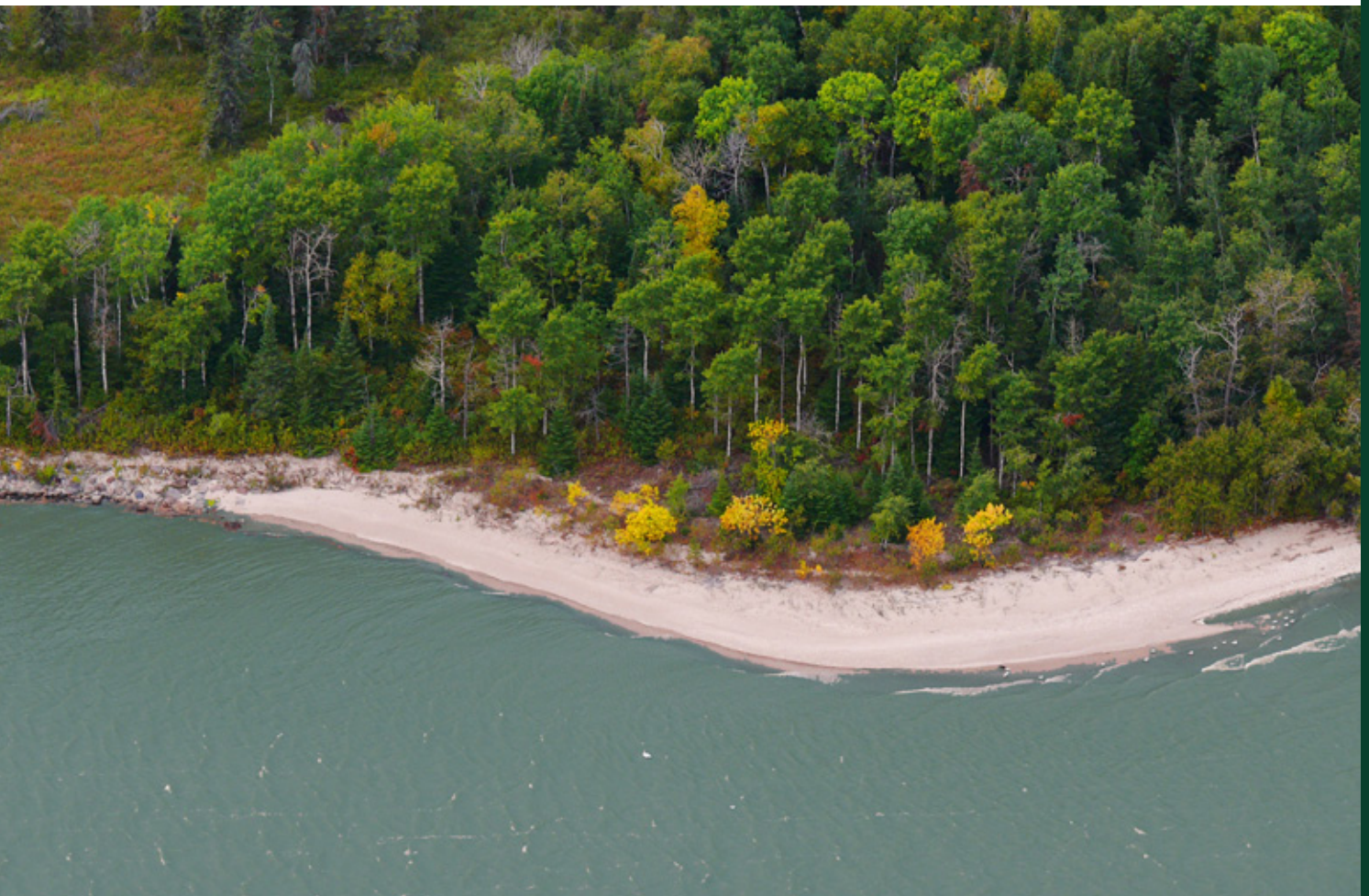




Fisher Bay Park Reserve



Fisher Bay Park Reserve

Economic Impact Study

CIER, the Centre for Indigenous Environmental Resources, is a national First Nation directed environmental non-profit organisation. We offer research, advisory, and education and training services to Indigenous communities, governments and private companies through our four program areas: Taking Action On Climate Change, Building Sustainable Communities, Protecting Lands and Waters, and Conserving Biodiversity.

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Acknowledgements

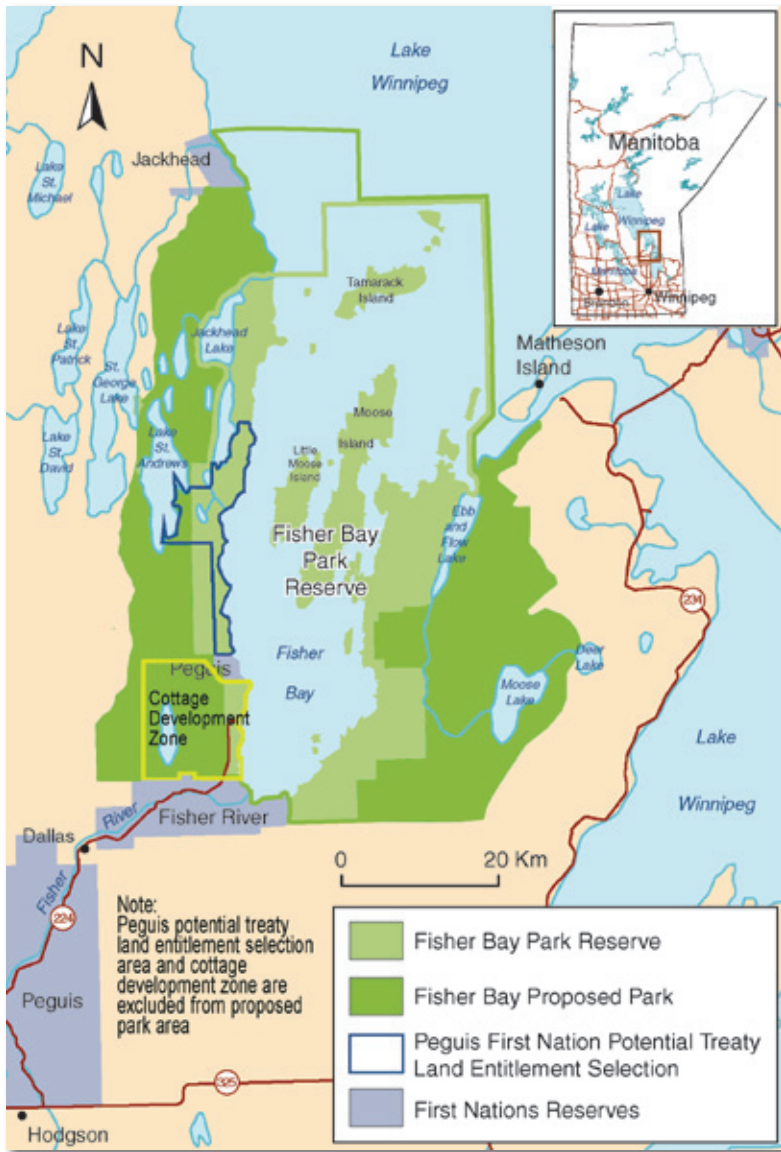
CIER would like to acknowledge the generous support of Fisher River Cree Nation for providing the funding for this project, the advisory support of Candian Parks and Wilderness Society (CPAWS) Manitoba chapter, and Ron Thiessen for providing the photography.

This document has been designed for double-sided printing and was originally printed on 100% post-consumer content process chlorine free (PCF) paper.

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1.0

Executive Summary



*A HEALER'S PERSPECTIVE
on benefits to the community:*

*As a community, we'd like
this area to be preserved.
Having this land preserved
will teach our community
respect for the land, and the
trees and medicinal plants
and Mother Nature.*

*~Diane Murdoch FRCN Medicine
Woman and Spiritual Healer*

In 1999, the Fisher Bay Park Reserve (FBPR) was created to provide interim protection to an area of boreal forest along the shores of Lake Winnipeg, approximately 200 kilometers north of Winnipeg. The boundaries included in this initial phase delineate an area of approximately 89,200 hectares in size, roughly 70 percent (70%) of which is the water of Fisher Bay. The remaining 28,200 hectares include a number of islands (Moose, Little Moose, Tamarack, and others), shoals, reefs, and the adjacent mainland.

The interim protected status was designed to allow for a period of public consultation of various aspects of this park reserve. Topics for review consist of the inclusion of this region as a permanent park within the provincial parks system, consideration of the expansion of the original boundaries, park categorization, and the identification of land use categories. Interim status was renewed in October 2005 for another 5 years to allow for the completion of this process. In 2006, the proposal of expanded boundaries spanning boreal forest areas on both the east and the west sides of Lake Winnipeg was to a large degree spearheaded by

Fisher River Cree Nation (FRCN) and the Manitoba chapter of Canadian Parks and Wilderness Society (CPAWS) after they received and analysed the results of an Areas of Ecological Significance Study that was conducted in the region. They and various stakeholders¹ felt that the original park reserve boundaries were too narrow as they mainly protected shoreline and Fisher Bay itself, excluding vast areas of old-growth deciduous stands, valuable marsh wetlands, and conifer dominated boreal bogs and fen communities. Further, they felt that much of the land directly outside the original park reserve boundaries had the potential to be used for mining and softwood timber extraction, which could impact wildlife conservation, traditional land-use practices, and eco/cultural tourism opportunities throughout the area².

The economic impact study contained herein is one piece of this larger consultative process. This study was commissioned by FRCN, in partnership with CPAWS, with the intent of providing all stakeholders with a thorough and unbiased analysis of the potential economic impacts (both costs and benefits) of establishing the Fisher Bay provincial park (FBPP) with the boundaries requested by FRCN.

