



WAUBETEK
BUSINESS DEVELOPMENT CORPORATION

*"Investing in the
Aboriginal Business Spirit"*

WAUBETEK ABORIGINAL FISHERIES STRATEGY

DEVELOPING COMMERCIAL & RECREATIONAL FISHERIES, AQUACULTURE & RELATED INDUSTRIES

**Waubetek Business Development Corporation
General Delivery
Birch Island, ON P0P 1A0
Phone: (705) 285-4275
Fax: (705) 285-4584**



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Prepared for:

Waubetek Business Development Corporation
General Delivery
Birch Island, ON
P0P 1A0

Prepared by:



1076 Tillison Avenue
Cobourg, ON K9A 5N4
Tel (905) 377-8501 Fax (905) 377-8502

1.0 INTRODUCTION

A significant challenge facing both the Government of Canada and Aboriginal leadership today is the creation of a sustainable economic base for First Nations communities. Aboriginal communities have been hit particularly hard by the decline of resource-based economies. Most notably, as Canadians have witnessed the collapse of the Atlantic groundfish fishery, the Pacific salmon fishery and the inland Great Lakes fisheries, it is often First Nation communities that suffer most¹.

While support for rural communities in general is a justifiable public policy objective, support for isolated Aboriginal communities is a particularly important objective. There is an inherent lack of mobility among Aboriginal peoples and the survival of unique Aboriginal cultures is linked intrinsically to the resource base of their traditional territories. "Aboriginal people will continue to live and depend upon their tribal territories for culture and material sustenance. They cannot, unlike multinational or trans-national corporations, simply relocate to another jurisdiction when the business climate dictates ... natural resources must be viewed from the long-term perspective of providing for future generations."² Therefore, long-term sustainable employment opportunities are required - not short-term, make-work projects.

Aboriginal communities throughout the Robinson-Huron Treaty Group have historic ties to the water and, as such, have long been actively involved in catching fish for food, social, ceremonial, trade and bartering purposes. Throughout Canada, such activities have been recognized in treaties, land claim and self-government agreements. In recent times, the courts have ruled for a modern interpretation of fishing rights. Aquaculture is a logical extension of such rights. However, objectives and perspectives pertaining to fisheries and aquaculture development within Aboriginal communities are mixed. Misperceptions and the lack of comprehensive information have at times led to disagreement within and between communities, and present an unnecessary constraint to further economic development.

Initiatives aimed at enhancing economic development within Aboriginal communities are consistent with the federal government's emphasis on promoting entrepreneurial skills and job creation among Aboriginal people. The purpose of this initiative is to identify feasible opportunities for Aboriginal economic development in the fisheries and aquaculture sectors for those communities within the service area of Waubetek Business Development Corporation.

1.1 Background

Based on a culture of co-existence with land and water, Aboriginal communities in the Great Lakes basin have a history of fishing for food, ceremony and commerce that precedes the arrival of European settlers. Lake trout, whitefish and sturgeon were the main species captured, originally with nets made from twisted and knotted strands of willow bark. In winter, fish were speared through holes in the ice³.

¹ Stechey, D., S. Connors and G. Yaremchuk (2001). Opportunities in aquaculture for First Nation communities. Department of Indian Affairs and Northern Development. Ottawa, ON.

² Helin, C.D. Creating Wealth in First Nations: Understanding the Aboriginal Perspective. Presented, National Conference on Creating Wealth with First Nations, Vancouver, 1993.

³ Fishing in the Great Lakes. <http://depts.washington.edu/stepcofs/>

Commercial fishing began in the 1820s and expanded through the 1880s. Prior to 1800, fisheries were an economic and cultural backbone of the First Nation communities on Georgian Bay. In the late 1800s and early 1900s, the supporting fish populations were decimated by large Euro-Canadian and American fishing fleets in Lake Huron and Georgian Bay⁴. With the introduction of modernized gear, catches increased again through the 1900s. By the 1950s, however, the heyday of the commercial fishery on the Great Lakes was over. The supply of the most valuable species declined due to over-exploitation and habitat alteration.

Nevertheless, the fishery remains a core economic activity of Aboriginal communities within the Robinson-Huron Treaty Group. Of the 27 First Nations within the service area of the Waubetek Business Development Corporation (Figure 1), many are actively engaged in commercial fisheries; however, Aboriginal participation has not been fully quantified. The Ontario Ministry of Natural Resources (OMNR) manages the commercial fisheries in the region by setting quotas for the commercially important species.

Figure 1: Waubetek Business Development Corporation Service Area



In 2010, the commercial fishery on Lake Huron generated approximately 1.9 million kilograms of fish valued in excess of \$4.5 million annually. Lake whitefish is the main species representing over 67% of the catch. Lake trout, yellow perch, walleye, sturgeon and cisco are other significant species. Participation in the commercial fishery is largely non-Aboriginal - there are 37 licenced commercial fisheries and 9 Aboriginal rights-based fisheries in the region. The yield returns to First Nations communities and individuals are far below the potential for these fisheries. The major benefit from the resource accrues largely to non-Aboriginal interests.

Aquaculture has also become a significant industry in Ontario, and particularly in Waubetek's service area. Presently, commercial aquaculture in Ontario generates approximately 5,500

⁴ Saugeen Ojibway Fisheries Management - http://www.uoguelph.ca/~scrawfor/research/research_aboriginal/

tonnes of fish annually, 95% of which is rainbow trout⁵, having a farm-gate value of approximately \$18 million dollars. Cage culture operations account for nearly three-quarters of all fish commercially farmed in Ontario.

Six companies currently operate nine cage culture sites in Lake Huron, where production exceeds 4,000 tonnes of rainbow trout per annum; however, there has been no growth in this sub-sector for more than 10 years. At the smallest of these operations, annual production is about 160 tonnes per year whereas annual output exceeds 1,000 tonnes at the largest site. Three of these operations are Aboriginal-owned and are within Waubetek's service area. Moreover, in view of the available bio-physical resource and the opportunity that aquaculture presents, other Aboriginal communities have expressed interest in the sector.

1.2 Waubetek Aboriginal Fisheries Initiative (WAFI)

In the fall of 2004, Waubetek established an *ad hoc* working group to consider opportunities to develop more meaningful Aboriginal participation in the fisheries and aquaculture sectors of the region, including the opportunities for synergistic integration of these sectors through avenues such as processing, marketing, transportation, infrastructure, enhancement, etc. In 2005, the group met for a two-day planning session to formalize the *ad hoc* process and establish the Waubetek Aboriginal Fisheries Initiative Committee (WAFIC) to lead the exercise.

The WAFI Committee established a process to develop a long-term strategic plan leading to more meaningful engagement in the fisheries (commercial & recreational), aquaculture and fish processing sectors and related businesses in the region. Built around community meetings and discussions, and guided by the wisdom of elders, the development of a bottom-up strategy was identified as an approach that will enable all community members to contribute to the plan and have a vested interest in its creation and implementation, leading to the development of viable business and employment opportunities in fisheries-based industries. The WAFI Committee identified the following objectives, opportunities and challenges as being pertinent to the exercise.

1.3 Objectives for Aboriginal Fisheries and Aquaculture Development

- To enable Aboriginal communities and individuals to become meaningfully engaged as leaders in the regional fisheries sector.
- Pursuit of business opportunities in the fisheries sector that will support a sustainable economy and community self-determination.
- Creation of employment and wealth through primary production in fisheries, aquaculture and recreational fishing and in related secondary activities.
- Responsible resource management for environmental conservation and economic development.

⁵ Rainbow trout is the most dominant culture species, representing ¾ of the tonnage and more than ½ of the total value of freshwater aquaculture in Canada. A number of factors account for the dominance of rainbow trout culture: More than 100 years of experience with the species; Domesticated strains have been bred to improve performance and yield; Efficient commercial diets available from several suppliers; Water temperatures are near ideal; A ready market exists; Rainbow trout is a naturalized species in most parts of the country and thus the species poses no genetic threat to feral populations.

1.4 Perceived Opportunities

- Meaningful Aboriginal participation in commercial and recreational fisheries and aquaculture
- Promotion of the Anishinabek Nation through intra-community and inter-community collaboration to establish Aboriginal leadership in regional fisheries
- Educate youth about career opportunities associated with the fisheries sector and engage their participation in development of the sector
- Identify and incorporate new technologies for development of the sector and to enable individuals who are already engaged in the sector to become more successful
- Identify opportunities in support (spin-off) sectors; for example, fish processing, by-product utilization and management, shipping, packaging, environmental management, farm and fishery equipment distribution, service providers, etc.
- Development of marketable products from under-utilized species of coarse fish (e.g. cisco, chub, carp, sucker, etc.)
- Resource management and enforcement
- Cooperative market development with product branding
- An Aboriginal marketing organization for the region
- Capacity building
- Development of strategic business partnerships
- Promotion of healthier diets within First Nation communities through increased consumption of fish
- Compilation and application of traditional knowledge regarding fisheries and aquatic resources

1.5 Perceived Challenges

- Resource allocation issues related to rights-based and commercial fisheries
- Gaining access to the fisheries resource base for commercial purposes (including shifting access from non-Aboriginals to Aboriginals)
- Securing the degree of trust necessary among fish harvesters to develop a cooperative strategic approach to develop the sector
- Resolving outstanding issues related to fishing territories, underground economies and the independent lifestyle of many fishermen
- Engaging political support from Chiefs and Councils throughout the Waubetek service area
- Implementing and enforcing a sustainable resource management plan
- Capacity building for technological resource management
- Avoiding user group conflict in connection with resource access and utilization
- Effective communication of individual and community benefits
- Acquiring skills and knowledge associated with advanced technologies and practices
- Providing education and training in relation to marine safety
- Developing effective communications pertaining to:
 - the sustainability and potential of aquaculture
 - misperceptions regarding Aboriginal rights and resource use
 - informing fishermen and securing their support
- Basic and advanced training in fisheries, marine safety, aquaculture, fish processing, etc.
- Establishing a 'professionalization' standard for fishermen

- Development and implementation of Best Management Practices for harvesters, aquaculturists and fish processors
- Modernization of the Aboriginal fishery through adoption of new technologies (gear, equipment, vessels, etc.), techniques (practices) and food safety standards (QMP, on-farm / on-vessel HACCP, product traceability, etc.)
- Market development and access
- Access to investment and working capital
- Establishing benchmarking standards to enable comparative evaluation of productivity and economic performance
- Lack of support from federal and provincial governments
- Lack of awareness regarding partnership opportunities within Aboriginal communities and with non-Aboriginal interests

2.0 ANALYSIS

2.1 Phase 1 - Information Acquisition & Compilation

Factual information from principally secondary sources such as literature searches, previously published reports, government statistics, etc. was compiled into SWOT⁶ tables (Appendix 1). The information was augmented with primary sources derived from interviews with researchers, producers, regulatory authorities and others. This background information was used to define the current situation in the regional fisheries and aquaculture sectors.

The information was summarized in a PowerPoint file and used to guide a dialogue with members of the Anishinabek Nation who are actively engaged in fisheries, aquaculture and economic development in the region. Input received through the dialogue process was subsequently incorporated into the SWOT tables, providing a comprehensive body of knowledge on which to base the strategic analysis.

