

***ITQs, DFO Policy, and the Scallop Fishery of  
Digby and Annapolis Counties***  
**Rural Communities Impacting Policy Project**

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Funding Partners and  
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**The mission of the Atlantic Health Promotion Research Centre is to conduct and facilitate health promotion research that influences policy and contributes to the health and well-being of Atlantic Canadians.**

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## **Project Background**

This student research internship project is one of the four Rural Communities Impacting Policy (RCIP) projects taking place around rural Nova Scotia during the summer of 2003. Student research internships provide opportunities for communities to gain knowledge and skills through the use and application of university resources, while university curricula and expertise can be enhanced through community-based applied research.

Despite the importance of public policy in our everyday lives, average Canadians tend to have little role in the development of policies that affect them. This issue was raised in dialogues held in rural communities across Nova Scotia by the Coastal Communities Network and across Canada by the Canadian Rural Partnership between 1996 and 1999. There are limited mechanisms for community involvement in the policy-making process, and individuals and community-based organizations, particularly those in smaller communities, may not feel they have the time, knowledge, or skills to become active players in shaping policy. To become more involved in the policy process, rural citizens indicated the need for:

- Information about their communities;
- Access to tools to impact policy;
- Knowledge about policy “pathways” and processes.

RCIP is a three-year project whose purpose is to increase the ability of rural communities and organizations in Nova Scotia to access and use social science research in order to influence and develop policy that contributes to the health and sustainability of rural communities. RCIP’s objectives are to:

1. Develop a Rural Report that will “paint the landscape” of rural Nova Scotia;
2. Increase the capacity of rural Nova Scotians to obtain data concerning the health and well-being of their communities;
3. Design a rural “tackle box” of tools and resources to help organizations more effectively impact policy that affects their community;
4. Increase the use of research in policy development;
5. Provide training opportunities for students and community members to learn more about rural issues and rural policy;
6. Explore the role of the private sector in the health and sustainability of rural communities.

## **Project Description: Bay of Fundy Inshore Fishermen’s Association**

The Bay of Fundy Inshore Fishermen’s Association (BFIFA) is deeply concerned with proposals made by government through the Department of Fisheries and Oceans’ (DFO) Atlantic Fisheries Policy Review (AFPR). BFIFA agrees with most of the issues presented, especially the movement towards conservation efforts. However, it is worried about the possible consequences of making DFO’s owner-operator and fleet separation policies obsolete in any new fishery management plan. BFIFA believes this would undermine the traditional, small-business fishery and reduce the number of people benefiting from the thriving scallop resource. So, BFIFA is sponsoring an intern (myself)

to compile research that might help it answer some crucial questions about DFO's licencing policies.

Although scallop harvesters are not members of the BFIFA, the scallop fishery was chosen for a number of reasons. It was the most recent fishery to have shifted to an individual transferable quota (ITQ) system. It is also a single-species fishery based in a specific location in the Bay of Fundy. This is relevant because events that took place before and after the introduction of ITQs are fresh in the memories of those to be interviewed -- fishermen and government officials.

When information is gathered, BFIFA will be able to take a better-informed position in presenting its issues and concerns to the AFPR. This will give fishermen a stronger voice in presenting their views and increase the likelihood that their voice will have an impact on the issues of concern to them. If they feel they have made a difference in a given situation, it will encourage them to believe their opinions and views can make a difference. So often, one hears comments such as, "What's the point, our opinions don't count." It is hoped that this project can help change such attitudes. With the necessary social science research as the foundation of BFIFA's position, its political influence can only increase.

Community members will also benefit from this study because they will become more aware of different aspects of their community that could affect them. If the fishery in Digby and Annapolis Counties is healthy, its communities will thrive. Many of these communities are highly dependent on the fishery economically, whether directly or indirectly. Tourism in the area is very sensitive to any changes in the fishery, especially around the Digby area, due to the popularity and promotion of "World Famous Digby Scallops." If the fishery is in turmoil, the entire community will feel the negative economic effects. But, if it is found that all is well, the entire community will be reassured.