¹ To date, over 11,000 individuals have sent the Manitoba government letters in support of a permanently protected area as proposed by FRCN.

² Lastra, R.A., Criteria for Delineating a New Boundary for the Fisher Bay Park Reserve, Manitoba: University of Manitoba Department of Botany.

³ For the sake of providing a conservative estimate, the indirect, or multiplier effects of these costs and benefits have not been included here, except for in the case of the EIMPA number, although they are explained in the body of the study.

This study has identified the economic costs and benefits of the establishment of the proposed FBPP. Three potential costs were identified:

- The cost due to a decrease in logging activity;
- The cost due to a decrease in mining activity; and
- The cost due to a decrease in guided hunting activity.

The total direct costs of the loss of logging and hunting are equal to \$2.2 million. Costs associated with the loss of mining activities are negligible.

The five main economic benefits focused on in this study are the increase in:

- Economic activity due to park spending on capital and annual operations and maintenance;
- Economic activity due to tourist spending;
- Economic activity due to an increase in natural amenity migration in the area;
- Cottage development revenues due to an increase in value from proximity to natural amenities;
- Non-market natural capital through ecosystem services.

The sum of these direct benefits totals \$40 million. This results in a total net gain of \$38 million³.

KEY FINDINGS: The economic benefits associated with the establishment of the FBPR with the proposed expanded boundaries as a provincial park exceed the economic costs by a multiple of eighteen.

ANNUAL COSTS		ANNUAL BENEFITS	
Logging	\$1,070,700	Park Budget & Tourism Spending	\$14,600,020
Hunting	\$1,088,676	Natural Amenity Migration	\$57,000
Mining	\$ -	Cottage Industry	\$580,000
		Payment for Ecosystem Services	\$24,645,000
Total	\$2,159,376	Total	\$39,882,020



2.0



Introduction

*AN ELDER'S PERSPECTIVE
on educational benefits of the Park:*

People would be able to learn how to take care of the land, learn to recognize certain medicines, and learn about ceremonies. They would have a place to express care for the land.

*~Waiting for the Thunder,
FRCN traditional medicine man*

2.1 OVERVIEW OF THE ECONOMY OF MANITOBA

Manitoba is rich in natural resources and fertile farmland, although the provincial economy is not dependent on any single industry or commodity. Manufacturing is Manitoba's largest sector, accounting for over twelve percent (12%) of total GDP, and the province's primary industries - mining, agriculture and forestry - together account for about seven percent (7%). The province also has a thriving service sector, and is home to Canada's only agricultural commodity exchange.

Manitoba's high degree of economic diversification, as well as its substantial manufacturing sector, provides

relative economic stability, especially in the province's urban areas⁴. Rural areas, however, are still largely dependent on and affected by the more traditional "boom and bust" resource extraction sectors.

This is by no means a plight that is unique to Manitoba's rural community. However, in many other areas throughout North America, this cycle has been broken by rural communities in regions of ecological significance that choose to make a concerted effort to diversify their economies to encompass a more natural amenity-based strategy. A natural amenity-based strategy is one that leverages a community's proximity and access to natural resources for tourism, recreation and quality of life rather than extraction.

⁴ To Manitoba Economic Overview, Retrieved June, 2009, http://www.gov.mb.ca/ctt/invest/busfacts/overviews/ov_economic.html



2.2 OVERVIEW OF THE STUDY AREA OF FISHER BAY PROVINCIAL PARK

FRCN has identified the area around FBPP as an area with vast potential for just such a strategy, due to its rich variety of natural assets, as well as a labour force in need of stable employment. They have also identified that, although by no means a panacea, provincial parks can enhance a region's potential for natural amenity-based economic success.



*A WOMAN'S PERSPECTIVE
on how the land is currently used:*

I use the area to gather berries and other food, like plums, cranberries, Choke cherries, Saskatoon berries, moss berries, strawberries, and raspberries, and medicine, like mascai tea, and for ceremonies like the full moon ceremony and sweat lodges. Hunters go on hunts there, and share the meat they find, like fish, deer, geese, ducks, beaver, muskrat, rabbits and prairie chickens.

*~ Diane Murdoch,
FRCN Medicine Woman
and Spiritual Healer*

2.2.1

THE FISHER BAY ECONOMY

Management of the park will allow for various land uses that are consistent with maintaining the ecological integrity of the area. A conservative and holistic approach to management will be maintained to achieve a working balance between nature and human activity. Local communities, provincial government, and all users of the park will assume responsibility for maintaining the ecological diversity and integrity of the protected area. ~FRCN



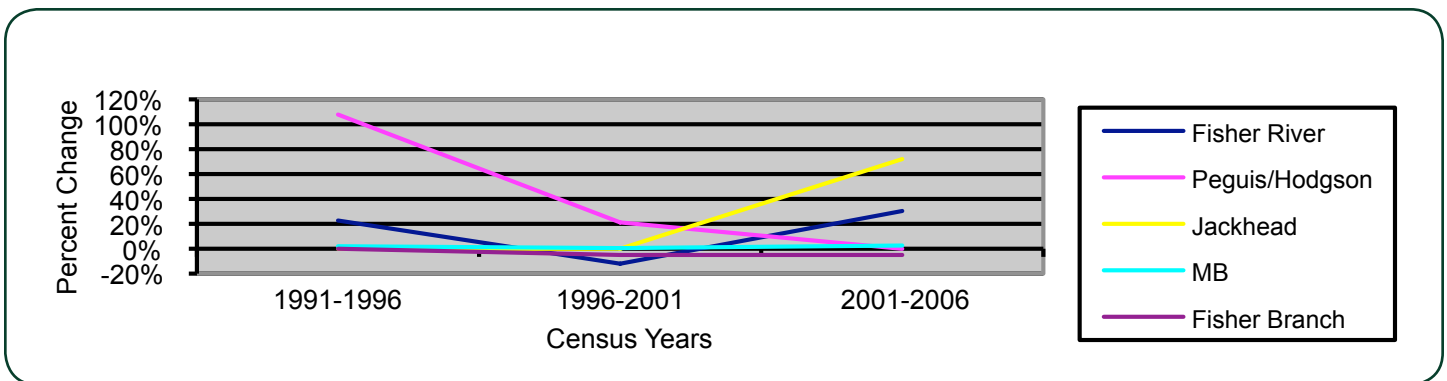
The communities of FRCN, Peguis First Nation, Matheson Island, and Jackhead First Nation are the closest to FBPP, followed by Hodgson and Fisher Branch. This area has been subject to both periods of population stagnation, as well as some population swings potentially due in part to a lack of economic opportunities in the area. This is in comparison to Manitoba's steady population increase over the same period (see Chart 1).

FRCN has an employment rate⁵ of forty-six percent (46%)⁶. Of this employment rate, approximately ten percent (10%) of the labour force works in the fishing industry, fifty percent (50%) are employed in the various social services for the local population, and a large majority of the remainder of the workforce leave the community in search of other employment opportunities (e.g. mining in the north, sporadic logging opportunities throughout the province, and other opportunities in Winnipeg and other large cities in the area) (George Crate, Economic Development Officer, FRCN, pers.comm.).

⁵ Employment rate refers to the number of persons employed in the week (Sunday to Saturday) prior to Census Day (May 16, 2006), expressed as a percentage of the total population 15 years and over excluding institutional residents.

⁶ Canadian Census, 2006.

Chart 1: Population Cycles



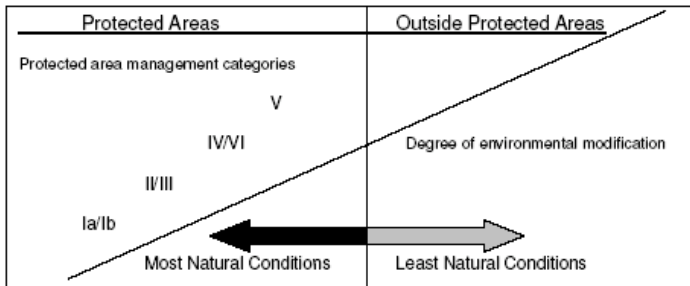
2.2.2

THE FIRST NATION'S VISION OF THE PROTECTED AREA

The park will be established through a meaningful consultation process that results in co-design and co-management involving local Aboriginal communities and Manitoba government. ~FRCN

According to a vision statement developed by FRCN in July of 2008, "FRCN wishes to establish a provincial park in the Fisher Bay area to protect nature, culture, and sustainable community-based economic opportunities such as eco- and cultural tourism ventures."

Figure 1



FRCN envisions the park as either Category Ib or Category II protected area status. (Ron Thiessen, Executive Director, CPAWS, pers.comm.) These categories are based on the Canadian Guidebook for the Application of International Union for Conservation of Nature (IUCN) Protected Area Categories. These two categories differ in that Category Ib is slightly more stringent in its level of environmental protection than Category II, as can be seen from Figure 1, which illustrates the IUCN protected area categories relative to the degree of environmental modification⁷.

FRCN's vision also includes First Nation co-management of FBPP. There is a wide range of definitions and gradations of co-management, although in a general sense, the primary goals of co-management include more appropriate, efficient, and equitable resource management, as well as the integration of the state-based and indigenous self-regulatory systems, community-based development, the decentralization of decision-making, and the reduction of conflict through participatory decision-making.