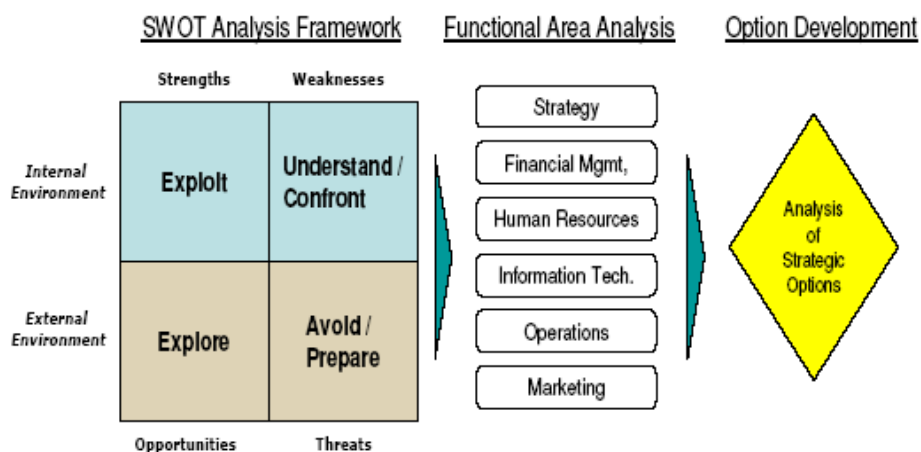
SWOT-Plus and Competitive Analysis procedures were used to outline goals, strategic options, capacities and capabilities. Some of the questions fundamental to this analysis include:

- What factors will govern the success of an Aboriginal strategy to enhance participation in commercial and recreational fisheries, aquaculture, and related secondary businesses in the region (i.e. critical success factors)?
- What strengths do Aboriginal communities and interests bring to these sectors? Where are the gaps, if any?
- Are existing players in these sectors currently in keeping with the goals and objectives of the WAFI Committee?
- Where do opportunities exist for synergies in the six functional areas?

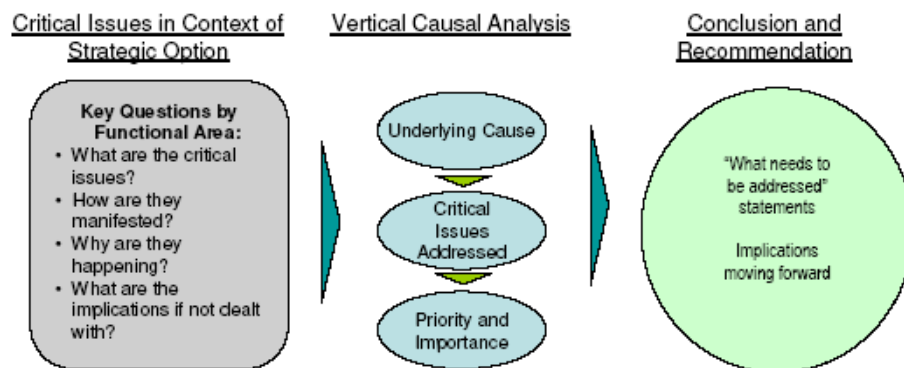
The fundamental components of this analytical process are outlined in the following diagrams. The analyses are summarized in the charts presented in the Sections 2.2 and 2.3 of this document.

⁶ The SWOT acronym refers to the Strengths, Weaknesses, Opportunities, and Threats involved in a project. Strengths and weaknesses are internal considerations for which means to impose control and direction can be potentially developed. Opportunities and threats, however, are factors that are external to the project but which must, nevertheless, be considered in the planning and development process since they have a real capacity to influence success or failure.

SWOT-Plus Analysis Framework – Part I



SWOT-Plus Analysis Framework – Part II



Source: Canadian Association of Management Consultants

2.2 Horizontal Causal Analysis

| Commercial Fisheries Factors | | | |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identified Problems | How is the issue manifested? | Why is it happening? Underlying causes? | Why is it important? (Opportunities & Repercussions) |
| Aboriginal fishers are often not able to fill their quota | <ul style="list-style-type: none"> Harvest numbers are less than quota allocations Aboriginal incomes from fisheries do not meet expectations | <ul style="list-style-type: none"> Typically small, independent fishing operations with limited capacity (e.g. small boat, no help) and inability to access investment capital Communal quota can be difficult to access Lack of infrastructure to land and/or pack fish (e.g. docks, ice, cold storage) Market access - buyers don't always pick up and plant is too far away to transport small volumes Dormant quota; allocated to persons who no longer fish but won't give up their quota Un-reported catch | <ul style="list-style-type: none"> Limitation to growth; when quota is not filled, is it difficult to lobby for additional quota Underscores capacity issues in the Aboriginal fishery Identifies issues regarding quota management |
| Allocation of quota to Aboriginal fisheries is nominal | <ul style="list-style-type: none"> Percent of total quota allocated to Aboriginal fisheries for 4 main species: <ul style="list-style-type: none"> Whitefish (18.2%) Lake Trout (17.6%) Perch (9.4%) Walleye (3.6%) For other quota-managed species allocations range from 5% to 11% | <ul style="list-style-type: none"> Quota allocation process is managed by OMNR with insufficient input from Aboriginal interests Current quota allocations to Aboriginal fishers are not fulfilled | <ul style="list-style-type: none"> Aboriginal fisheries require more fish to improve market access and profitability Federal and Provincial policy requires that Aboriginal interests be addressed before consideration for non-aboriginal commercial and recreational fisheries interests Natural resources are a significant opportunity for aboriginal economic dependent |
| Populations of high-value food fish populations in the Great Lakes are changing (size, distribution, numbers, etc.) | <ul style="list-style-type: none"> Fish are long and skinny, suggesting malnutrition Some populations continue to decline while others are rebounding | <ul style="list-style-type: none"> Collapse of natural prey populations Changes to phytoplankton and zooplankton communities Invasive species (e.g. zebra / quagga mussels) Overfishing, habitat destruction, pollution | <ul style="list-style-type: none"> Destabilized food webs will have significant and lasting implications for fisheries and the people who depend on them |

| | | | |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Insufficient awareness regarding employment opportunities in the sector | <ul style="list-style-type: none"> ▪ Youth interest in working in the fisheries sector is in decline | <ul style="list-style-type: none"> ▪ No inventory of the type of jobs available in the sector ▪ Insufficient training, mentoring and skills development programs | <ul style="list-style-type: none"> ▪ Lack of continuity for future generations |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|

| Recreational Fisheries Factors | | | |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identified Problems | How is the issue manifested? | Why is it happening? Underlying causes? | Why is it important? (Opportunities & Repercussions) |
| Recreational fishing is in decline | <ul style="list-style-type: none"> ▪ Reduction in number of anglers ▪ Reduced spending on recreational fishing activities ▪ Average age of fishers is increasing | <ul style="list-style-type: none"> ▪ Societal changes - increasing popularity of electronic entertainment ▪ Lack of skills - how and where to fish; type of gear to use; what to do with fish once they are caught ▪ Lack of awareness of opportunities to further develop recreational fishing sector ▪ Dramatic reduction in Lake Huron salmon population | <ul style="list-style-type: none"> ▪ A potentially lucrative component of the fishery is in decline ▪ Recreational fishing is a key part of tourism agenda |

| Aquaculture Factors | | | |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identified Problems | How is the issue manifested? | Why is it happening? Underlying causes? | Why is it important? (Opportunities & Repercussions) |
| Insufficient awareness of the opportunities in aquaculture | <ul style="list-style-type: none"> ▪ Aboriginal ventures represent <25% of industry capacity despite access to sites ▪ Very little aboriginal participation in supplies and services sector that supports fish farming | <ul style="list-style-type: none"> ▪ Lack of objective information regarding aquaculture ▪ Considerable opposition to aquaculture by GBA ▪ Some First Nations in Waubetek service area remain opposed to aquaculture development ▪ Aquaculture viewed largely as a production sector; little awareness of opportunities in related supplies and services sector (e.g. hatcheries; barge & dive services; transportation; processing; environmental monitoring; etc.) | <ul style="list-style-type: none"> ▪ First Nations in the Waubetek service area have access to suitable production sites ▪ Sector growth will stimulate spin-off activities in supplies and services sector ▪ Opportunity for sustainable, year-'round employment ▪ Opportunity for youth |

| | | | |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Barriers to entry can be significant | <ul style="list-style-type: none"> ▪ Aboriginal ventures represent <25% of industry capacity | <ul style="list-style-type: none"> ▪ Securing access to capital can be challenging for aboriginal ventures ▪ The requirement for fixed capital (cages, nets, etc.) and working capital (fingerlings, feed, labour etc.) can be significant; approximately \$2 million in total ▪ Lack of capacity to identify, explore and develop potential opportunities | <ul style="list-style-type: none"> ▪ First Nations in the Waubetek service area have access to suitable production sites ▪ Sector growth will stimulate spin-off activities in supplies and services sector ▪ Opportunity for sustainable, year-'round employment ▪ Opportunity for youth |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Processing & Marketing Factors | | | |
|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Identified Problems | How is the issue manifested? | Why is it happening? Underlying causes? | Why is it important? (Opportunities & Repercussions) |
| Most post-harvest value from fisheries does not accrue to First Nations and Aboriginal fishers | <ul style="list-style-type: none"> ▪ Aboriginal fisheries are generally limited to harvest activities ▪ Wabuno processing plant is dormant | <ul style="list-style-type: none"> ▪ Insufficient volume to support a processing venture ▪ Continuity of supply is uncertain ▪ Lack of a cooperative approach to aboriginal fisheries | <ul style="list-style-type: none"> ▪ Opportunity to increase value from every kilogram of fish ▪ Potential for job creation |

| Socio-Political & Governance Factors | | | |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identified Problems | How is the issue manifested? | Why is it happening? Underlying causes? | Why is it important? (Opportunities & Repercussions) |
| Concern about how OMNR allocates quota and manages fisheries with regard to First Nations' interests | <ul style="list-style-type: none"> ▪ Limited use of First Nations input in management decisions ▪ Aboriginal harvesters represent a small component of the total fishery | <ul style="list-style-type: none"> ▪ First Nations have insufficient autonomy regarding fisheries management in their traditional territories ▪ A/OFRC's role excludes fisheries management | <ul style="list-style-type: none"> ▪ Aboriginal peoples cannot readily re-locate to pursue economic interests therefore natural resources within traditional territories are fundamental to establishing sustainable economic development opportunities |

2.3 Vertical Causal Analysis

| Description of Underlying Cause | Problem(s) Addressed | Priority and Importance | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------|-----|------|
| | | Low | Med | High |
| 1. Aboriginal fishery is fragmented and most participants lack sufficient volume to support investment into better equipment, technology, processing and/or marketing. | F1, F4, R1, PM1 | | | ✓ |
| 2. Lack of objective information regarding economic development opportunities in fisheries and aquaculture | F3, F4, A1 | | ✓ | |
| 3. Lack of capacity to identify, explore and develop potential opportunities | A1, PM1, R1, SPG1 | | | ✓ |
| 4. Insufficient infrastructure to support the fisheries and aquaculture sectors | F1, R1 | | ✓ | |
| 5. Access to capital | F2, A2 | ✓ | | |
| 6. Insufficient First Nations autonomy regarding fisheries management in traditional aboriginal territories | A1, A2, F2, F3, SPG1 | | | ✓ |

3.0 WAUBETEK ABORIGINAL FISHERIES STRATEGY

Vision Statement

"The aquatic resources within the traditional territories of the First Nations within the Robinson-Huron Treaty Group provide considerable opportunity for meaningful Aboriginal participation in the regional fisheries sector, including commercial and recreational fisheries and aquaculture. By asserting greater control over resource management and enforcement, and by applying modern technologies in keeping with the teachings of traditional knowledge, the Anishinabek Nation will become a leading player in the regional fisheries sector, generating wealth and socio-economic prosperity for member communities."

Objectives

- To enable Aboriginal communities and individuals to become meaningfully engaged as leaders in the regional fisheries sector.
- Pursuit of spiritual, cultural, political and economic development to support a sustainable economy and community self-determination.
- Creation of employment and wealth through primary production in fisheries, aquaculture and recreational fishing and in related secondary activities.
- Responsible resource management for environmental conservation and economic development.