### **Introduction of Digby and Annapolis Counties**

Digby and Annapolis Counties are widely known for their scenic valleys, their coastal regions, and friendly residents who take pride in their communities. These communities are often seen by tourists as refuges from the everyday rush of life, and residents welcome visitors to enjoy the unique scenic, historical, and cultural aspects of their communities.

Historically, the counties have depended heavily on agriculture and the fisheries, but recent closures due to the collapse of groundfish stocks have had a negative impact on the local economy. Tourism and manufacturing have become more important economically. Much of the tourism in the area, however, is connected to the fishery itself, particularly the scallop fishery. "Digby Scallops" are known worldwide, and many tourists come here just to try them. The Town of Digby's summer tourism festival is called "Digby Scallop Days."

### **Statistical Analysis**

Table 1.) Digby and Annapolis County Statistical Comparison 1991-2001

<b>Population</b>	<b>1991</b>	<b>1996</b>	<b>Change</b>	<b>2001</b>	<b>Change</b>	<b>Total Change</b>
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Digby County	21852	20500	-1352	19548	-952	-2304
Annapolis County	23589	22324	-1265	21773	-551	-1816

<b>Full-time School Attendance</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	48%	80%	32%
Annapolis County	50%	87%	37%
<b>Part-time School Attendance</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	4%	20%	16%
Annapolis County	3%	22%	19%
<b>Without High School Diploma/ Certificate</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	64%	39%	-25%
Annapolis County	54%	33%	-21%
<b>High School Diploma</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	21%	17%	-4%
Annapolis County	27%	19%	-8%
<b>Trades Certificate/ Diploma</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	4%	19%	15%
Annapolis County	6%	18%	12%
<b>College/ University Degree/ Certificate/ Diploma</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	10%	25%	15%
Annapolis County	13%	30%	17%

<b>Average Earnings per person</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>	<b>Provincial average (2001)</b>	<b>Difference</b>
Digby County	\$18,100	\$20,657	\$2,557	\$26,632	\$5,975
Annapolis County	\$17,589	\$19,588	\$1,999	\$26,632	\$7,044

<b>Participation Rate</b>	<b>1991</b>	<b>1996</b>	<b>Change</b>	<b>2001</b>	<b>Change</b>	<b>Total Change</b>
Digby County	59.4	57	-2.4	57.9	0.9	-1.5
Annapolis County	59.8	55.3	-4.5	53.4	-1.9	-6.4

<b>Unemployment Rate</b>	<b>1991</b>	<b>1996</b>	<b>Change</b>	<b>2001</b>	<b>Change</b>	<b>Total Change</b>
Digby County	17.4	18	0.6	13	-5	-4.4
Annapolis County	11.7	14.8	3.1	11.4	-3.4	-0.3

<b>Median Age</b>	<b>1996</b>	<b>2001</b>	<b>Change</b>
Digby County	38.6	41.2	2.6
Annapolis County	40	43	3

<b>15 years +</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	83% of pop	84% of pop	1%
Annapolis County	81% of pop	83% of pop	2%

<b>Approaching Retirement Age (55-64)</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	11%	14%	3%
Annapolis County	12%	23%	11%
<b>Potentially Retired (65+)</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	20%	22%	2%
Annapolis County	20%	23%	3%
<b>Number of Lone Parent Families</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	690	830	140
Annapolis County	640	920	280
<b>Number of Married or Common-law Families</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	4685	5140	455
Annapolis County	5530	5750	-220
<b>Divorced</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	900	1090	190
Annapolis County	970	1375	405
<b>Number of Dwellings</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	7610	8075	465
Annapolis County	8180	9055	875
<b>Owned Dwellings</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	6545	6585	40
Annapolis County	6850	7275	425
<b>Rented Dwellings</b>	<b>1991</b>	<b>2001</b>	<b>Change</b>
Digby County	1370	1455	85
Annapolis County	1845	1780	-65