⁷ Canadian Guidebook for the Application of IUCN Protected Area Categories, 2008





3.0



Costs and Benefits Analysis

As with most proposals to modify land use, there are various costs and benefits associated with the changes proposed for FBPP that must be weighed carefully. Costs in this proposal include the cessation of logging, mining, and hunting activities. Benefits include increases in tourism spending, natural amenity migration, the park's operational expenditures, entrepreneurship opportunities, increased property values, ecosystem services, and the ripple effects that these benefits all have the potential to create, among others. Although the focus of this report deals with economic costs and benefits, due mention will also be given to environmental and socio-cultural costs and benefits. Aside from the direct effects of these costs and benefits, multipliers will also be added to

the analysis to ensure that the indirect benefits to the economy are also taken into consideration. Indirect benefits occur when a chain of local transactions is necessary to provide an end product or service to visitors, for example, spending by a park employee in the community. These indirect benefits will be valued in terms of their multiplier effect, which refers to taking direct spending and multiplying it to get a measure of the overall impact on the economy. The U.S. National Parks and Wildlife Service has developed a model to capture these impacts, which suggests that the multiplier for protected areas averages 2. This means that for every dollar spent in a protected area, the total benefit to the economy is \$2⁸.

⁸ Economic Benefits of Protected Areas: The case for completion of a protected areas network in northwestern Canada.

3.1 FISHER BAY PROVINCIAL PARK EXPANSION COSTS



3.1.1 ECONOMIC COSTS

A Natural Park designation will provide for all park lands and waters to be in protected status (prohibiting all industrial activities as defined by the Manitoba Parks Act) while respecting traditional activities, the local commercial fishing industry, existing structures, emerging community eco and cultural tourism ventures, and upcoming cottage developments. ~FRCN

The expansion of FBPP to the east and west of Fisher Bay would displace some existing economic activities. Those focused on in this section are logging, mining, hunting, and fishing, because they are the most prevalent economic activities currently ongoing in the proposed expansion area.⁹

⁹ Lost logging and mining revenues relate to expanded boundaries only since no baseline data exists within the existing boundaries where logging and mining has been banned for the past 9 years).

3.1.1.1

ELIMINATION OF LOGGING

A Natural Park designation will provide for all park lands and waters to be in protected status (prohibiting all industrial activities as defined by the Manitoba Parks Act) while respecting traditional activities, the local commercial fishing industry, existing structures, emerging community eco and cultural tourism ventures, and upcoming cottage developments. ~FRCN

Current interim protection prohibits logging within the current boundaries, but not the proposed expanded boundaries. FRCN and CPAWS' vision for the protected area includes the complete elimination of logging from the entire proposed park area. The total expected losses from the elimination of logging from this area are estimated at \$1.1 million per year, or \$2.2 million per year including the multiplier effect. A breakdown of the calculations follows:

The total area for the park proposed by FRCN and CPAWS is 155,000 hectares. Of this total area, the land available for logging is 21,414 hectares. The Annual Allowable Cut for this parcel of land is 1 m³/ha/year, for a total volume of wood extraction reduction of 21,414 m³/year.

The first factors to consider are the actual and potential annual losses in provincial stumpage revenues of \$7.67/m³. Stumpage is money paid to the provincial crown for logging public land. The total amount of \$7.67/m³ is comprised of a base stumpage price of \$1.75/m³¹⁰, forest renewal charges of \$5.75/m³, and forest protection fees of \$0.17/m³. (Doug Tirschmann/Greg Carlson, Manitoba Conservation, pers.comm.)

Thus, at the current stumpage rate of \$7.67/m³, the total amount of revenue lost for 21,414 m³/year of wood extraction reduced is estimated at \$164,245 annually for stumpage fees alone.

In addition to revenue lost from stumpage, there are also other economic costs of logging in the area.

A COMMUNITY PERSPECTIVE on educational benefits:

Our children get no outdoor education. We need a place to teach them fishing, trapping, hunting, and gathering. Elders have a big role in teaching this.

~Anonymous FRCN Fisherman

¹⁰ This is a base price since this figure is based on the value of the end product's commodity value. If the end product's commodity value increases, this figure would similarly increase. According to MB Conservation, the value of \$7.67/m³ could increase to up to \$11/m³.



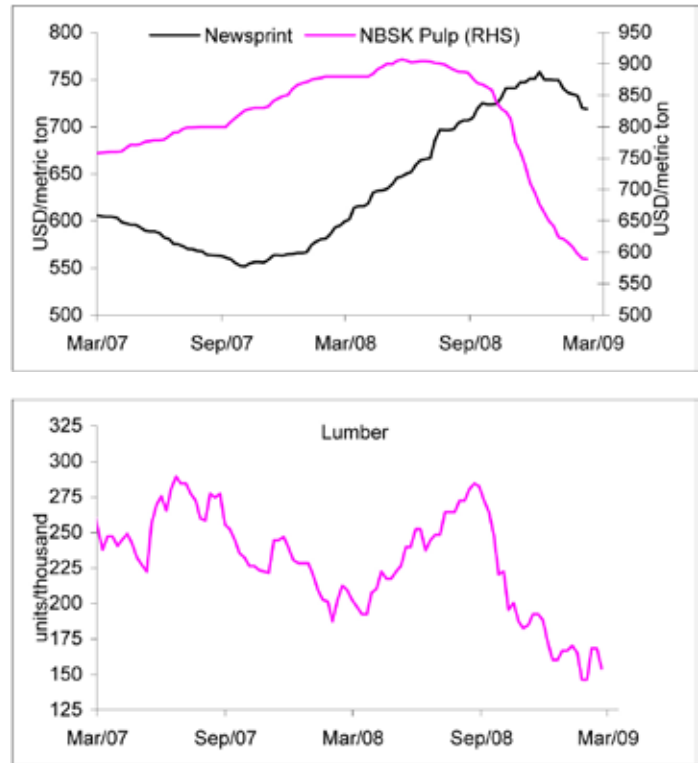
The total cost of logging, excluding stumpage fees, in the Fisher Bay area, including wages, hauling, etc., is approximately \$42/m³. (Doug Tirschmann/Greg Carlson, Manitoba Conservation, pers.comm.) Extrapolating this to FBPP, a net loss of spending in the region totals \$906,455¹¹. This is the amount that would have been spent on wages and other services in the area if logging were permitted.

In addition to current logging occurring in the area, there may also be revenues lost from future logging projects that are not accounted for in the above calculations. For example, a proposed hardwood development partnership (referred to as the Bison Project), between the Ainsworth Lumber Company Ltd. and First Nation Forestry Limited Partnership (FNFLP), may be negatively impacted by the establishment of FBPP, as they had proposed plans to log in the expanded park area. Currently, this project has been halted due to unfavourable economic conditions for forestry products. However, if it were to be revived in the future, a cost related to the loss of these potential revenues would also be incurred as a result of the inability to extract wood from the FBPP.

Although there are definite quantifiable impacts from the loss of timber harvesting in this particular area, it is important to consider the broader economic

context of logging as well. As can be seen from chart 2¹², and the table below, many forest-based commodity prices have recently experienced a drastic downturn, part of a larger trend of gradually decreasing forest-based commodity prices over the past 3 years.

Chart 2



¹¹ It is important to note that this does not include private profit margins to loggers, but only the effect of their revenues on the province and area due to their costs (the amount that they spend to log). This exclusion reduces the total somewhat, and the omission is due to the fact that the private logging companies in the area were not willing to share this information.

¹² Export Development Canada, Retrieved March 2009, https://www.edc.ca/english/docs/commpric_e.pdf

Current commodity prices are generally below the respective industries' breakeven point, making it difficult, if not impossible, for most companies to generate revenue in this climate that has existed since 2007 (Doug Tirschmann, Manitoba Conservation, pers.comm.).

FOREST-BASED COMMODITIES	APRIL 2009 TO JUNE 2009 CHANGE IN COMMODITY PRICES
Newsprint	-24%
Oriented Strand Board	-15%
Kraft Paper	-11%
Lumber	-10%



3.1.1.2

ELIMINATION OF MINING

Wilderness and Backcountry settings will be provided for traditional and cultural activities, hunting, trapping, and the development of First Nations eco and cultural tourism opportunities that rely on a largely undisturbed environment; including provision of nature-oriented recreational opportunities such as canoeing, fishing, nature tours, etc... Guiding and outfitting services for hunting will not be provided in the park. ~FRCN

In accordance with the guidelines set out by the IUCN for Protected Area categories IB and II, mining would also be excluded from the park expansion area. As there are no active mines or peat moss extraction operations in the area, there should be no actual loss to the regional economy from the exclusion of mining and peat moss extraction within the expanded park area.

There is, however, one existing company, Sun Gro Horticulture (SGH), with claims in the area (Mike Fedak, Manitoba Science Technology Energy and Mines, pers. comm.). SGH is the largest producer of peat moss in North America, and currently employs approximately one hundred people in Manitoba.

SGH holds quarry leases in northern Manitoba totaling approximately 26,000 acres. At present, the quarry leases in northern Manitoba (Interlake Region) are all undeveloped. Included within the 26,000 undeveloped acres are four quarry leases within the boundaries of the proposed FBPP¹³. The three sphagnum bogs located in or within close proximity to the proposed boundaries span approximately 5,100 acres, or twenty percent (20%) of SGH's total quarry lease holdings. SGH has no immediate plans to develop the bogs within the proposed park boundaries, so specific impacts are difficult to speculate at this time. Further, the area has not yet been sampled by SGH, so development potential is currently unknown¹⁴.

A second peat moss extractor in the area, SunTerra, has indicated that the proposed park expansion would cause no anticipated economic impact to them (Al Dorish, SunTerra, pers. comm.). As there are no current plans, nor plans in the near future, to develop the bogs within the proposed park boundaries, the cost of expanded boundaries on the mining industry are considered to be negligible.

¹³ Quarry lease numbers 1138, 1139, 1145, and 1158.

¹⁴ All data from this section of the report has been obtained by personal communications with Connie Proceviat and Walter Amerongen, SGH.

3.1.1.3

ELIMINATION OF HUNTING¹⁵

According to FRCN's vision for this area, hunting in the proposed expansion area would be prohibited. This includes both commercial (i.e., guided non-resident) and non-commercial (i.e., non-guided Manitoba resident) hunting. First Nations would continue to use this area for non-commercial hunting and trapping.