Strategic Elements

It is recognized that First Nations and Aboriginal entrepreneurs within the Waubetek service area have considerable potential in fisheries and aquaculture development. The achievement of meaningful Aboriginal participation and leadership in these sectors will require fundamental changes to the way existing ventures are currently operated and in the way the aquatic resource base is managed today.

Implementation of the *Waubetek Aboriginal Fisheries Strategy* is intended to advance Aboriginal participation in the sector, stimulate capital investment, and community economic development. The following strategic elements are targeted within this strategy.

| Capacity Building | Awareness & Training | More Autonomous Fisheries Management |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• Develop capacity in commercial fisheries, aquaculture, recreational fisheries, processing & marketing• Access to capital and infrastructure to support fisheries and aquaculture development | <ul style="list-style-type: none">• Access to objective information to identify, explore and develop potential opportunities in sustainable fisheries and aquaculture development• Identify and deliver training and skills development programming | <ul style="list-style-type: none">• Enhance First Nations autonomy regarding fisheries management in traditional Aboriginal territories |

Capacity Building

Aboriginal fisheries in the Waubetek service area are in a predicament - despite an expressed desire and an apparent opportunity to increase participation in the sector, they are restricted by capacity and capital. Typical Aboriginal fisheries consist of small, independent fishing operations with limited capacity (e.g. small boat, no help). As a result, Aboriginal fishers are often not able to attain their allocated quota and are not fulfilling their economic objectives. Limited and inconsistent harvest volumes also compromise market access and are insufficient to support a processing venture. With only nominal and fragmented participation in the sector, the infrastructure necessary to support a growing fishery (e.g. dock facilities, ice-making equipment, cold-chain delivery, etc.) has not been developed. In the aquaculture sector, Aboriginal ventures represent <25% of aquaculture capacity (despite having access to production sites). As well, there is little Aboriginal participation in the supplies and services sector that supports fish farming.

In both fisheries and aquaculture, the requirement for fixed capital (nets, boats, etc.) and working capital (fuel, labour, fingerlings, feed, etc.) can be significant. Securing access to capital can be challenging for any small business venture; however, Aboriginal ventures face additional and unique financing challenges. Avenues to improve access to capital for Aboriginal ventures are essential. Partnerships are one option whereby mutually beneficial arrangements established with First Nations advance economic independence by acquiring increased expertise and financial resources from Aboriginal and/or non-Aboriginal partners. Partnerships can effectively reduce financial risks and barriers to entry for First Nations. Moreover, First Nations have considerable “aboriginal” capital to contribute to partnership agreements. For example, in exchange for providing employment, training, ownership and revenues or other benefits to a First Nation community, the business partner may gain access to development sites in traditional aboriginal territory.

Strategic Action Items:

1. Establish a Waubetek Fisheries Development Committee to coordinate efforts amongst fish harvesters, producers, suppliers, First Nations and government agencies and to manage the implementation of the Waubetek Strategic Plan for Aboriginal Fisheries.
2. Develop and implement a business plan for the North Channel Fisheries Improvement Project.
3. Coordinate planning and implementation of an asset mapping exercise within the Waubetek service area to enhance fisheries and aquaculture development and aquatic resource management.
4. Investigate and develop opportunities to enhance recreational fisheries-based tourism in the Waubetek service area.
5. Develop cold chain infrastructure (e.g. ice making, refrigerated storage and transport, freezing capacity, etc.) to improve product quality and value.
6. Facilitate access to capital for aboriginal fisheries and aquaculture initiatives.
7. Facilitate capacity development through identification of a pool of technical expertise and advancement of opportunities for effective partnerships.

Awareness & Training

Over the last two decades, dramatic changes in the fisheries sector have transformed a centuries-old industry. Populations of phytoplankton, zooplankton and forage fish have changed, causing significant changes in the populations and distribution of once-abundant high-value commercial and recreational fish species. These changes have had a profound effect on fisheries landings and values. Additionally, aquaculture has emerged as a sustainable method to produce fish in captivity. Today, rainbow trout are the principal species produced on fish farms in the region and remain the easiest to pursue because technologies and markets are well developed; however, it is likely that other species will emerge in the future. Aquaculture is still viewed largely as a production sector - there is insufficient awareness of other opportunities in the related supplies and services sector (e.g. hatcheries; barge & dive services; transportation; processing; environmental monitoring; etc.). As well, due in part to the insensitive practices of some non-aboriginal operations and to poor communication of research results pertaining to the effects of aquaculture in the region, several First Nations remain opposed to aquaculture development.

To remain competitive, Aboriginal economic development initiatives must be positioned to take advantage of these changes. First, the types of opportunities available to First Nations through development of aquatic resources must be researched and communicated. Second, an inventory of the types of jobs required in these evolving and emerging sectors needs to be outlined so that individuals are able to determine if they have an interest in working in the sector. Third, mechanisms to deliver training and skills development will be required to empower people with the knowledge required to become meaningfully employed. The latter is particularly true for the youth, who have expressed little interest in the fisheries and aquaculture sectors.

Strategic Action Items:

8. Assess opportunities to develop alternative fisheries.
9. Disseminate objective information about aquaculture development amongst First Nations communities.
10. Develop an inventory of the types of jobs available in the regional fisheries and aquaculture sectors.
11. Develop and coordinate delivery of skills development training programs specific to the needs of the Anishinabek Nation in relation to fisheries and aquaculture development.

More Autonomous Fisheries Management

Fisheries and aquaculture play an important role in providing stable employment in small communities and rural areas of Ontario, including First Nations communities. Since 1999 the Ministry of Natural Resources, Mississauga First Nation, Sagamok-Anishinabek First Nation, Serpent River First Nation and Thessalon First Nation have worked within a cooperative framework with the mutual goal of achieving effective management of the Lake Huron aboriginal fishery. All parties recognize that it would be advantageous to continue promoting and fostering improved coordination, efficiencies, and cooperation to maximize the benefits derived from the commercial fishery in a sustainable manner. Nevertheless, Aboriginal fisheries still do not appear to receive an equitable share of fisheries resources. Moreover, U.S. tribes appear to

have more autonomous management authorities than Ontario First Nations regarding fisheries and aquaculture.

Building on the cooperative spirit in place with the Government of Ontario, the Anishinabek Nation could benefit from greater autonomy in the development and implementation of a cooperative fisheries management framework and revenue-sharing agreements in relation to fisheries management in the Waubetek service area. Providing services to 39 Anishinabek communities, The Anishinabek/ Ontario Fisheries Resource Centre (A/OFRC) is an independent “Centre of Excellence” for fisheries assessment and management that is recognized and trusted by First Nations, governments and all users of fisheries resources. As such, the A/OFRC is well-positioned to lead an initiative to enhance First Nations autonomy regarding fisheries management in traditional aboriginal territories.

Strategic Action Items:

12. Prepare a comprehensive plan to empower the Anishinabek Nation to deliver fisheries management, enhancement and enforcement within the Waubetek service area.

4.0 IMPLEMENTATION

Every process has a strategy, even if it is not formally articulated. Good strategy is built upon a foundation of comprehensive analyses and sound principles, and it is responsive to the patterns of change occurring in the sector. Developing a strategy is the art of creating value by linking knowledge and competencies to pursue opportunities. Successful strategies are widely understood and communicated – preferably before they are implemented.

Successful implementation of any strategy requires guidance from a dedicated team that will provide a coordinating role in the implementation process. It is the role of this team to oversee implementation of the Strategy. It is important that the members of the team are empowered to act on behalf of their organizations and that together they have the credibility and expertise to make informed, progressive decisions. The team members must have the leadership skills to drive the action items for change outlined in the Strategy.

The *Waubetek Aboriginal Fisheries Strategy* outlines the principal strategic actions to be undertaken to fulfil the strategic objectives set out above. The principal strategic action items, identifying ‘what needs to be addressed’ are outlined in the following chart.

It is envisaged that this strategic plan will require 3 to 5 years for full implementation. The Waubetek Aboriginal Fisheries Initiative Committee will need to appoint a WAFI Coordinator to lead implementation of the strategic plan. Waubetek or the A/OFRC would be logical host organizations for the Coordinator's position. The WAFI Coordinator and Committee will review the plan annually to track progress and to make any adjustments that may be necessary in light of changing circumstances.

Waubetek Aboriginal Fisheries Strategy - Action Plan

| Item | Strategic Objective / Action | Targeted Outcomes | Contributors | Priority |
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| Capacity Building | | | | |
| 1. | Establish a Waubetek Fisheries Development Committee (WFDC) to coordinate efforts amongst fish harvesters, producers, suppliers, First Nations and government agencies and to manage the implementation of the Waubetek Strategic Plan for Aboriginal Fisheries. | <ul style="list-style-type: none"> a) Identify individuals to volunteer to participate actively on the Waubetek Fisheries Development Committee (WFDC); members should be drawn from key fisheries and aquaculture ventures in the region, aboriginal fisheries organizations, A/OFRC, Waubetek and the ON Ministry of Natural Resources (ex-officio) b) Waubetek to host an initial meeting of the WFDC members to: <ul style="list-style-type: none"> - review and affirm the Waubetek Fisheries Development Strategy; - establish a meeting schedule and functional responsibilities; - Review and confirm priorities for implementation; - Assign responsibilities amongst members to coordinate and oversee implementation of Action Items c) Prepare a proposal to secure core funding for the Waubetek Fisheries Development Committee <ul style="list-style-type: none"> - funding is required to hire a Manager to run the organization and to support administrative functions d) Identify and hire a Manager to run the WFDC e) Develop a more cooperative business model for aboriginal fisheries to consolidate efforts amongst existing and future operators, targeting: <ul style="list-style-type: none"> - expansion of Aboriginal participation in regional fisheries and aquaculture; - means to fully utilize allocated fisheries quotas (e.g. leasing and harvesting underutilized quota), leading to a request for additional quota from OMNR; - evaluation of potential to establish a consortium or joint venture(s) by pooling fisheries resources (boats, quotas, fish handling, etc.) to improve the competitiveness of all participants; - establishing a single selling desk to improve prices and facilitate access to new markets due to increased volume and consistency of supply; - instituting more of a marketing approach rather than a selling approach - initially focused on coordination of efforts to secure access to processors and markets (in the longer term, this could lead to development of an "Aboriginal" brand) | <p>Waubetek BDC</p> <p>WFDC</p> <p>WFDC</p> <p>WFDC <u>Manager</u> WFDC EDOs from member Nations A/OFRC Waubetek BDC</p> | High |
| 2. | Develop and implement a business plan for the North Channel Fisheries Improvement Project. | <ul style="list-style-type: none"> a) Prepare a comprehensive business plan for utilization of the Everett H fishing tug to establish a cooperative fishery amongst the four First Nations along the North Channel | <p><u>EDOs from 4 participating First Nations</u></p> <p>Fish harvesters from member communities</p> <p>WFDC</p> | High |

WAUBETEK ABORIGINAL FISHERIES STRATEGY
DEVELOPING COMMERCIAL & RECREATIONAL FISHERIES, AQUACULTURE & RELATED INDUSTRIES

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| 3. | Coordinate planning and implementation of an asset mapping ⁷ exercise within the Waubetek service area to enhance fisheries and aquaculture development and aquatic resource management. | <ul style="list-style-type: none"> a) Prepare terms of reference for an asset mapping initiative within the Waubetek service area to develop a regional asset map pertaining to sustainable development of aquatic resources b) Secure funding for the asset mapping exercise c) Identify and contract with a qualified organization to conduct the asset mapping exercise d) Use the asset map to establish resource management plans and to leverage resources for fisheries and aquaculture development | <u>WFDC</u> Waubetek BDC EDOs and Resource Management Officers from interested First Nations A/OFRC | Medium |
| 4. | Investigate and develop opportunities to enhance recreational fisheries-based tourism in the Waubetek service area. | <ul style="list-style-type: none"> a) Further develop the ice fishing industry <ul style="list-style-type: none"> - Support construction and deployment of new fishing huts - Develop co-marketing efforts to target winter outdoor enthusiasts (e.g. snowmobilers, ATVers, cross country skiers, etc.) b) Work with tourist operators and hotels to develop means to provide more complete tourist experiences <ul style="list-style-type: none"> - for example, allow tourists to experience traditional ways to prepare the fish they caught and eat it for dinner the same day c) Work with the Northern Ontario Aquaculture Association to promote an annual rainbow trout fishing derby based out of Little Current to complement fishing derbies held by Sagamok, Garden River, Wikwemikong and others <ul style="list-style-type: none"> - Use the event to promote Aboriginal fisheries, aquaculture and tourism d) Investigate opportunities to produce live bait to support recreational fisheries in the region | EDOs from interested First Nations <u>WFDC</u> Great Spirit Circle Trail Waubetek BDC <u>WFDC</u> EDOs from interested First Nations EDOs from interested First Nations | Medium |
| 5. | Develop cold chain infrastructure (e.g. ice making, refrigerated storage and transport, freezing capacity, etc.) to improve product quality and value. | <ul style="list-style-type: none"> a) Conduct an inventory of aboriginal and non-aboriginal cold chain assets in the Waubetek service area b) Identify the requirements for an effective cold chain system including the most logical geographic distribution of assets to service Aboriginal fisheries and aquaculture <ul style="list-style-type: none"> - use existing resources where available and practical - evaluate opportunity to operate a small reefer truck in the region to collect and consolidate catch for processing c) Prepare a business plan to establish the needed cold chain system, including identification of parties to implement the plan | <u>WFDC</u> EDOs Commercial fish harvesters Waubetek BDC | High |

⁷ Asset Mapping is an exercise conducted to provide guidance to regions seeking to strengthen their competitive position in the global economy. Every community has its own unique set of assets, both tangible and intangible, that it can take advantage of to provide a strategic or operational advantage toward achieving economic and workforce development goals. By identifying the available asset base, an organization can capitalize on its strengths and identify potential areas of weakness that may require specific efforts to overcome. Asset mapping also allows communities to leverage their assets to broaden the scope and breadth of economic development initiatives. For First Nations, key assets could include human resources, their bio-physical resource base; networks and linkages, access to funding and investment, etc.

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| 6. | Facilitate access to capital for aboriginal fisheries and aquaculture initiatives. | <p>a) Outline the process to help guide applicants through the development process, from concept to business plan to financing and implementation</p> <p>b) Work with federal and provincial development agencies and the investment community to identify means to establish a pool of capital to support Aboriginal fisheries and aquaculture ventures.</p> | Waubetek BDC | High |
| 7. | Facilitate capacity development through identification of a pool of technical expertise and advancement of opportunities for effective partnerships. | <p>a) Prepare a list of aboriginal fisheries and aquaculture ventures across Canada to facilitate the development process; identify:</p> <ul style="list-style-type: none"> - type and scale of business venture - key contacts <p>b) Identify aquaculture trade associations and a pool of qualified fisheries and aquaculture consultants that can be used to help with the development of aboriginal ventures</p> <p>c) Prepare a Guide to Effective Aboriginal Partnerships to outline, for all parties, the essential components of establishing and maintaining effective partnership arrangements, including:</p> <ul style="list-style-type: none"> - bridging corporate and aboriginal cultures; - effective principles, skills and knowledge; - types of partnerships; - common challenges and potential solutions; - partnership do's and don'ts <p>The Guide should consider aboriginal - non-aboriginal partnerships as well as aboriginal-aboriginal partnerships</p> <p>d) Organize and deliver a workshop on Building Effective Partnerships with First Nations</p> | <p>Waubetek BDC</p> <p>In collaboration with the Aboriginal Aquaculture Association</p> | Medium |
| Awareness & Training | | | | |
| 8. | Assess opportunities to develop alternative fisheries. | <p>a) Evaluate the opportunity to establish trap net fisheries to:</p> <ul style="list-style-type: none"> - serve the market for live fish in Toronto Asian communities; - enable on-growing and/or value-addition using cage aquaculture technology for fisheries species <p>b) Explore options for harvesting un-utilized or under-utilized fish resources for human consumption, industrial product or animal feed ingredients</p> <ul style="list-style-type: none"> - as part of this initiative, ask elders to identify alternative products from fish and how to prepare them | <p>A/OFRC</p> <p>A/OFRC</p> | Medium |
| 9. | Disseminate objective information about aquaculture development amongst First Nations communities. | <p>a) Develop and distribute fact sheets on the effects of aquaculture development based on Aboriginal experiences and the research results of the Ontario government, the University of Guelph and DFO's Experimental Lakes Area researchers</p> <p>b) Promote an annual tour / open house of fisheries and aquaculture operations in the Waubetek service area and conclude the day with a dinner of products from the ventures</p> | Anishinabek Fisheries Development Organization Waubetek BDC | Medium |
| 10. | Develop an inventory of the types of jobs available in the regional fisheries and aquaculture sectors. | <p>a) Conduct a Labour Market Analysis within the fisheries and aquaculture sectors in Waubetek's service area to identify:</p> <ul style="list-style-type: none"> - the range of jobs common to the sector - the nature of the work associated with each job category and the type and source of training required for the jobs; - typical wages for each job category; - the scope of the labour market for the various types of positions - market trends and workforce requirements in the sectors | <p>Anishinabek Fisheries Development Organization</p> <p>Waubetek BDC</p> <p>A/OFRC</p> <p>In partnership with national aboriginal fisheries and aquaculture development efforts</p> | Medium |

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| 11. | Develop and coordinate delivery of skills development training programs specific to the needs of the Anishinabek Nation in relation to fisheries and aquaculture development. | <p>a) Work with educational organizations, regional economic development organizations, existing harvesters and producers and Federal and Provincial agencies to develop and fund appropriate campus-based and community-based training programs, including:</p> <ul style="list-style-type: none"> - workshops and short-courses - internships & job-shadowing programs - mentoring programs - on-the-job training initiatives and work terms; - diploma-track courses and programs, etc. - scholarships, bursaries, training grants, etc. - screening programs and probationary period for all training candidates <p>b) Incorporate fisheries and aquaculture topics and field trips into the elementary school system, especially for on-reserve schools</p> <p>c) Work with educational organizations, regional economic development organizations, existing harvesters and producers and Federal and Provincial agencies to develop and fund Summer Student Employment and March Break programs for high school students that provide practical exposure to a wide variety of fisheries and aquaculture-related disciplines.</p> | <p><u>A/OFRC</u> Anishinabek Fisheries Development Organization Waubetek BDC</p> | Medium |
| More Autonomous Fisheries Management | | | | |
| 12. | Prepare a comprehensive plan to empower the Anishinabek Nation to deliver fisheries management, enhancement and enforcement within the Waubetek service area. | <p>a) Prepare case studies to gain a better understanding of similar approaches in other areas (e.g. Chippewa Ottawa Resource Authority, Columbia River, Washington)</p> <p>b) Secure buy-in from First Nations communities to pursue greater self-regulation of fisheries and aquaculture</p> <p>c) Develop a template to enable First Nations to tender out their communal fishing quota to enable value to be generated from the full amount of fish allocated under the quota. The template should consist of legally binding agreements that include:</p> <ul style="list-style-type: none"> - allocation of the quota in 5,000 to 10,000 pound blocks - prioritized allocation process to enable access, in order of preference to: <ul style="list-style-type: none"> o members of the First Nation o other aboriginal fishermen or fisheries companies o non-aboriginal fisheries in exchange for an access fee - a minimum time frame for quota allocation (e.g. 5 years) to enable quota holders to leverage quota to secure capital; - a quota monitoring program; - a process to enforce due diligence (minimum use) of all quotas, otherwise the quota will be forfeited allowing the First Nation to re-issue it <p>d) Formalization of a process to issue First Nations fisheries and aquaculture licences and tenures to aboriginal and non-aboriginal ventures operating in traditional aboriginal territories</p> <ul style="list-style-type: none"> - secure agreement from MNR to enable ventures operating under a First Nations licence to legally sell their product <p>e) Review the role and mandate of the A/OFRC and update as necessary to empower the organization to play a lead role in more autonomous management of fisheries and aquatic resources, including:</p> | <p><u>A/OFRC</u> WFDC</p> <p>WFDC</p> <p><u>A/OFRC</u> WFDC</p> <p><u>A/OFRC</u> WFDC</p> <p><u>A/OFRC</u> WFDC</p> <p><u>A/OFRC</u> WFDC</p> | High |

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| | | <ul style="list-style-type: none"> - conducting fisheries assessments for First Nations fisheries - development and administration of fisheries management plans <p>f) Meet with the Ontario Ministry of Natural Resources to agree upon the terms by which the Anishinabek Nation will pursue more autonomous fisheries management</p> <p>g) Review, update and formalize the Lake Nipissing Aboriginal Fisheries Management Plan</p> <p>h) Finalize and formalize the Anishinabek North Channel Fisheries Model, developed by the North Shore Tribal Council, to implement a cooperative North Channel fisheries management plan that is in keeping with aboriginal interests.</p> <p>i) Identify specific fisheries to target as pilot programs for development and implementation of Aboriginal Fisheries Management Plans; e.g.</p> <ul style="list-style-type: none"> - Henvey Inlet - Cape Croker <p>j) Develop a template for Impact Benefit Agreements to be negotiated with all fisheries and aquaculture ventures that operate in traditional First Nations territories; the template should outline:</p> <ul style="list-style-type: none"> - goals, objectives and guiding principles for territorial development; - reporting requirements, responsibilities and schedules; - community benefits to be derived from the venture; etc. <p>k) Prepare a template for First Nations to use for the purpose of issuing tenures for allocated use of aquatic resources within traditional territories including:</p> <ul style="list-style-type: none"> - Delineation of the scope of Federal, Provincial and First Nations authorities in the region; - Review and approval processes; - Fees to be paid to First Nations; - incorporation of the Aboriginal Program for Sustainable Aquaculture (APSA) developed by the Aboriginal Aquaculture Association. | <p>Union of Ontario Indians</p> <p>A/OFRC & Lake Nipissing First Nations</p> <p>A/OFRC & North Channel First Nations</p> <p><u>A/OFRC</u> WFDC</p> <p>Waubetek BDC with Community Development Officers & EDOs</p> <p><u>A/OFRC</u> WFDC</p> | |
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APPENDIX 1 - SWOT Tables