The total loss as a result of the elimination of hunting from this region is \$1.1 million per year, or \$2.2 million including the multiplier. The calculations and analysis follow:

The proposed FBPP is located in two Game Hunting Areas (GHAs), GHA 21 and GHA 21A. Between the two areas, there are currently 69 black bear licenses distributed among five licensed bear operators, and 223 white tail deer licenses distributed among fourteen licensed deer operators, for a total of 292 licenses, granted for non-residents of Manitoba¹⁶. On average, the fees charged to non-residents for a five to six day hunt run from CAN \$3,000 to \$4,000 per hunter, including guide, meals and accommodations, which would result in lost revenues to hunting outfitters of approximately \$876,000 annually. This does not include the additional cost of a license, the revenues of which go directly to the province. Licenses for non-residents of Manitoba for white tail deer and black bear, the



A COMMUNITY PERSPECTIVE on hunting and trapping rights:

It's important to protect hunting and trapping rights in the park because many people rely on it for their livelihood.

~Anonymous FRCN Fisherman

two main species hunted in the area, cost \$217 for each species. The cessation of commercial hunting would result in a total economic loss to the province of approximately \$63,364 annually in lost revenues from license sales. Combining lost revenues from hunting licenses and revenues to outfitters would result in a loss of approximately \$940,000 annually for non-resident hunters.

These GHAs are also used by resident hunters. Although less information is known about this group of hunters, some assumptions can be made in order to include the effects of resident hunters in this analysis. Approximately 1171 resident hunters were accounted for last year based on an annual survey (See Appendix B for the number of resident hunters in GHA 21 and 21A broken down by license type). These hunters hunted mainly white tailed deer, black bear, and moose. Based on license prices for each species, the total amount of lost revenues if all licenses were used within FBPP and if each hunter used just one license, is \$48,606 per year. Further, a recent study of resident hunters in Saskatchewan found that they spend an average of \$43 per day. If it were assumed that hunters spend an average of two days per trip, the loss of this activity would result in lost revenues of \$100,706 per year. This would result in a combined annual loss of approximately \$150,000.

Combining lost revenues from both resident and non-resident hunters results in a loss of approximately \$1.1 million.

¹⁵ All data from this section of the report has been obtained by personal communications with Brian Hagglund, Wildlife Allocations Manager, Manitoba Conservation.

¹⁶ It is not possible to assess what proportion of their operation depends on the FBPP area, because both GHAs also span areas outside FBPP, and outfitters have a tendency to move their sites around depending on conditions and animal densities. Thus, assuming that all 292 licenses would be lost is an overestimation, but without further information, a more accurate estimation can't be calculated.



3.1.1.4

FISHING: A NEUTRAL NET ECONOMIC IMPACT

Both commercial and recreational fishing are currently and would continue to be permitted within the park. Thus, no immediate net benefit or loss would be incurred through the expansion of park boundaries. However, peripheral benefits to the fishing industry due to FBPP's ban on commercial activities may be incurred because logging and mining are known to have a negative effect on the long-term health of regional fish habitat

by altering groundwater flow and surface runoff, turbidity, road construction, and mining effluent release into water systems and metal-leaching¹⁷. It is anticipated that a decrease in these activities as a result of park protection would contribute towards the long-term economic and social sustainability of fisheries in FBPP (Cara Gill, Manitoba Parks and Natural Areas Employee, pers. comm.).

¹⁷ Natural Resources Canada, Fisheries and Oceans Canada, Accessed July 2009: http://www.dfo-mpo.gc.ca/canwaterseauxcan/bbb-lgb/park-parc/pollution/menaces_e.asp

3.1.2

SOCIO-CULTURAL AND ENVIRONMENTAL COSTS

There are also less quantifiable socio-cultural and environmental costs of a provincial park, mainly stemming from poor management or careless use or overuse from tourists. These costs are more difficult to quantify, but are equally important to consider.

Some of the potential socio-cultural costs associated with parks that should be considered include the following¹⁸:

- Poorly planned tourism development can lead to increased congestion, littering, vandalism and crime.
- Tourism often employs locals seasonally, leaving residents unemployed during off-season.
- Commercialization of local traditions resulting in loss of integrity or authenticity (e.g. dances, ceremonies, etc.)
- Increased demand within the area brings increased costs, which may rise so much that local residents can no longer afford to live there.
- When local economies become too heavily dependent on tourism, they can become vulnerable to external factors, including economic recessions, currency fluctuations, etc.

*A WOMAN'S
PERSPECTIVE
on benefits to the
community:*

*As teachers, women
have a responsibility
to pass on teachings
about respect for mother
earth. A park will create
a much better, more
healthy lifestyle, and
will help our community
develop a respect for the
environment.*

*~ Diane Murdoch,
FRCN Medicine Woman
and Spiritual Healer*



¹⁸ Eagles, P.F., et. al, Sustainable tourism in Protected areas, Guidelines for Planning and Management, 2002



There are also certain negative environmental impacts that can be incurred by tourism, including¹⁹:

Ecosystems	<ul style="list-style-type: none"> • The construction of accommodation, visitor centres, infrastructure (e.g. trails and campgrounds), and other services can have a direct impact on the environment, from vegetation removal, animal disturbance elimination of habitats, impacts on drainage etc. • Wildlife habitat may be significantly changed (travel routes, hunting areas, breeding areas, etc.) by all kinds of tourist development and use.
Soils	<ul style="list-style-type: none"> • Soil compaction can occur in certain well-used areas. • Soil removal and erosion also occurs, and may continue after the disturbance is gone.
Vegetation	<ul style="list-style-type: none"> • Concentrated use around facilities has a negative effect on vegetation. • Transportation may have direct negative impacts on the environment (e.g. vegetation removal, weed transmission, animal disturbance). • Fire frequency may change due to tourists and park tourism management.
Water	<ul style="list-style-type: none"> • Increased demands for fresh water. • Disposal of sewage or litter in rivers, lakes or oceans. • Release of oil and fuel from ships and smaller craft. • Propeller-driven watercraft may affect certain aquatic plants and species.
Air	<ul style="list-style-type: none"> • Motorised transportation may cause pollution from emissions (from plane, train, ship or automobile).
Wildlife	<ul style="list-style-type: none"> • Hunting and fishing may change population dynamics. • Hunters and fishers may demand the introduction of foreign species, and increased populations of target animals. • Impacts occur on insects and small invertebrates, from effects of transportation, introduced species, etc. • Disturbance by visitors can occur for all species, including those that are not attracting visitors. • Disturbance can be of several kinds: noise, visual or harassing behaviour. • The impact can last beyond the time of initial contact (e.g. before heart-rate returns to normal, or before birds alight, or mammals resume breeding or eating). • Marine mammals may be hurt or killed by boat impacts or propeller cuts. • Habituation to humans can cause changed wildlife behaviour, such as approaching people for food.

There is potential for some of the above socio-cultural and environmental impacts to occur with the establishment of FBPP. However, FRCN and CPAWS are aware of these potential impacts and are currently developing a management plan to ensure that any impacts associated with the establishment of FBPP are minimized.

¹⁹ Eagles, P. F.J., et. al, Sustainable Tourism in Protected Areas: Guidelines for Planning and Management, UNEP, 2002



3.2 FISHER BAY PROVINCIAL PARK EXPANSION BENEFITS

3.2.1 ECONOMIC BENEFITS

Opportunities and facilities for environmental education and training in sustainable, ecologically friendly economic developments (such as eco and cultural tourism) will be created for local Aboriginal people. Local community members will be trained and will hold key management and administrative positions in the management of the provincial park. ~ FRCN

Economic benefits driven by a natural amenity-based economic strategy are generally felt at many levels of the economy, including at the macroeconomic (national), provincial, and community levels.

Although the focus of the economic benefits to be analyzed in this section are at a provincial and community level, the macroeconomic context should also be understood.

3.2.1.1

ECONOMIC BENEFITS AT A NATIONAL/MACROECONOMIC LEVEL

FRCN indicated in its vision statement that job creation for First Nations in the region was an important aspect of the creation of FBPP. In light of this, the most compelling data at the macroeconomic level for shifting towards a natural amenity-based economic strategy can be seen by considering the trends in tourism-related employment in recent years. Specifically, “nature-related tourism”, “ecotourism”, and “adventure tourism” are the fastest-growing sectors within the tourism industry. These activities are all proposed in FRCN’s vision statement for the park²⁰.

Chart 3 displays seasonally adjusted data for employment generated from tourism across Canada for a sixteen-year period spanning from 1996 to 2002. Since some tourism expenditures are for goods (such as groceries) produced by non-tourism industries, both the total number of jobs generated directly from tourism industries and the total number of jobs generated as an indirect result of all tourism activities are included. In the lower chart, an index for both tourism employment variables are compared to an index for the total number of jobs in the Canadian business sector. Tourism employment appears to cycle around a rising trend.

In absolute terms, as can be seen from the upper chart, the total number of jobs generated by all tourism activities across Canada increased from 390,400 in the first quarter of 1986 to 585,900 in the last quarter of 2002, representing a fifty percent (50%) increase. As shown in the lower chart, the two tourism employment indices are substantially higher than the index for the business sector employment. The total number of jobs generated by all tourism activities increased by 39.5% compared to a 31.6% increase in the total number of jobs in the Canadian business sector²².