| | Commercial Fisheries Factors |
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| Strengths/ Positives | <ul style="list-style-type: none"> ▪ Waubetek BDC support for economic development in fisheries and aquaculture and related sectors ▪ Waubetek is a source of capital. Need a proper Business Plan to help assess opportunity. Have \$47 Million invested in 1200 businesses to date. ▪ Loan processes are well defined. Waubetek can turn an application around in as little as 30 days if it meets all of the right criteria. ▪ Planning a business and applying for a loan is intimidating. Waubetek has resources to help with this as well. ▪ First Nations Technical Institute (Natural Resources) in the North. ▪ Some Walleye populations are strong. Whitefish populations are very stable. ▪ Natural Lake Trout (not stocked) populations appear to have stabilized. ▪ AOFRC has internal capacity to do stock assessments, habitat assessments, angler and commercial fish surveys and assist with research projects. It also has an active student mentorship program for fisheries management ▪ AOFRC have an active interest in Climate Change issues in the Waubetek Area, Contaminants of the food fishes, environmental monitoring of the waters and education/training programs. ▪ The North Channel Fisheries Improvement Project is a joint initiative of 4 First Nations. Purchasing and deploying a commercial fishing vessel is one project that should start in May 2012. It should result in a more efficient way to manage the existing whitefish quota, by using a common management approach. ▪ Aboriginal peoples have a bona fide role in management of commercial fisheries; the Ontario government (OMNR) is primarily responsibility for management and licensing of commercial fisheries in collaboration with other agencies, including: <ul style="list-style-type: none"> ○ Federal Government (DFO) ○ Great Lakes Fisheries Commission ○ Ontario Commercial Fisheries Association ○ Anishinabek/Ontario Fisheries Resource Centre ○ Aboriginal fishers ▪ Fishing activity regulated using a quota system (ITQs) for quota-limited species <ul style="list-style-type: none"> ○ Other non-quota species also caught ▪ Most of the industry is in Canadian waters <ul style="list-style-type: none"> ○ U.S. state governments favour recreational fisheries over commercial fisheries ▪ Strategic Policy for Ontario Commercial Fisheries (OMNR 2011) is supportive of fisheries because it: <ul style="list-style-type: none"> ○ is an economic base for many communities ○ is an efficient and effective use of excess or surplus fish resources ○ is a social & cultural importance in Aboriginal and non-Aboriginal communities ○ provides a wholesome food source for local and international markets ○ provides resource managers with important information on the status of fish stocks ▪ Guiding Principles of Strategic Policy for Ontario Commercial Fisheries are supportive of aboriginal fisheries: <ul style="list-style-type: none"> ○ First allocation of the resource will always go to conservation of the resource. ○ Ontario is committed to fulfilling its constitutional obligations with respect to Aboriginal and Treaty rights including obligations to consult and where appropriate, accommodate. ○ Partnerships, Fisheries Management Zone Councils, community-based stewardship programs and agreements with Aboriginal communities enhance Ontarian's connection to the fisheries resource. ○ Consider all sources of traditional knowledge in fisheries resource management |

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| | <p>decisions.</p> <ul style="list-style-type: none"> ○ Appropriate priority allocations shall be afforded where Aboriginal or treaty rights exist. ○ Encourage commercial fishers to explore options for un-utilized or under-utilized fish resources. ○ Balance the needs and interests of all commercial fisheries and the fish resource in a manner that respects Aboriginal and treaty rights, and the interests and needs of all the people of Ontario. <ul style="list-style-type: none"> ▪ Lake Huron has the second most productive fishery in Ontario <ul style="list-style-type: none"> ○ 37 Commercial Licences ○ 9 Aboriginal Commercial Fisheries Agreements ▪ In Lakes Nipigon and Nipissing and smaller inland lakes, most of the commercial quota is allocated to Aboriginal fishers |
| Opportunities | <ul style="list-style-type: none"> ▪ Provincial priorities are in synch with national priorities. Conservation of stocks (#1), Aboriginal obligations (#2) and Commercial & Recreational interests (#3); Aboriginal interests supersede non-aboriginal commercial and recreational interests ▪ Opportunities to use underutilized species (suckers and carp) with “Lake to Plate” initiative where people are shown how to prepare the fish. ▪ Opportunity to initiate a trap net fishery <ul style="list-style-type: none"> ○ can serve the market for live fish in Toronto Asian communities ○ can enable on-growing / value-addition using cage aquaculture technology ▪ Opportunities to produce canned and/or smoked product ▪ Identification and penetration of new markets in the US ▪ Harvest of underutilized fish and by-products for animal feed ▪ Some walleye populations are increasing ▪ Opportunity to re-engage the younger generation with fishing. Aboriginals are 4% of the Canada’s population but 25% of the current birth rate. Fisheries should be sustainable and accessible to the youth. ▪ Opportunity to lease underutilized quota. There is a perception that the holders of the quota will lose it if they lease it to others. This is not the case. Utilization of at least 80% of the allocated quota is necessary to support a request for additional quota. ▪ Pooling resources (boats, quotas, processing) could result in greater revenues. A key requirement is sharing information about the fishery. (need someone to champion this effort). ▪ The Lake Nipissing aboriginal fishery could be used as case study for self-management of the quotas. AOFRC could be a coordinating body for this. ▪ A freezing program could be used to bridge the market gaps. Infrastructure dollars will be required to implement this. ▪ Net supplies come from Winnipeg (via China); no distributors for gear in the North. ▪ Could do more kids camps ▪ Trap net fishery could possibly get around the fouling issues occurring today due to zebra/quagga mussels and the green slime (Cladophora spp). Other options would be to introduce different types of nets other than gill nets⁸. |

⁸ <http://www.miseagrant.umich.edu/downloads/fisheries/GLCommercialFinal.pdf> Different types of fishing gear are used to catch the various species found in the Great Lakes. In the U.S. waters of the Great Lakes trap nets are used to catch lake whitefish, carp, catfish, sheepshead, white bass, white perch, yellow perch, and eel. Gill nets are used to catch lake whitefish, lake trout, salmon, walleye, yellow perch, and white perch. Hoop nets are used to catch bullheads and eel. Seines are used for carp and white bass. Trawl fishing is used for smelt and lake whitefish, and hook/trot lines are used for catfish and eel. In the Canadian waters of the Great Lakes trap nets are used for all commercial species in Lake Ontario and for lake whitefish, lake trout, walleye, yellow perch, white perch, and white bass in the other Great Lakes. Gill nets are used for lake whitefish, lake trout, walleye, yellow perch, white perch, and white bass. Hoop nets are use to catch all commercial species. Seines are used for carp, yellow perch, and a variety of panfish. Trawl fishing is used for both lake whitefish and smelt but is still experimental in Canada. To keep a sustainable commercial fishery in the Great Lakes there are various closures of the fishery during spawning season,

- Co-management of quota is an opportunity (perhaps starting with the North Channel) using Chippewa Ottawa Resource Authority (CORA) as the case study. Could start with a pilot project. AOFRC could help coordinate.
- Partnerships with other band members, other First Nations and/or with private sector (off-reserve) can be positive but First Nations need to maintain a veto when Aboriginal resources are involved.
- Partnerships can result in mutually beneficial arrangements whereby First Nations advance economic independence by acquiring increased expertise and financial resources from partners
 - Partnerships reduce financial risks and barriers to the entry of First Nations into some industries
 - First Nations have considerable “aboriginal” capital
 - In exchange for providing employment, training, ownership and revenues or other benefits to the First Nation community, the business proponent is able to create a business venture on-reserve
- Opportunity to do joint purchases of supplies (off reserve)
- Everett H – OMNR Assessment Vessel
 - Vessel is available to be purchased for \$ 1 (by May, 2012)
 - Represents an opportunity to bring an lake tug (50 ft) to the area and use as a commercial fishing boat and a training platform.
- Industry closed to new entrants since 1983, with no new commercial fishing licences or quota holders
- Only two trap net fisheries in Lake Huron
- A considerable proportion of the allocated quota for Lake Huron fisheries is not harvested.

Lake Huron Fishery Statistics

| Species | Catch (kg) | Harvest (kg) | Quota (kg) | % Quota Taken | Value (\$) |
|-----------------|---------------|-----------------|---------------|------------------|---------------|
| Channel Catfish | 2,576 | 530 | 64,509 | 0.8 | 417 |
| Cisco | 14,118 | 12,879 | 35,002 | 36.8 | 8,254 |
| Deepwater Chub | 24 | 1 | 228,736 | 0.0 | 0 |
| Lake Sturgeon | 22,922 | 3 | 0 | – | 0 |
| Lake Trout | 178,200 | 167,386 | 324,692 | 51.6 | 193,561 |
| Lake Whitefish | 1,357,331 | 1,351,388 | 3,049,435 | 44.3 | 3,059,771 |
| Northern Pike | 748 | 717 | 15,757 | 4.6 | 1,447 |
| Walleye | 113,906 | 112,999 | 159,373 | 70.9 | 595,855 |
| Yellow Perch | 159,213 | 159,203 | 233,245 | 68.3 | 692,377 |
| Sub-Total | 1,849,038 | 1,805,106 | 4,110,749 | | 4,551,682 |

| Species | Tonnage | Value | \$/kg | Quota |
|--------------|---------|-------|---------|-------|
| Whitefish | 69% | 67% | \$ 2.26 | 44.3% |
| Lake Trout | 10% | 4% | \$ 1.16 | 51.6% |
| Yellow Perch | 9% | 15% | \$ 4.35 | 68.3% |
| Walleye | 6% | 13% | \$ 5.27 | 70.9% |

- Demand for seafood in the North American market continues to expand due to the increased supply of 'value' products, income growth, aging population
- US dependency on imported seafood continues to grow

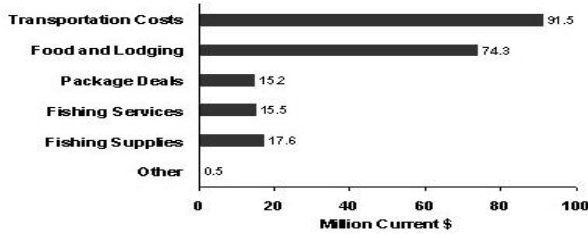
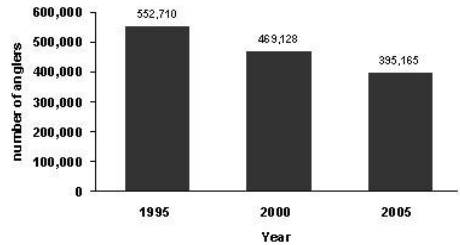
and in various areas of the Great Lakes there are both permanent and seasonal designated refuge areas. With many fish species there is a minimum size restriction to allow them to at least spawn once before they enter the fishery.

| Threats | <ul style="list-style-type: none">▪ Aboriginal people are unable to re-locate to pursue economic development opportunities; therefore, they are dependent development and utilization of the natural resources within First Nations communities for their social and economic well-being.▪ Populations of high-value food fish populations in the Great Lakes are not healthy (skinny fish); there is an apparent lack of feed (due to zebra mussels?). Fish are being impacted by stocked trout and birds (cormorants). No confidence that OMNR factors this in.▪ Dramatic changes in plankton and insect communities▪ Prey populations are collapsing affecting predator species.▪ Cisco is declining in most areas except in the North Channel.▪ Sea lamprey populations are increasing.▪ Need better data on the wholesomeness of food fish (i.e. contaminant issues)▪ OMNR has ability to change Licence conditions every year; Individualized for specific fishers▪ Populations of several Great Lakes fisheries continue to suffer from overfishing, habitat loss, pollution, failure or absence of regulation, aquatic invasive species▪ Predators are showing indications of substantial food limitation<ul style="list-style-type: none">○ Prey-fish abundance in decline○ Uncertainty regarding the causes▪ Lake Whitefish, Walleye, Yellow Perch species in decline▪ Lake Sturgeon are vulnerable<ul style="list-style-type: none">○ COSEWIC – Threatened○ SARA – Under Consideration▪ Allocation of quota to aboriginal fisheries is nominal <table><tr><th>Species</th><th>Lake Huron FN Quota</th><th>Lake Huron Total Quota</th><th>% First Nations'</th><th>% of Total Quota Taken</th></tr><tr><td>Lake Trout</td><td>57,057</td><td>324,692</td><td>17.6%</td><td>51.6%</td></tr><tr><td>Lake Whitefish</td><td>556,008</td><td>3,049,435</td><td>18.2%</td><td>44.3%</td></tr><tr><td>Cisco</td><td>3,850</td><td>35,002</td><td>11.0%</td><td>36.8%</td></tr><tr><td>Chub</td><td>145,775</td><td>na</td><td>na</td><td>na</td></tr><tr><td>Northern Pike</td><td>1,337</td><td>15,757</td><td>8.5%</td><td>4.6%</td></tr><tr><td>Channel Catfish</td><td>3,284</td><td>64,509</td><td>5.1%</td><td>0.8%</td></tr><tr><td>Yellow Perch</td><td>22,016</td><td>233,245</td><td>9.4%</td><td>68.3%</td></tr><tr><td>Walleye</td><td>5,776</td><td>159,373</td><td>3.6%</td><td>70.9%</td></tr></table> <ul style="list-style-type: none">▪ Increasing dependence on fish production (aquaculture)<ul style="list-style-type: none">○ Fisheries will not keep pace with demand▪ Consistency of Supply<ul style="list-style-type: none">○ Can be difficult for smaller harvesters to provide consistent volumes to meet market demands▪ Safety<ul style="list-style-type: none">○ Contamination; product traceability▪ Communications / Media<ul style="list-style-type: none">○ Considerable power to influence consumer behaviour (e.g. salmon); sustainability▪ Marketing<ul style="list-style-type: none">○ Consumers influenced most by quality, convenience, value | Species | Lake Huron FN Quota | Lake Huron Total Quota | % First Nations' | % of Total Quota Taken | Lake Trout | 57,057 | 324,692 | 17.6% | 51.6% | Lake Whitefish | 556,008 | 3,049,435 | 18.2% | 44.3% | Cisco | 3,850 | 35,002 | 11.0% | 36.8% | Chub | 145,775 | na | na | na | Northern Pike | 1,337 | 15,757 | 8.5% | 4.6% | Channel Catfish | 3,284 | 64,509 | 5.1% | 0.8% | Yellow Perch | 22,016 | 233,245 | 9.4% | 68.3% | Walleye | 5,776 | 159,373 | 3.6% | 70.9% |
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| Species | Lake Huron FN Quota | Lake Huron Total Quota | % First Nations' | % of Total Quota Taken | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake Trout | 57,057 | 324,692 | 17.6% | 51.6% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake Whitefish | 556,008 | 3,049,435 | 18.2% | 44.3% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cisco | 3,850 | 35,002 | 11.0% | 36.8% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chub | 145,775 | na | na | na | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Northern Pike | 1,337 | 15,757 | 8.5% | 4.6% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Channel Catfish | 3,284 | 64,509 | 5.1% | 0.8% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Yellow Perch | 22,016 | 233,245 | 9.4% | 68.3% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Walleye | 5,776 | 159,373 | 3.6% | 70.9% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| | <ul style="list-style-type: none"> ▪ Dining out <ul style="list-style-type: none"> ○ HRI market is dominant ▪ Sustainability <ul style="list-style-type: none"> ○ Environmental & Socio-Economic |
| Problems/ Challenges/ Weaknesses | <ul style="list-style-type: none"> ▪ Need to increase revenues per kilogram of fish landed ▪ Licenses (quota) have a performance standard. Need to fish 80% of quota in order to get any kind of increase (usually 10%). Not filling the quotas today and individual quotas are too low to develop new markets. ▪ Accessing more fish quota is limiting the ability of those who want to fish. Current volumes (individually) are not enough to support a processing operation. ▪ Some quota is held as a Community Allocation and getting access is often a political decision ▪ Sharing catch information would make managing the quota more efficient and would allow the fishers to get access to better quotas ▪ Fish quality is the secret to better prices. Need to train/educate fishers on handling fish. Sometimes it arrives at the plant as mush due to poor handling. ▪ Plants need consistency of supply in order to get better prices in the marketplace. This is a limiting factor today. Buying fish from different fishers is ok but the timing is usually off and the quality is variable. ▪ First Nations fishers are not getting the best return for their fishing efforts. There is a lack of fishing capacity, a lack of access to more fish and to buyers. ▪ Training in relation to net mending, fishing techniques, water quality monitoring, etc is <i>ad hoc</i> today. ▪ Aboriginal youth are not provided with sufficient exposure to the fisheries and aquaculture sectors. ▪ Quota allocated to aboriginal fisheries is not being filled; there are several reasons why this occurs: <ol style="list-style-type: none"> a. Fishing capacity of the quota holder is limited (small boat, no help) b. Communal quota – difficult to access (politics) c. Access to market – no place to land fish, no place to process fish. Buyers don't always pick up and plant is too far away to transport d. Infrastructure is limiting. Don't have the right gear, no ice, boat not big enough e. Some quotas are dormant as they are allocated to individuals who no longer fish, but don't want to give up the right f. Weather is a factor – sometimes too rough, too warm, etc g. Market prices are variable. Sometime does not cover costs (dollar at par, cost of fuel) h. Biofouling of the nets make them too heavy to handle i. Catch is not always reported. More fish being taken than reported ▪ The ability to pledge collateral for business loans can be difficult, especially with Communal Quotas; quota cannot be pledged for an individual operation. ▪ Section 89 (Indian Act) is a limiting factor. In some cases, the Band Council can guarantee a loan for an individual venture. ▪ Jobs in Fisheries and Aquaculture need to be enticing in order to attract youth. ▪ Mentorship programs are currently inadequate; insufficient access for high school students. ▪ There is no inventory of the type of jobs involved in Fisheries and Aquaculture sectors and where training and skills development can be provided. ▪ Insufficient training and skills development to enable effective management of the Aboriginal fishery. For example, not filling the quota, mis-reporting catch, not paying attention to fish handling, etc. all lead to poor stock management. ▪ Everett H – OMNR Assessment Vessel; need to review and assess various implications |

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| | <p>of joint ownership and operation; i.e.:</p> <ul style="list-style-type: none"> ○ Ownership Structure: needs to be owned by someone. ○ Operating Structure: needs to be jointly operated by the 4 First Nations that have interest in operating the vessel in the North Channel of Lake Huron. Plan is to use it as a training platform for those wanting to learn about fishing and to use it to land more fish and help fill the existing whitefish quota. It should be a source of revenue. Need to agree on how to share the cost of operations ○ Fishing Quota: will lease quota to the vessel. In 2010 there was 352,000 kilos of whitefish quota allocated to the 4 First Nations fishing the North Channel. 224,000 kilos were caught. The balance was not filled. ○ Common “buy/sell” desk: will need to coordinate the sale of the catch. May be an opportunity to start by selling to Purvis (first year) and then explore other avenues as the project progresses. ○ Business Plan: Need a plan that outlines the costs, the revenues and the Ownership options (Co-Op, limited partnership, joint venture, etc). <p>▪ Aboriginal fisheries are generally harvest activities; limited involvement in processing</p> |
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| | Recreational Fisheries Factors | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Strengths/ Positives | <ul style="list-style-type: none">▪ Lake Nipissing First Nations have their own enhancement hatchery for Walleye. Stocking inland lakes with eyed eggs and fry. Would like to consider other species as well.▪ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Opportunities | <ul style="list-style-type: none">▪ There is a business opportunity in live bait (can't import from down south).▪ Fathead minnows and red belly dace are commonly used as bait for anglers. This requires low-tech pond rearing technology.▪ Create new hatchery(ies) for stock enhancement. The hatchery could be run by the Community(ies) and the fish released to enhance angling opportunities. This works particularly well for inland lakes.▪ angling/guiding; small mouth bass fishing▪ Ice fishing (with upgraded fishing shacks).▪ Eco-tourism (boat rides, glass-bottom boat, lunch on the beach, etc).▪ Partnerships with other band members, other First Nations and/or with private sector (off reserve) can be positive but First Nations need to maintain a veto when Aboriginal resources are involved.▪ Opportunity to do joint purchases of supplies (off reserve)▪ Additional angling opportunities around Manitoulin Island have yet to be developed. Currently there is a trout angling sector based on larger trout that have escaped from the net pens. <p>Main Species Caught By All Anglers, by Great Lake Region, Ontario (2005)</p> <table><tr><th>Region</th><th>Species 1</th><th>Species 2</th><th>Species 3</th></tr><tr><td>Lake Ontario</td><td>perch</td><td>crappie</td><td>sunfish</td></tr><tr><td>Lake Erie</td><td>perch</td><td>sunfish</td><td>smallmouth bass</td></tr><tr><td>Lake St. Clair</td><td>perch</td><td>walleye</td><td>smallmouth bass</td></tr><tr><td>Lake Huron</td><td>smallmouth bass</td><td>rock bass</td><td>perch</td></tr><tr><td>Lake Superior River</td><td>brook trout</td><td>walleye</td><td>pike</td></tr><tr><td>St. Lawrence</td><td>perch</td><td>smallmouth bass</td><td>sunfish</td></tr></table> <ul style="list-style-type: none">▪ Great Lakes anglers spent an estimated \$413 million on durable goods<ul style="list-style-type: none">○ \$228 million for fishing boats, motors, gear, etc.○ \$215 million for transportation, food, lodging, fishing services and supplies▪ Foreign anglers spend the most<ul style="list-style-type: none">○ \$426 / person | Region | Species 1 | Species 2 | Species 3 | Lake Ontario | perch | crappie | sunfish | Lake Erie | perch | sunfish | smallmouth bass | Lake St. Clair | perch | walleye | smallmouth bass | Lake Huron | smallmouth bass | rock bass | perch | Lake Superior River | brook trout | walleye | pike | St. Lawrence | perch | smallmouth bass | sunfish |
| Region | Species 1 | Species 2 | Species 3 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake Ontario | perch | crappie | sunfish | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake Erie | perch | sunfish | smallmouth bass | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake St. Clair | perch | walleye | smallmouth bass | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake Huron | smallmouth bass | rock bass | perch | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake Superior River | brook trout | walleye | pike | | | | | | | | | | | | | | | | | | | | | | | | | | |
| St. Lawrence | perch | smallmouth bass | sunfish | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | <ul style="list-style-type: none">○ \$34 / person for residents  <ul style="list-style-type: none">▪ Partner with aquaculture sector (NOAA) to host an annual trout fishing derby. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Threats | <ul style="list-style-type: none">▪ Recreational fishing participation rates declining at a rate of about 2% per year  <ul style="list-style-type: none">▪ Resident anglers make up the majority of the active angler population▪ ~87,000 foreign anglers in 2005<ul style="list-style-type: none">○ Most fished in Lake Huron (~1/3)○ Foreign anglers fish for 7 days on average▪ Population of active adult anglers continues to age<ul style="list-style-type: none">○ Fewer young people taking up fishing▪ Spending on recreational fisheries has declined dramatically in Lake Huron; but L. Huron is still greatest in L. Huron amongst all Great Lakes <table><tr><th>Region</th><th>1995</th><th>2000</th><th>2005</th></tr><tr><td>Lake Ontario</td><td>1448</td><td>1541</td><td>1369</td></tr><tr><td>Lake Erie</td><td>66</td><td>2284</td><td>1743</td></tr><tr><td>Lake St. Clair</td><td>24</td><td>691</td><td>1272</td></tr><tr><td>Lake Huron</td><td>13215</td><td>7581</td><td>5925</td></tr><tr><td>Lake Superior</td><td>1207</td><td>1311</td><td>4123</td></tr><tr><td>St. Lawrence River</td><td>578</td><td>677</td><td>765</td></tr></table> <ul style="list-style-type: none">▪ | Region | 1995 | 2000 | 2005 | Lake Ontario | 1448 | 1541 | 1369 | Lake Erie | 66 | 2284 | 1743 | Lake St. Clair | 24 | 691 | 1272 | Lake Huron | 13215 | 7581 | 5925 | Lake Superior | 1207 | 1311 | 4123 | St. Lawrence River | 578 | 677 | 765 |
| Region | 1995 | 2000 | 2005 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake Ontario | 1448 | 1541 | 1369 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake Erie | 66 | 2284 | 1743 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake St. Clair | 24 | 691 | 1272 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake Huron | 13215 | 7581 | 5925 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lake Superior | 1207 | 1311 | 4123 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| St. Lawrence River | 578 | 677 | 765 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Problems/ Challenges/ Weaknesses | <ul style="list-style-type: none">▪ Jobs in Fisheries and Aquaculture need to be enticing in order to attract youth.▪ Mentorship programs are currently inadequate; insufficient access for high school students.▪ There is no inventory of the type of jobs involved in Fisheries and Aquaculture sectors and where training and skills development can be provided.▪ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | Aquaculture Factors |
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| Strengths/ Positives | <ul style="list-style-type: none"> 50+ years of experience in land-based operations and 30+ years experience in cage culture operations leading to significant experience curve effects (e.g. labour efficiency; product / process specialization, etc.) Industry is committed to support and engage in research and development initiatives to improve operations through use of sustainable technologies and practices ELA-led R&D is unprecedented on a global scale and has resulted in extensive research into the Georgian Bay ecosystem. Due to the presence of cage aquaculture operations, the scope and calibre of environmental research in Georgian Bay has increased dramatically, leading to an enhanced understanding of the aquatic ecosystem; moreover, long-term adverse effects of aquaculture have not been identified When aquaculture sites are operated responsibly, environmental effects are usually reversible within a short time following termination of operations Credible evidence exists regarding the beneficial ecological effects of cage aquaculture (e.g. fisheries enhancement) The fisheries phosphorus budget is presently negative Federal and Provincial Environmental Assessment processes are in place to support informed decision-making and garner public trust Producers have Best Management Practices protocol developed to support effective socio-political responsibility and transparent reporting Excess processing capacity exists in the province Ontario has infrastructure to support expanded production Province of Ontario has a 'hands-off' approach to aquaculture development in First Nations' territories; i.e. First Nations are able to proceed with aquaculture projects without having to secure provincial site tenures and licences - a lengthy and costly exercise for non-aboriginals. First Nations in the Waubetek service area have a long history in aquaculture. There are two cage culture sites at Wikwemikong First Nation, one at Aundeck Omni Kaning and Serpent River First Nation is presently conducting study to assess the feasibility of using Agri-Marine closed-containment technology. Aquaculture of Rainbow trout is working well at Wiki. The site now has new submersible cage infrastructure to help with overwintering. Fish are sold from Oct-Dec and May-July. It is a private venture that has been privately financed. There are other species that could be considered for farming. Rainbow trout are the easiest ones for now as the technology, the cost of production and the markets are all well established The Serpent River aquaculture project has identified a couple of suitable sites. The feasibility of using the AgriMarine technology has not been completed. There are sites available for aquaculture ventures in other First Nations territories. The Aboriginal Principles for Sustainable Aquaculture initiative by the Aboriginal Aquaculture Association (AAA) is available to all First Nations aquaculture ventures, not just those in BC |
| Opportunities | <ul style="list-style-type: none"> Present level of production remains far below Ontario's inherent potential Plentiful biophysical resource base (i.e. water supplies, sites, low-cost energy) Specialized R&D capacity at U. of Guelph (Alma, FNRL) and DFO (ELA) Unlikely that US trout production will increase substantially in the future due to lack of additional water in Idaho and the marginal economics for small scale operators outside Idaho Industry experience, coupled with university and government R&D, can position Ontario as a leading developer and supplier of sustainable freshwater cage culture technologies and practices Available R&D funds to enhance technologies and practices |