By way of comparison, chart 4 compares trends in employment within the extraction industries to service

Chart 3²¹

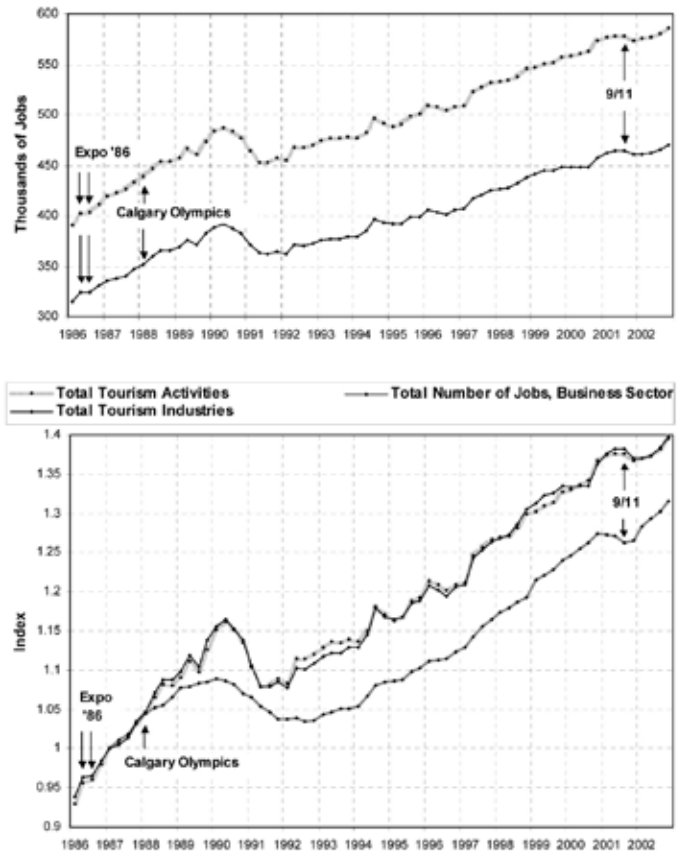
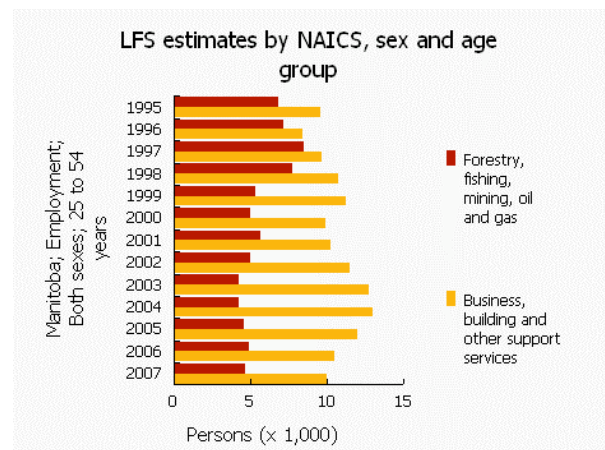


Chart 4²³



industries (tourism is categorized within ‘Business, building and other support services’). As can be seen, employment generated by extractive industries is on the decline, whereas employment generated by the service industries are on the increase.

²⁰ Economic Benefits of Protected Areas: The case for completion of a protected areas network in northwestern Canada.

²¹ Wilton, David. Long Term Trends and Cycles in Canadian Tourism. Department of Economics, University of Waterloo. Prepared for the Canadian Tourism Commission. 2004. P. 24.

²² Long-term trends and cycles in Canadian Tourism.

²³ Statistics Canada

3.2.1.2

ECONOMIC BENEFITS AT A PROVINCIAL/ LOCAL LEVEL

It's important to understand the economic benefits both to the province and to the communities in the Fisher Bay area that a provincial park could create. The findings of this section should clarify the magnitude of and drivers behind these economic benefits.

In order to analyze the impacts of the proposed FBPP at a provincial and local level, the Economic Impact Model for Parks and Protected Areas (EIMPA) was utilized. The EIMPA software, developed in partnership by the Department of Canadian Heritage and the Canadian Tourism Commission, enables the calculation and analysis of economic impacts of expenditures on tourism activities at the provincial level in Canada, including both expenditures by the government on the development and operation of places such as natural areas, protected areas, parks and historic sites, as well as the tourism spending associated with these events. In recent years, EIMPA has been successfully used to examine economic impacts of the creation and expansion of numerous parks in Canada, including Kluane National Park in the Yukon, Wolf Lake in the Yukon, and Jennings Lake in BC.

Because FBPP is a conceptual rather than an existing park, the key to accurate cost/benefit calculations using EIMPA was to find a similar protected area (preferably in Manitoba), or proxy, that could ideally provide the necessary economic information, including visitor counts and budgetary spending. The park selected as the proxy for this study was Turtle Mountain Provincial Park (TMPP) because, compared with other Manitoba parks, it most closely resembles the expected situation at FBPP. This choice was made after a lengthy comparison of different provincial parks in Manitoba of size, anticipated level of development, proximity to Winnipeg, and park attractions (e.g. wilderness and natural features). The EIMPA was then used to calculate benefits that the province and surrounding communities may receive from spending due to the development of the provincial park proposed by FRCN.



*A COMMUNITY PERSPECTIVE
on benefits of access to food and medicines from the land:*

First and foremost, there's a sense of respect, knowing the resources are there, which creates a sense of family responsibility that we can all contribute to our own sustenance through the land. Also, if we had to buy groceries it would cost more and we'd have to purchase more processed foods.

*~ Diane Murdoch,
FRCN Medicine Woman
and Spiritual Healer*



The benefits calculated from EIMPA and their definitions, as seen in the table below, are²⁴:

- Labour Income: Labour Income includes workers' wages (amount of wages and salaries paid to individuals), supplementary labour income and the net income of unincorporated businesses.
- GDP: Gross Domestic Product (GDP) includes labour income (as defined above) and the net income of incorporated businesses (profits), net of taxes and subsidies on production. It actually represents the net value of production (or value added) resulting within defined geographical boundaries.
- Employment (Full-Time Equivalent: FTEs are the equivalent of one year of work for one person.)
- Tax Revenue: Tax Revenue is derived from the tax on products (including GST, PST, manufacturer's sales tax, harmonized sales tax, amusement taxes, and excise taxes) and the tax on production (made up mainly of property taxes and licenses and permits). It does not include income tax.

These four indicators are further broken down in the table below as infrastructure, wages/salaries, goods/services, and visitor spending. The first three categories all relate to the park's budget, and the fourth is money spent by visitors to the park in the province. The indicators are further broken down into direct and indirect impacts. Direct impact (DI) is what results from direct spending. Indirect impact (II) is what results from the re-spending by suppliers, and their suppliers²⁵. For example, the box highlighted in green in the table below is the amount of wages and salaries paid to park employees and contractors, or the Direct Impact of Labour Income. The indirect impact, \$168,069, is the effect that the \$539,596 has on the larger provincial economy.

*AN ELDER'S PERSPECTIVE
on establishment of the Park:*

Personally, it would mean a lot to me. When I first heard about the Park, it gave me a sense of being thankful – thankful that the land and animals wouldn't be destroyed.

*Waiting for the Thunder,
FRCN traditional medicine man*

²⁴ EIMPA Instruction Manual

²⁵ Ibid.

As can be seen from the table below, the total economic impact of a provincial park, such as the one proposed by FRCN, at a provincial and local level from park operations and visitor spending is \$14,600,020 per year. The total employment impacts, including direct and indirect, is 108.5 FTEs, or the equivalent of 108.5 full time jobs. For more information about the input data for these calculations and how the EIMPA uses the input data to analyze this data, please see Appendix A.

It is important to note that the total visitor expenditure input is an approximation because the only data available from TMPP was a visitor car count, which for the year of 2007, was 27,172. Based on this car count, it is estimated that \$12.91 million would be spent as a result of the establishment of FBPP.²⁶ This estimate is conservative in that it anticipates one-day visits to the park, despite the fact that a portion of park visits may be of a longer duration. However, this is counterbalanced by the fact that we are assuming that that one hundred percent (100%) of the visitors' expenditures are attributable to the existence of the park, which is likely to be an overstatement. Further, it takes into account spending by local and provincial residents who may have spent their time and money within the province regardless of the existence of FBPP.

When considering the above number, a few key assumptions and clarifications related to the estimation of economic benefits through EIMPA should be considered. Given that this would be a provincial park, it is likely that many of the potential visitors will be from within the province, and thus, will not be a source of funds from outside of the province. As a result, there is unlikely to be a significant increase in provincial wealth as a result of the establishment of FBPP. Rather, funds that might have been spent elsewhere within Manitoba will be re-directed to this specific area of province. Also, because the park's budget comes mainly from the province of Manitoba's budget, as opposed to the federal budget, the claim cannot be made that the operational budget is introducing new funds into the province. However, the claim can be made that the park is facilitating an introduction of new funds into the FBPP area. Also, there will likely be an injection of federal funds into the province in the form of a one-time capital outlay as a result of the establishment of the park. An approximation of this federal expenditure for FBPP (that would result from the establishment of a new provincial park infrastructure, including lagoons, campground, washroom/shower facility, and an office building) is approximately \$3.35 million. (Jim Johnson, Park Manager, Manitoba Conservation, pers.comm.)

	GDP (DI)	GDP (II)	Labour Income (DI)	Labour Income (II)	Tax Revenue (Total)	Total	Employment (Total)
Infrastructure	\$ 2,778	\$ 682	\$ 2,501	\$ 454	\$ 220	\$ 13,270	0.10
Wages and Salaries	\$ 539,596	\$ 275,757	\$ 539,596	\$ 168,069	\$ -	\$ 3,046,036	20.60
Goods and Services	\$ 33,430	\$ 11,975	\$ 20,843	\$ 7,318	\$ 3,719	\$ 154,570	0.90
Visitor Spending	\$ 1,974,360	\$ 1,355,352	\$ 1,390,425	\$ 703,323	\$ 269,612	\$ 11,386,144	86.90
Total	\$ 2,550,164	\$ 1,643,766	\$ 1,953,365	\$ 879,164	\$ 273,551	\$ 14,600,020	108.50

²⁶ This value was multiplied by the average carload of 3.8 passengers, which is a standard multiplier for Manitoba Conservation (Ken Schykulski, Manitoba Conservation, pers.comm.), for a total of 103,254 visitors at TMPP during 2007. This was then multiplied by \$125, which is Statistics Canada's estimation of the Average Daily Expenditure per Person (for all types of trips taken by Canadians: same day trips or overnight trips and for any kind of purposes including Visiting Friends and Relatives, Pleasure, Personal or Business). This calculation is as per standard EIMPA protocol.