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| | <ul style="list-style-type: none"> ▪ Future fingerling supply in Ontario may be limited by aging producers and difficulty inherent in selling aquaculture operations (family farm locations, difficulty to arrange financing, necessity to upgrade/renew CoA upon title transfer, etc.); majority of fingerling producers are in southern Ontario ▪ Aquaculture can help to enhance depleted feral fisheries populations ▪ Spin-off opportunities associated with the aquaculture sector in Georgian Bay include: <ul style="list-style-type: none"> ○ training ○ barge services ○ environmental monitoring ○ hatcheries ○ net cleaning & repair ○ research ○ processing ○ trucking (fingerlings, product) ○ veterinary services ▪ Creation of an Aboriginal Aquaculture Demonstration Site where people can learn first-hand about aquaculture development and management. The Site could be used to deliver hands-on training and mentorship programs. ▪ Human Resources Development Canada is launching a new \$100 million Aboriginal training initiative; aquaculture will be a targeted sector in the initiative. ▪ Partnerships with other band members, other First Nations and/or with private sector (off reserve) can be positive but First Nations need to maintain a veto when Aboriginal resources are involved. ▪ Circumstances are favourable for development of Aboriginal - non-Aboriginal partnerships ▪ Partnerships can result in mutually beneficial arrangements whereby First Nations advance economic independence by acquiring increased expertise and financial resources from partners ▪ Opportunity to do joint purchases of supplies (off reserve) ▪ Economic impact of aquaculture in Georgian Bay is substantial (Harry Cummings & Associates 2007) <ul style="list-style-type: none"> ○ Farm-gate value ~ \$18 million ○ Direct impact (with aquaculture supplies & services sector) ~ \$51 million <ul style="list-style-type: none"> > Expenditures multiplier = 4.0 > + \$153 million in wider economy ○ Employment > 225 direct <ul style="list-style-type: none"> > Employment multiplier = 4.5 > + 785 jobs in wider economy ▪ Regional implementation of Aboriginal Principles for Sustainable Aquaculture (APSA) - an Initiative of the Aboriginal Aquaculture Association for setting a Standard for Aquaculture <ul style="list-style-type: none"> ○ Third party certification program developed by AAA ○ Transparency and First Nation (Aboriginal) Inclusiveness ○ Social Responsibility ○ Environmental Responsibility ○ Economic Responsibility |
| Threats | <ul style="list-style-type: none"> ▪ Some First Nations communities within the Waubetek service area remain opposed to aquaculture development. ▪ Dysfunctional policy and regulatory framework; processes are open-ended and lack clear standards and protocols ▪ Expansion of cage aquaculture is constrained by the ardent opposition of environmental and other specific interest groups (e.g. foreshore land owners). ▪ Public opinion regarding the environmental effects of aquaculture is shaped largely by media reports of west coast salmon farming issues ▪ Research results are not widely known or understood outside the aquaculture community ▪ Insufficient research into the social aspects of aquaculture development ▪ No access to safety net programs that are commonly available to other agriculture producers (e.g. crop insurance, income stabilization, supply management, investment incentives, etc.) |

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| Problems/ Challenges/ Weaknesses | <ul style="list-style-type: none"> ▪ Barriers to entry / expansion are significant - especially inability to access sites and capital ▪ Future fingerling supply in Ontario may be limited by aging producers and difficulty inherent in selling aquaculture operations (family farm locations, difficulty to arrange financing, necessity to upgrade/renew CofA upon title transfer, etc.); majority of fingerling producers are in southern Ontario ▪ Limited fish health management options; insufficient aquatic veterinarian services ▪ Industry is heavily dependent on US supplies of eyed eggs ▪ Genetics of Ontario strains of trout need to be improved through selection to provide competitive advantage to domestic producers (e.g. warm water tolerance, disease resistance, improved yield, etc.) ▪ Consolidated processing capacity could lead to vulnerability ▪ Ecological challenges due to organic loading, disease and escapes (ecological, genetic, I&T) ▪ Inability to effectively manage three principal diseases which impart an economic impact on rainbow trout culture in Ontario: cold water disease (<i>Flavobacterium psychrophilum</i>), columnaris disease (<i>Flexibacter columnaris</i>) and furunculosis (<i>Aeromonas salmonicida</i>) ▪ Viral hemorrhagic septicemia virus (VHSV) has been identified in the Great Lakes watershed representing a potentially serious threat to the Ontario aquaculture sector; implications need to be researched and mitigation measures introduced ▪ Efficiency and effectiveness of aquaculture diets (reduced waste output, improved productivity) still needs to improve ▪ Industry-developed Codes of Practice are not widely adopted ▪ Industry-developed Codes of Practice are not widely recognized by parties outside the aquaculture sector. ▪ Within the Waubetek service area, some First Nations remain opposed to aquaculture development ▪ Pursuit of opportunities in aquaculture is restricted by limited access to good quality information that is objective and easy to understand ▪ Jobs in Fisheries and Aquaculture need to be enticing in order to attract youth. ▪ Mentorship programs are currently inadequate; insufficient access for high school students. ▪ Insufficient access to appropriate training and skills development ▪ There is no inventory of the type of jobs involved in Fisheries and Aquaculture sectors and where training and skills development can be provided. |
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| | Processing & Market Factors |
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| Strengths/ Positives | <ul style="list-style-type: none"> Proximity to major markets / distribution points in Canada and the USA Ontario producers are well-positioned to supply growing domestic and U.S. demand for high-quality fresh seafood (i.e. low transportation costs v. competition; quality image) |
| Opportunities | <ul style="list-style-type: none"> Recognition of the "Canada Brand" & "Ontario Brand" that represent clean waters, quality production and products, upstanding reputation, etc. Utilize the whole fish to produce 1^o and 2^o products Canada has internationally recognized food safety standards (among the best in the world) Strong and growing demand for seafood in the United States, Canada's most important market. Increasing health concerns and positive perception of seafood as a healthy food choice. Although seafood consumption has grown in the U.S., trout consumption has been flat due to lack of supplies, not lack of markets. Based on population growth only, US demand for trout is expected to grow by 6,000 tonnes (round weight equivalent) over the coming decade With strategic marketing / promotion, consumption could increase by more than 14,000 tonnes per year in the next decade Strong per capita consumption in Canada relative to US makes domestic market attractive growth prospect. Demand from the U.S. for high-quality fresh seafood will continue to fuel growth in Canadian fisheries and aquaculture sectors The United States has limited opportunity for additional fish production US country-of-origin labelling could be advantageous to ON suppliers Legislators in the US Great Lakes states have essentially reserved the resource for recreational and tribal fisheries to the exclusion of commercial fisheries and aquaculture Utilization of APSA certification standard Consider First Nations processing (value adding) and marketing Opportunity to re-engage the younger generation. Aboriginals are 4% of the Canada's population but 25% of the current birth rate. Fisheries should be sustainable and accessible to the youth. A collaborative / cooperative processing and value adding initiative could improve prices to the fishers A common buy / sell desk would help to improve prices and facilitate access to new markets due to increased volume and consistency of supply. Opportunity to coordinate joint purchases of supplies Development of an "Aboriginal" brand supported, in part, by the APSA certification of the Aboriginal Aquaculture Association Partnerships with other band members, other First Nations and/or with private sector (off reserve) can be positive but First Nations need to maintain a veto when Aboriginal resources are involved. Consider potential to utilize 100% of the catch; i.e. fish as fish (dressed, filleted), fish as food (value-added), fish as an ingredient (by-products) Consider three stages of processing; i.e. <ul style="list-style-type: none"> Primary (gutting) Secondary (filleting) Tertiary (value added, entreés, smoking, packaged products, etc.) Partnerships with existing processing plants may result in mutually beneficial arrangements whereby First Nations advance economic independence by acquiring increased expertise and financial resources from partners |

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| | <p>Licensed processing plants in the Waubetek service area</p> <table> <tr> <td colspan="2">CFIA Registered Plants</td></tr> <tr> <td>Cold Water Fisheries Inc.</td><td>Little Current</td></tr> <tr> <td>Ferroclad Fisheries</td><td>Batchawana Bay</td></tr> <tr> <td>Fresh Mix Limited (Est 239)</td><td>Barrie</td></tr> <tr> <td>The Purvis Brothers Limited</td><td>Silver Water</td></tr> <tr> <td>Wabuno Fisheries</td><td>Aundeck Omni Kaning</td></tr> <tr> <td colspan="2">Provincially Registered Plants</td></tr> <tr> <td>Herbert Fisheries</td><td>Killarney</td></tr> <tr> <td>Ontario Fisheries Products</td><td>Collingwood</td></tr> <tr> <td>Garden Village</td><td>Sturgeon Falls</td></tr> </table> | CFIA Registered Plants | | Cold Water Fisheries Inc. | Little Current | Ferroclad Fisheries | Batchawana Bay | Fresh Mix Limited (Est 239) | Barrie | The Purvis Brothers Limited | Silver Water | Wabuno Fisheries | Aundeck Omni Kaning | Provincially Registered Plants | | Herbert Fisheries | Killarney | Ontario Fisheries Products | Collingwood | Garden Village | Sturgeon Falls |
| CFIA Registered Plants | | | | | | | | | | | | | | | | | | | | | |
| Cold Water Fisheries Inc. | Little Current | | | | | | | | | | | | | | | | | | | | |
| Ferroclad Fisheries | Batchawana Bay | | | | | | | | | | | | | | | | | | | | |
| Fresh Mix Limited (Est 239) | Barrie | | | | | | | | | | | | | | | | | | | | |
| The Purvis Brothers Limited | Silver Water | | | | | | | | | | | | | | | | | | | | |
| Wabuno Fisheries | Aundeck Omni Kaning | | | | | | | | | | | | | | | | | | | | |
| Provincially Registered Plants | | | | | | | | | | | | | | | | | | | | | |
| Herbert Fisheries | Killarney | | | | | | | | | | | | | | | | | | | | |
| Ontario Fisheries Products | Collingwood | | | | | | | | | | | | | | | | | | | | |
| Garden Village | Sturgeon Falls | | | | | | | | | | | | | | | | | | | | |
| Threats | <ul style="list-style-type: none"> ▪ Economic uncertainty ▪ Entrance of discount chains to the sector – e.g. Costco, Sam's Club and Wal-Mart's Supercenters, supporting large volume sales. ▪ In a marketplace driven by widespread emergence of new products, private labels, and low profit margins, retailers are increasingly by-passing the wholesaler-dealer to buy directly from producers. Estimates suggest that producers directly supply 25 to 35% of the products that retailers sell. ▪ Buyer power (i.e. foodservice and retail) is increasing while supplier power is decreasing. ▪ Price point competition from beef, pork, poultry ▪ Capacity to protect brand (brand support, contingency planning, crisis management planning, lack of agility to respond) ▪ Markets increasingly demanding 'certification' to secure access ▪ Long time frame to implement certification programs ▪ Attending the Boston SeaFood Show is a worthwhile experience to see how much seafood is being produced and to meet with possible buyers. In general, however, fishers in the North Channel don't have enough volume to supply any of these buyers. | | | | | | | | | | | | | | | | | | | | |
| Problems/ Challenges/ Weaknesses | <ul style="list-style-type: none"> ▪ Insufficient product to meet customer requirements at times; continuity of supply is uncertain ▪ Inability to expand production to meet growing customer demands; will lead to loss of customers over time as supply is sourced elsewhere ▪ Industry relies on a "selling" or "order-taking" approach; development of a "marketing" approach within the sector could improve sales and profit margins. ▪ Sector is not large enough (product volume) to service large US retail accounts ▪ Long time frame to implement certification programs ▪ Jobs in Fisheries and Aquaculture need to be enticing in order to attract youth. ▪ Mentorship programs are currently inadequate; insufficient access for high school students. ▪ There is no inventory of the type of jobs involved in Fisheries and Aquaculture sectors and where training and skills development can be provided. | | | | | | | | | | | | | | | | | | | | |

| | Socio-Political & Governance Factors |
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| Strengths/ Positives | <ul style="list-style-type: none"> ▪ Fisheries and aquaculture play an important role in providing stable employment in small communities and rural areas of Ontario ▪ The Anishinabek/ Ontario Fisheries Resource Centre (A/OFRC) is an independent "Centre of Excellence" for fisheries assessment and management, recognized and trusted by First Nations, governments and all users of fisheries resources <ul style="list-style-type: none"> ○ Provide services to 39 Anishinabek communities ▪ A/OFRC services include: <ul style="list-style-type: none"> ○ Stock assessment ○ Fish habitat assessment and related problems ○ Angler/commercial catch surveys ○ Fisheries assessment and management training ○ Assistance with ongoing research ▪ A/OFRC activities are project oriented; e.g. <ul style="list-style-type: none"> ○ Lake Nipigon Fish Community Index Netting ○ North Channel Joint Whitefish Index Netting ○ Lake Nipissing Whitefish Index ○ Lake Nipigon Northern Pike and Walleye assessments ○ Numerous other assessments to assess viability of commercial fishery ○ Angler and Harvest surveys ▪ A/OFRC delivers workshops: <ul style="list-style-type: none"> ○ Commercial fishing techniques <ul style="list-style-type: none"> > Net setting/lifting > Net making and repair > Making buoys, net picks, etc. > Jigger boards ○ Cultural and economic considerations ○ GPS, boating safety ○ Fisheries Assessment Techniques ▪ Since 1999 the Ministry of Natural Resources, Mississauga First Nation, Sagamok-Anishnawbek First Nation, Serpent River First Nation and Thessalon First Nation have worked within a cooperative framework with the mutual goal of achieving effective management of the Lake Huron aboriginal fishery. <ul style="list-style-type: none"> ○ Anishnawbek North Channel Fisheries Model, developed by the North Shore Tribal Council, presents an outline toward a cooperative North Channel fisheries management plan that is in keeping with aboriginal interests ▪ These agreements have demonstrated the parties' ability to develop and implement a cooperative fisheries management framework addressing fisheries resource-sharing and management in the North Channel of Lake Huron. ▪ All parties recognize that it would be advantageous to continue promoting and fostering improved coordination, efficiencies, and cooperation with respect to their approach to maximizing benefits derived from the commercial fishery in a sustainable manner. ▪ Aboriginal aquaculture ventures in Ontario do not accept provincial Land Use Permits or Licence <ul style="list-style-type: none"> ○ the natural resource base is recognized as First Nations territory over which First Nations exercise control |
| Opportunities | <ul style="list-style-type: none"> ▪ A planned, pro-active approach to coastal zone use is required so that common property resources can be allocated in a manner that generates equitable value for First Nations communities ▪ Conduct a resource / asset mapping exercise to identify potential regions / areas suitable for Aboriginal fisheries and aquaculture development based on a comprehensive set of bio-physical, environmental and socio-economic factors ▪ Create enabling and permissive policy for identified areas / regions ▪ Waubetek service area has good infrastructure for transportation, power |

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| | <ul style="list-style-type: none"> ▪ First Nations having access to Lake Nipissing have their own Fisheries Management Plan. They hire their own fisheries biologists and carry out fisheries assessments. They came to an agreement with OMNR to stop harassing buyers of the products from this fishery. ▪ Province of Ontario being pushed to share revenues from licenses, etc that are generated by giving access to natural resources in traditional territories. Forestry is a good example of this. ▪ Lake Nipissing – attempting to use part of the Pike quota to resell to sport fishing. Would get the revenue from license, guiding, fish tags, etc. Not well received by OMNR. ▪ Revenue Sharing Agreements are arrangements between federal or provincial governments and First Nations. <ul style="list-style-type: none"> ○ Revenues collected by the government in exchange for the use of aquatic resources could be shared with First Nations where the resource base is within the First Nation's traditional territory ○ In some cases, First Nations require the ability to determine if a potential partnership arrangement or agreement is consistent with the values of the community, and that a fair and equitable deal can be achieved <p>US Tribal Fisheries</p> <ul style="list-style-type: none"> ▪ US Tribes appear to have more autonomous management authorities than Ontario First Nations regarding fisheries and aquaculture <p>Chippewa Ottawa Resource Authority (CORA)</p> <ul style="list-style-type: none"> ▪ Commercial, Subsistence, and Recreational Fishing Regulations for the 1836 Treaty of Ceded Waters of Lakes Superior, Huron and Michigan ▪ The Regulations are intended to ensure conservation of the fishery resource for future generations of the Tribes and to ensure safe fishing practices ▪ The 2000 Consent Decree allocates the 1836 Treaty fishery resource by species among user groups such as the tribes, sports fishers, and state and the federal governments ▪ CORA Management Committees <ul style="list-style-type: none"> ○ Great Lakes Resource Committee (GLRC) ○ Inland Lands and Waters Resources Committee (ILWRC) <p><u>Fisheries Management</u></p> <ul style="list-style-type: none"> ▪ CORA provides services that ensure proper regulation of tribal fisheries and cooperative management with federal and state agencies ▪ The Inter-Tribal Fisheries Assessment Program (ITFAP) maintains a commercial harvest database, conducts fish contaminant sampling, recommends harvest levels and carries out population research and studies ▪ ITFAP's environmental staff represents CORA on a wide variety of interagency and international committees <p><u>Fisheries Enhancement</u></p> <ul style="list-style-type: none"> ▪ Nunns Creek Fish Hatchery / Odana Fish Enhancement Facility <ul style="list-style-type: none"> ○ Raise walleye, salmon and other species to stock Great Lakes waters ▪ CORA staff biologists <ul style="list-style-type: none"> ○ provide monitoring and management of salmon harvested by tribal commercial fishermen ○ Evaluate Great Lakes fish stocks and maintain or improve fishery habitat <p><u>Law Enforcement</u></p> <ul style="list-style-type: none"> ▪ Tribal conservation officers are trained at federal or state police academies <ul style="list-style-type: none"> ○ Fisheries conservation, regulations, vessel safety, navigation and rescue training ▪ They enforce fishing regulations and perform all conservation enforcement investigations and services in treaty waters ▪ They work cooperatively with the Michigan DNR, U.S. Coast Guard, Border Patrol and other agencies to enforce fishing activities and safety regulations |
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| | Columbia River - WA State <ul style="list-style-type: none"> Commercial cage aquaculture operations in the Columbia River (WA) are located within tribal territories where the State has no jurisdiction. The Tribes have permitting authority <ul style="list-style-type: none"> Issue Tribal Water Quality Permits based on the same rules and criteria as the federal NPDES⁹ permitting program and collect resource rents from non-aboriginal ventures |
| Threats | <ul style="list-style-type: none"> Concern about how OMNR develops the current quota system. There seems to be a lot of guess work. Limited input from native traditional knowledge Amongst Aboriginal peoples, there is little confidence that the Province is meeting their stated objective of including Aboriginal Treaty Rights in the quota allocation process. |
| Problems/ Challenges/ Weaknesses | <ul style="list-style-type: none"> Most research capabilities in the fisheries and aquaculture sectors are technical and natural-sciences oriented; social scientists / researchers have not been effectively engaged to study the sectors Inability to expand the sector under present circumstances Participation on-reserve in Governance Issues is very low. Need to find a better communication mechanism to solicit input to processes. Need a continuous feedback loop mechanism A/OFRC is not involved in aquaculture or fisheries management |

⁹ The National Pollutant Discharge Elimination System (NPDES) program regulates the discharge of pollutants from point sources to waters of the United States and prescribes how state agencies are to regulate effluent discharges from CAFOs. Concentrated Animal Feeding Operations (CAFOs) are point sources, as defined by the CWA [Section 502(14)]. To be considered a CAFO, a facility must first be defined as an Animal Feeding Operation (AFO). AFOs are agricultural operations where animals are kept and raised in confined situations. AFOs generally congregate animals, feed, manure, dead animals, and production operations on a small land area. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures. Animal waste and wastewater can enter water bodies from spills or breaks of waste storage structures (due to accidents or excessive rain), and non-agricultural application of manure to crop land.