3.2.1.3

ECONOMIC BENEFITS AT A COMMUNITY/MICROECONOMIC LEVEL

The presence of a protected area nearby is not an absolute indicator of increased economic development, nor is it a requirement for a region to develop an economic strategy that takes advantage of the area's natural amenities. However, there is much evidence that demonstrates that parks do assist economic development in several ways.

Firstly, as is captured in the EIMPA model, there is a direct link between a park's revenue generation and an increase in tourism. This increase in tourism and revenue generation has a trickle-down effect in the area of revenue and job creation. The area around

FBPP would likely experience similar economic impact due to the fact that TMPP seems to be similar in many ways to the envisioned FBPP.

*A COMMUNITY PERSPECTIVE
on how a provincial park could be used:*

We could use the park to bring in groups from the outside to teach them about our history, our traditional ways. We could also have more ceremonies, like a sundance, or hold pow wows.

*~ Diane Murdoch,
FRCN Medicine Woman and Spiritual Healer*

Another important driving force for economic development from a natural amenity-based economic strategy is simply the natural influx of new residents who are attracted by a high quality lifestyle with ready access to outdoor activities or an appreciation for natural beauty. This stems from a theory of economic development shifting from “jobs first, then migration,” to “migration first, then jobs”²⁷. In this theory, migrants first decide where they want to live, and then create jobs for themselves in their new location. In turn, the in-migration of people seeking a higher quality of life stimulates the local economy. The demographic qualities that these new residents often bring to their new community include education, financial stability, and transferable sources of wealth (including pensions, investment incomes, entrepreneurial activities, remote work situations, etc.), as well as transferable skill sets (such as information technology, management, and hospitality)²⁸.

Further evidence of this theory is corroborated by a study entitled “Natural Amenities Drive Population Change”²⁹, which compared population growth rates of U.S. counties and found the highest growth occurred in counties with amenities that

included mountains, and the presence of rivers, streams and lakes. A follow-up study found that the greatest numbers of new migrants are attracted by recreational nature, scenic amenities, proximity to national parks or other federal lands, and a wealth of service-based economies³⁰.

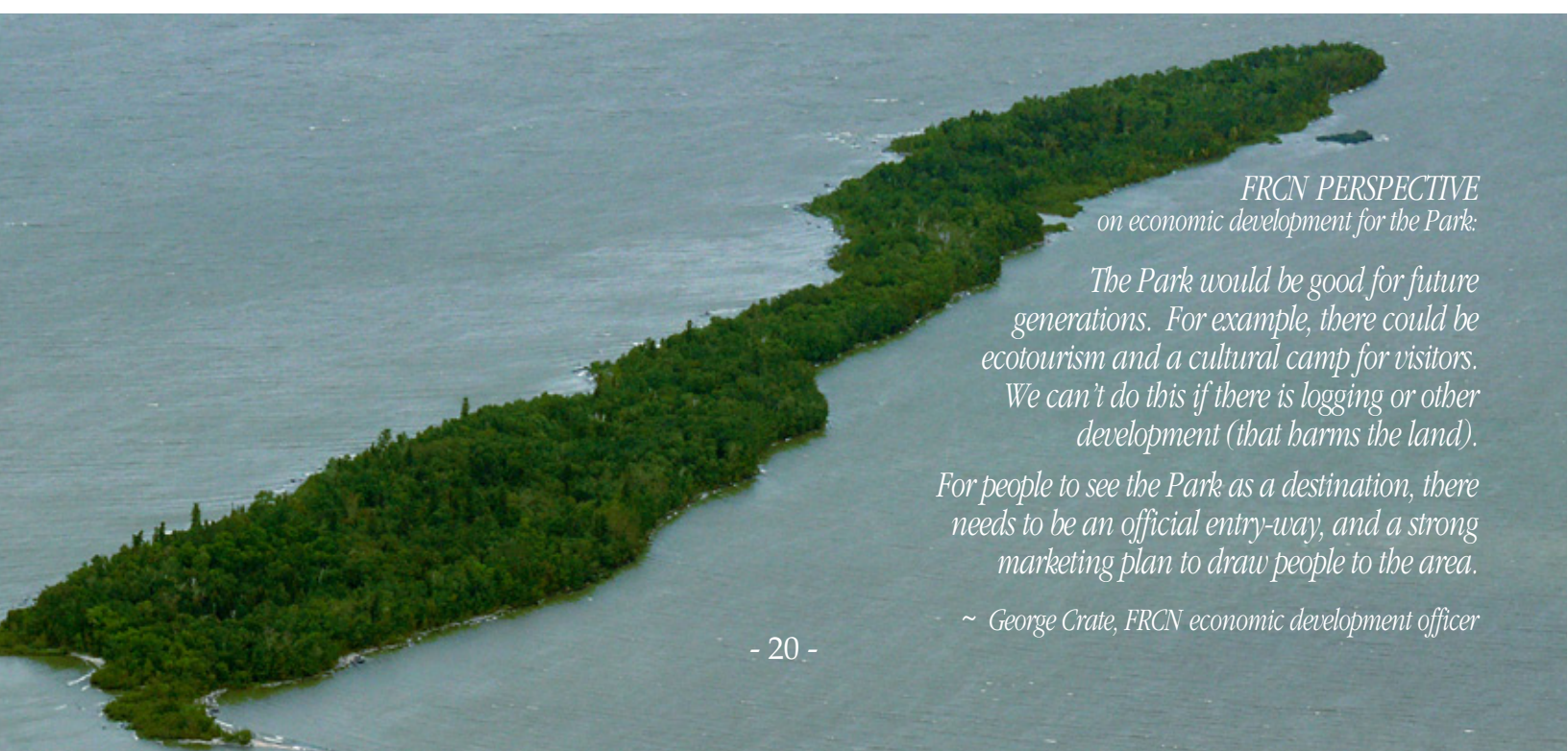
Thus, according to this theory, a healthy economy fostered by a natural amenity-based economic strategy affects the community by attracting outdoor enthusiasts who spend money in the park and in the region, and are often of a high socio-economic class that creates high economic impact for the area. This, in turn, creates diverse opportunities for economic development that stay within rural communities, and decreases the impacts of boom and bust cycles caused by resource extraction industries, with greatly decreased long-term public liability for monitoring, cleanup or restoration costs often associated with resource extraction industries. In the case of the Fisher Bay region, and the First Nations and non-First Nation communities in the area, this economic benefit can help to support traditional lifestyles while still increasing the quality of life in the area.

²⁷ Rasker, R. et. Al., Prosperity in the 21st Century: The Role of Protected Public Lands, Sonoran Institute, 2004

²⁸ Johnson, J, Wharton-Glacier International Peace Parks Economic Impact Study

²⁹ McGranahan, D.A. 1999. “Natural Amenities Drive Population Change.” Food and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Report 781, 1-24.

³⁰ Shumway J.M. and S.M. Otterstrom . 2001. “Spatial Patterns of Migration and Income Change in the Mountain West: The Dominance of Service-Based, Amenity-Rich Counties.” Professional Geographer. Vol. 53(4): 492-502.



*FRCN PERSPECTIVE
on economic development for the Park:*

The Park would be good for future generations. For example, there could be ecotourism and a cultural camp for visitors. We can't do this if there is logging or other development (that harms the land).

For people to see the Park as a destination, there needs to be an official entry-way, and a strong marketing plan to draw people to the area.

~ George Crate, FRCN economic development officer

These benefits occur by taking advantage of the many economic opportunities that arise as a result of a natural amenity-based growth strategy, as can be seen in the following table:

Protected Area	<ul style="list-style-type: none"> • Jobs operating and maintaining protected areas and facilities; • Natural resource and wildlife management, protected area planning and management, visitor management, research and monitoring; • Enforcement, conservation stewardship and river guardian programs
Tourism-Related (In Park)	<ul style="list-style-type: none"> • Wilderness guiding and outfitting for canoeing, rafting, hiking, horse travel, photography, research, education, cultural experiences; • Guided fishing, lodge-based recreation and nature appreciation; • Wilderness tourism services such as air charters, ground transportation, shuttle services on rivers, supplies, operating recreation and cultural interpretation facilities, food and accommodation; • Ecological and cultural or historic research programs, ecological monitoring, education programs, youth outdoor education programs, rediscovery camps and trips with local people; • Guided or unguided bird watching for specific uncommon or rare species; • Local crafts, harvest and sale of local natural health products
Tourism-Related (Outside Park)	<ul style="list-style-type: none"> • Development of local supporting retail businesses or cooperatives; • Development of tourism and recreation infrastructure; • Development of general gateway town infrastructure; • Increased visitor spending on products and services available in the region

In order to estimate how the establishment of FBPP may benefit the surrounding area’s economic growth as a result of natural amenity migration, a proxy community with similar demographic characteristics that has experienced economic benefits due to a provincial park was used. This study will continue to use the example of TMPP, focusing on its gateway community of Boissevain, and extrapolate how those benefits might affect the communities surrounding FBPP in a similar way³¹.

Boissevain is a town whose history is inextricably linked to its relationship to the railway. The coming of the CPR line in 1885 is one of the main reasons for the existence of the town. However, during the

Depression of the 1930s, the railway began a steady decline, which in turn created a downward trend in the prosperous history of Boissevain, until the region made the strategic shift towards a natural amenity-based economic strategy. This coincided with the decision to create TMPP just 20 kilometres away in 1961. The town’s website now brags of Boissevain’s steady population increase, specifically with young families and retiring seniors, while many other communities in the area have experienced severely declining populations. The establishment of TMPP has been credited with contributing to an increase in population of Boissevain of over fifteen percent (15%) since its establishment in the 1960’s, and a one hundred sixty-seven percent (167%) increase in the median household income in the past twenty years.

³¹ Johnson, J, Wharton-Glacier International Peace Parks Economic Impact Study

Based on the similarities between the proposed FBPP and TMPP, it is possible that the communities surrounding FBPP, including FRCN, Peguis, Jackhead, Hodgson, Fisher Branch, Matheson Island, Fisher Bay, and Pine Dock, would experience a similar upswing in population size, employment, demographic shift, the number of businesses, and other positive indicators. This upswing can be valued in terms of economic benefits due to increased population. For example, if a similar increase in population seen at Boissevain were reproduced in the FBPP area, there would be a cumulative increase of the 200 people or 60 families across the eight communities over a 20-year period.

These additional 60 families would, by their very presence, create an economic impact on the community by spending money in the community for shelter, food, entertainment, etc. The median private household income in 2005 for this area is \$33,728 per year. Subtracting savings and taxes of approximately twenty-five percent (25%) leaves \$25,296. Assuming that another twenty-five percent (25%) is spent outside the community³², this leaves approximately \$18,972 that would be spent in the community per family each year. This figure is conservative because the provincial park would likely bring higher paying jobs to the area,

elevating the median household income. Thus, at a total of 3 families per year moving to the area, the total expenditures by these migrant families to the Fisher Bay area would total approximately \$57,000 per year, or \$114,000 including the multiplier effect³³.

A COMMUNITY PERSPECTIVE

on what the provincial park would mean to the community:

This park would create a sense of respect, and the land would become part of the community. Not that it wasn't before, but it will establish much more meaning.

Ten years down the road I'd like to bring people to it and show them our pride in what we've helped to establish.



*~ Diane Murdoch,
FRCN Medicine Woman
and Spiritual Healer*

³² Assumptions used in Waterton-Glacier International Peace Park Economic Impact Study

³³ This figure is for Year 1 after the park has been declared a provincial park. It's important to note that if each year, 3 new families are attracted to the area, at the end of 20 years, 60 families over and above current levels have been attracted to the area, which gives a total of (60 x \$18,972 spent in the community per family) \$1,140,000 for year 20.



3.2.1.4

FRCN COTTAGE DEVELOPMENT

A further benefit to the area is the value that a provincial park would add to the pending lakeshore cottage development that FRCN is in the initial stages of developing as a joint venture with the Province of Manitoba. Although the baseline economic benefits that this project will bring to the community are not dependent on the establishment of a provincial park (and thus should not be considered as part of the economic benefits), studies have shown an increase in property value based on proximity to natural amenities. One recent study³⁴ uses data from properties bordering on permanently preserved

forested land in Michigan, to look at the effects that preserved forests have on building prices. This study found that the real estate bordering on the preserved forest sells at a premium of between nineteen percent (19%) and thirty-five percent (35%) of the total lot prices. The study also finds that lots with a water feature command an even greater premium. If this same premium were to be added to the \$1.7 million dollars in annual revenue that is expected to be generated by this cottage development, this would result in an additional \$580,000 in annual revenue for this project, or \$1.16 million with the multiplier³⁵.

³⁴ Thorsnes, Paul. 2002. The Value of a Suburban Forest Preserve: Estimates from Sales of Vacant Residential Building Lots. *Land Economics* 78(3): 426–41.

³⁵ 35% was used in these calculations due to the fact that there is a water feature, and thus the premium is likely to be on the high end.



3.2.2

ENVIRONMENTAL BENEFITS

Fisher Bay has a number of unique natural assets that make valuable contributions to biodiversity and ecosystem conservation in the area. Based on a study of Fisher Bay’s areas of ecological significance³⁶, natural assets in the FBPP and proposed expansion area include:

Land/ Forests	<ul style="list-style-type: none"> • Large intact wilderness, reservoir of boreal biodiversity • Intact boreal forest and taiga • Treed shorelines • Long sandy beaches • Large islands covered with old-growth forests • Old growth jack pine, spruce, aspen, and tamarack • Plants of note including Swamp-pink, Fox Sedge, Water Star-Grass, and Large Roundleaf Orchid
Water Bodies/ Water- sheds	<ul style="list-style-type: none"> • Pristine wild waterways for canoeing, including Ebb and Flow Lake, Lake St. George, Lake St. Andrew • Fresh water and intact aquatic ecosystems • Wetlands, migratory bird staging and nesting areas
Wildlife	<ul style="list-style-type: none"> • Limestone Caves providing habitat for bats • Species of special interest such as moose, wolves, and elk • Major migration stop for ducks, Canada geese and other waterfowl • Many small islands, shoals and reefs that provide nesting habitat for colonial waterbirds • Rare bird species including American white pelican, double-crested cormorant, gulls, herons, terns, and piping plover • Bald Eagle population nesting areas • Opportunities to see habitat for species at risk including Woodland Caribou, Piping Plover, Least Bittern, Sprague’s Pipit, Yellow Rail, Golden Winged Warbler, Short-Eared Owl, Canadian Warbler. • Fish including the Walleye, Northern Pike and Mullet, Shortjaw Cisco, Chestnut Lamprey, Silver Chub, Weed Shiner, River Shiner, Spoonhead Sculpin, Rainbow Smelt, White Bass, and Lake Sturgeon
Cultural	<ul style="list-style-type: none"> • The Leigh Cochrane Memorial Visitor Center on scenic Fisher River that showcases the community’s unique history and relationship with the land through various programs, activities, special events, and concerts. The Center includes a log home surrounded by patio decks and an upper viewing balcony, as well as a 317’ memorial boardwalk that connects the Center to a massive log frame outdoor amphitheatre/stage. • Local interest in conservation and stewardship • First Nations culture, history, and ties to the land • Local history and culture

The significance of protecting these contributions from damage from extractive industries would likely outweigh any of the concerns mentioned in the previous section of the impacts of tourism on these ecosystems.

³⁶ Fisher Bay Park Reserve Areas of Ecological Significance Study, Centre for Indigenous Environmental Resources, 2006

Although the environmental value of these contributions is important simply from a conservation perspective, intact ecosystems also provide many services that can be valued from an economic perspective as well. The following employs a “payment for ecosystem services” framework. Payment for ecosystem services is a methodology used to assign an economic value for the ecosystem services that a given region provides.

Canada’s boreal region provides a wide range of ecosystem goods and services. These can be divided into two groups. The value of the first group, including commodities such as timber from forests, oil and gas, and hydroelectricity, is relatively straightforward to measure in terms of their contribution to Canada’s GDP because the items within it are market-based goods. Those values that are applicable to the FBPP area have been considered in the economic costs and benefits section above.

The value provided by the second group, including the wide range of ecosystem services provided by boreal areas such as carbon sequestration by forests and peatlands, oxygen production, biodiversity, water supply, regulation, and purification, pest control, non-timber forest products, and Aboriginal subsistence values, are much more difficult to assign a value to, and are not accounted for in Canada’s GDP.



*A YOUTH PERSPECTIVE
on benefits to the community:*

I think (Fisher Bay Park Reserve) would have a positive impact on the reserve. It would bring more people, and the reserve has lots to offer.

~ Youth at FRCN

However, a study recently conducted by The Pembina Institute, entitled “Counting Canada’s Natural Capital: Assessing the real value of Canada’s boreal ecosystems”, seeks to estimate the economic value of these ecological goods and services based on a natural capital “balance sheet” that allows decision-makers to account for the full economic value of the boreal region, as opposed to only marketable commodities. The study did this by developing the “Boreal Ecosystem Wealth Accounting System”, a tool for measuring and reporting on this value. The tool is incorporated here as a means for valuing the ecosystem services provided by the boreal forest of the proposed FBPP.

The full breakdown of the economic valuation estimates of the boreal forest based on the Pembina Institute study are summarized in the table in Appendix C, and include both annualized market values of commodity extraction as well as the non-market values of ecosystem services in the boreal region for 2002, for comparison purposes.

The Pembina Institute estimated the non-market value of boreal ecosystem services at \$159 per hectare per year of the boreal ecosystem land base. This information provides an estimate for the valuation of ecosystem services contained within the FBPP area. The area being calculated is the full 155,000 hectares of landmass that has been proposed as a provincial park. Although it is not all land, with Fisher Bay occupying a large area within the proposed park, the entire land mass has been included in this calculation, due to the fact that the \$159 per hectare per year from the Boreal Lands Accounts Framework includes all water bodies, including rivers streams and lakes. Based on this value of \$159 per hectare of boreal ecosystem land base, the value of the non-market ecosystem goods and services housed within the 155,000 hectares of the proposed FBPP totals \$24,645,000 per year.



There are a number of points to consider in order to understand the accuracy of this value. Firstly, the figures calculated in the Pembina Institute study are a rough approximation, as values used were borrowed from past studies using a simplified benefits transfer approach, and do not directly represent a value for the boreal ecosystem. Further, the figure of \$159 per hectare per year does not capture the marginal value of a hectare of boreal but rather the average value of a hectare of land from other regions. (pers. comm., Mike Kennedy, Senior Resource Economist, The Pembina Institute)

Further, in considering the importance of the value estimated for the proposed FBPP, the claim is not

that without the park designation these services will suddenly cease. However, the dollar figure of \$25.4 million is an important indicator that these services do have value, and that establishment of a provincial park as proposed by FRCN will contribute towards the long-term continuation of these valuable ecosystem services.

Finally, it is important to note that although there is currently no market that can be used to trade all of the ecosystem services mentioned above, the carbon market is growing steadily, and many economists predict that mechanisms to buy and sell other ecosystem services will also soon follow suit.

4.0

Conclusion

ANNUAL COSTS		ANNUAL BENIFITS	
Logging	\$1,070,700	Park Budget & Tourism Spending	\$14,600,020
Hunting	\$1,088,676	Natural Amenity Migration	\$57,000
Mining	\$ -	Cottage Industry	\$580,000
		Payment for Ecosystem Services	\$24,645,000
Total	\$2,159,376	Total	\$39,882,020

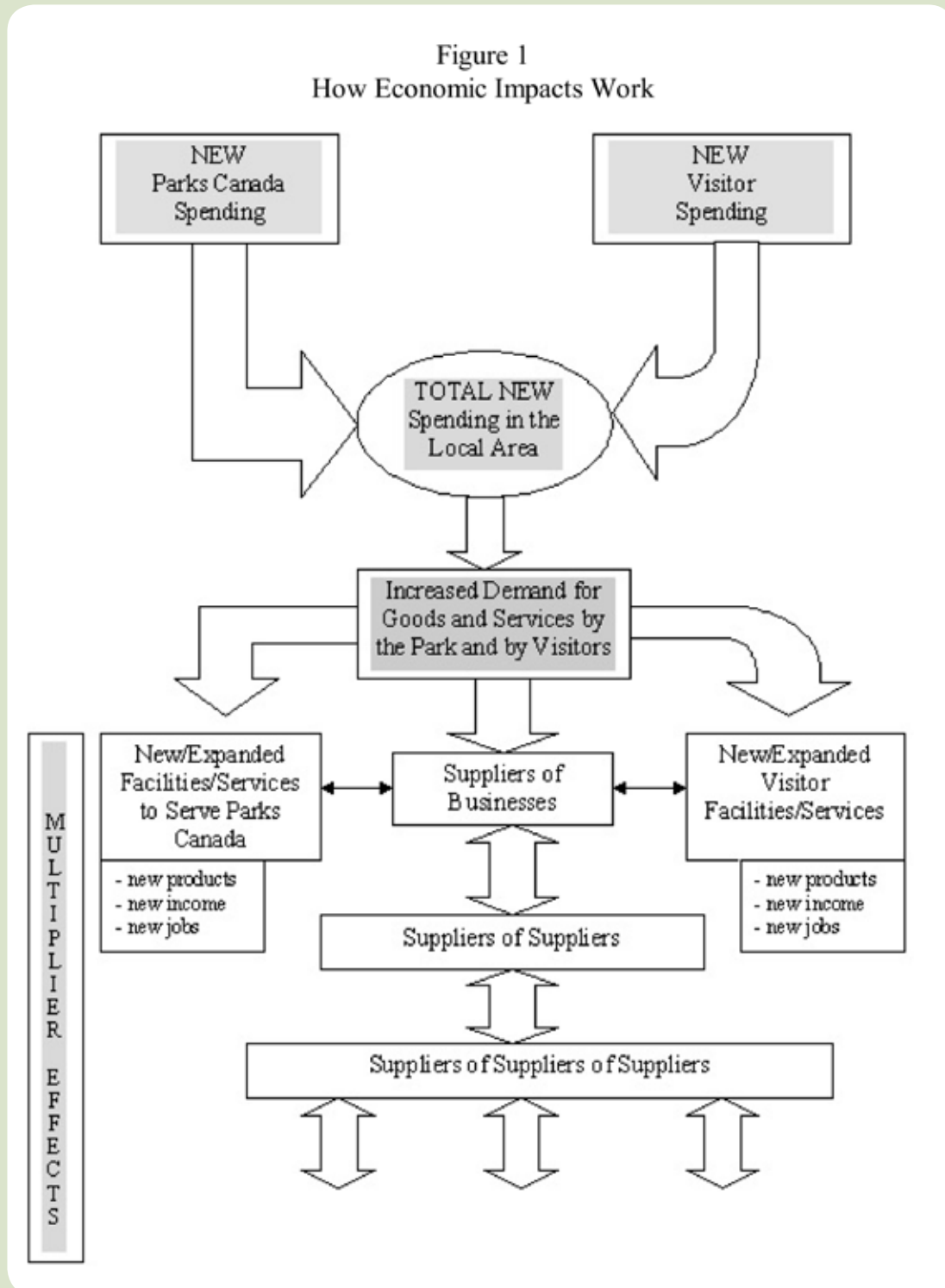
In conclusion, it is clear that the economic benefits of a provincial park with the boundaries requested by FRCN and CPAWS are significant, and far outweigh the costs. Overall, this analysis suggests that the benefits studied would affect the province, the region, and the nearby communities, in a positive way. The benefits are significant from an economic, an environmental, and socio-cultural perspective. From an economic perspective, the benefits outweigh the costs almost eighteenfold. From an environmental perspective, careful land use planning and management should minimize any environmental repercussions. Further, even without the inclusion of the ecosystem services valuation, the benefits continue to far outweigh the costs. Finally, although the study did not focus on the socio-cultural aspect of establishing FBPP, it is

clear from the statements made by various FRCN community members who were interviewed during the course of this research (see quotations in text boxes throughout the document), that there would be many socio-cultural benefits as well.

This study has attempted to reflect the true economic costs and benefits that would be felt as a result of the proposal to create the park according to the wishes of FRCN. Despite the many less tangible and quantifiable benefits that have been left out of the economic equation due to the fact that they are more difficult to value, it is clear that the economy, the environment, and the society of the Fisher Bay region area has much to gain in the expansion and permanent protection of FBPR as a provincial park.

APPENDIX A

To clarify how the EIMPA uses the input data to analyze this data, please see the following diagram³⁸:



³⁸ "The Potential Economic Impact of a New National Park in Natural Region #7: Wolf Lake Area of Yukon and Jennings Lake Area of British Columbia"

APPENDIX B

Resident Hunter Data

The following table outlines the estimated resident hunter use in GHA 21 and 21A, based on the Manitoba Conservation 2006/2007 resident hunter questionnaire:

SEASON	GHA	ESTIMATED HUNTERS
Archery Deer	21	28
Archery Deer	21A	8
General Deer	21	384
General Deer	21A	112
Muzzleloader Deer	21	129
Muzzleloader Deer	21A	36
Second Deer	21	23
Youth Deer	21	55
Youth Deer	21A	6
General Moose	21	27
General Moose	21A	297
Draw Moose	21	96
Bear	21	50
Bear	21A	4

TABLE 1: SUMMARY OF NATURAL CAPITAL ECONOMIC VALUES FOR CANADA'S BOREAL REGION

Boreal Ecosystem Wealth Natural Capital Accounts	Monetary Economic Values and Regrettable Costs ^a (2002\$ per annum) ^b
Forests	<p>Market values:</p> <ul style="list-style-type: none"> • \$14.9 billion in estimated market value of forestry-related GDP in the boreal region (est. 2002) <p>Costs:</p> <ul style="list-style-type: none"> • \$150 million in estimated cost of carbon emissions from forest industry activity in the boreal region (deduction against forestry-related GDP) <p>Non-market values:</p> <ul style="list-style-type: none"> • \$5.4 billion in value of pest control services by birds • \$4.5 billion for nature-related activities • \$1.85 billion for annual net carbon sequestration (excludes peatlands) • \$575 million in subsistence value for Aboriginal peoples • \$79 million in non-timber forest products • \$18 million for watershed service (i.e., municipal water use) • \$12 million for passive conservation value
Wetlands and peatlands	<p>Non-market values:</p> <ul style="list-style-type: none"> • \$77.0 billion for flood control and water filtering by peatlands only • \$3.4 billion for flood control, water filtering, and biodiversity value by non-peatland wetlands • \$383 million for estimated annual replacement cost value of peatlands sequestering carbon
Minerals and subsoil assets	<p>Market values:</p> <ul style="list-style-type: none"> • \$14.5 billion in GDP from mining, and oil and gas industrial activities in the boreal region (est. 2002) <p>Costs:</p> <ul style="list-style-type: none"> • \$541 million in federal government expenditures as estimated subsidies to oil and gas sector in the boreal region • \$474 million in government expenditures as estimated subsidies to mining sector in the boreal region
Water resources	<p>Market values:</p> <ul style="list-style-type: none"> • \$19.5 billion in GDP for hydroelectric generation from dams and reservoirs in the Boreal Shield ecozone (est. 2002)
Waste production (emissions to air, land, and water)	<p>Costs:</p> <ul style="list-style-type: none"> • \$9.9 billion in estimated air pollution costs to human health^c
TOTAL market values (forestry, mining, oil and gas industrial activity, and hydroelectric generation)	\$48.9 billion
Less cost of pollution and subsidies:	
• Air pollution costs	– \$9.9 billion
• Government subsidies to mining sector	– \$474 million
• Federal government subsidies to oil and gas sector	– \$541 million
• Forest sector carbon emission costs	– \$150 million
NET market value of boreal natural capital extraction	\$37.8 billion
TOTAL non-market value of boreal ecosystem services	\$93.2 billion
RATIO of non-market to market values	2.5

Note: Market values are denoted in blue; non-market values in green and environmental/societal costs in brown.

a These are either environmental or societal costs associated with market-based activities (e.g., forest industry operations).

b A GDP chained, implicit price index was used throughout the study to standardize to 2002 dollars.

c Based on European Union air pollution cost estimates for SO₂, NO_x, PM_{2.5}, and VOC for 2002.

³⁹Anielski, Mark, "Counting Canada's Natural Capital: Assessing the real value of Canada's boreal ecosystems", The Pembina Institute, p. 3.