A careful analysis of 1991, 1996, and 2001 census figures provided by Statistics Canada gives a brief overview of the changes that have taken place within the counties over this ten-year period. The population of Digby County decreased by over 3,000 between 1991 and 1996, with another fall of 1,700 in the five years that followed, for a total loss of 4,700 over the ten-year period. Prior to 1991, the population had been growing slowly but steadily. The main contributors to this drastic decline were the closure of the Cornwallis military base and the collapse of groundfish stocks in the early 1990s. The collapse of the groundfishery led to the implementation of strict regulations and ITQ systems in an attempt to save fishery stocks. Those displaced from the fishery had to turn to alternative means of livelihood at the same time that military personnel at Cornwallis, and their local support staff, were drastically cut back and eventually eliminated.

In order to adapt to suddenly new circumstances, people chose to increase their educational levels. Whereas in 1991 only 48 percent of people aged fifteen or older and normally expected to be attending school on a full-time basis were actually doing so, by 2001 this figure had risen to 80 percent. Through the same period, those attending school

on a part-time basis grew from four percent of the population to 20 percent. In 2001, 64 percent of residents had a high school diploma (or equivalent), compared with only 39 percent ten years earlier. During the same period, the number of people with a trades certificate or university degree increased by fifteen percent.

During the period between 1991 and 2001, the proportion of people engaged in different industries also changed. Fewer people were engaged in the fishery, agriculture, and other resource-based industries in 2001 than a decade earlier, while more were engaged in manufacturing or construction work. Although average earnings in Digby County have gone up from \$18,100 to \$20,657 between 1991 and 2001, the cost of living has increased as well. And, average earnings in Digby County remain well below the provincial average of \$26,632. Digby County's unemployment rate fell by six percent between 1996 and 2001, while the rate of participation in the labour force increased by one percent.

Although these changes in the workforce may seem positive, they are in large part due to the fact that many people have left the area to find work elsewhere. And while the population has fallen, the proportion of single-parent families has risen. And, despite the population drop, the number of dwellings has increased, as has the proportion of people who rent rather than own their residences.

Finally, the population of Digby County is aging, with the median age increasing from 38.6 years in 1991 to 41.2 years in 2001. During the decade, those approaching retirement age increased from eleven to fourteen percent of the population aged fifteen or more years. Those 65 years of age or more grew from 20 to 22 percent of the population aged fifteen years or more.

### **Natural History of Sea Scallops**

On average, harvested scallops are about 4.5 years of age. At this age they have usually reached the legal harvesting length of 76mm or contain 45 meats per 500grams. (Mark Lundy). Prior to reaching harvesting age, they go through a series of life stages. Sea scallops usually spawn in late summer or early fall, in response to a sudden change in water temperature (Nova Scotia, 2001). Meat counts during this time can be as much as 40 percent lower than they are the rest of the year because scallops concentrate most of their energies on gonad development, leaving little for the promotion of muscle growth (Mark Lundy). Despite the lower meat counts in late summer and early fall, scallop harvesting continues through this period.

There is a differentiation in sex among scallops, with the rare exception of hermaphrodites that have both sex gonads, enabling them to produce both sperm and eggs. The female drops her eggs, which float in the water and, with luck, they are fertilized by sperm dispersed into the sea by male scallops. (Mark Lundy). A few hours after fertilization, the embryo is able to swim about, and within 48 hours it develops into an initial larval stage called a trochophore. It feeds on small phytoplankton and soon develops a larval shell, at which point it is called a veliger larvae. Within six to eight weeks, it reaches a stage called pediveliger stage, when it settles to the ocean floor and anchors itself securely. There, it will grow into a mature scallop (Nova Scotia, 2001).

Scallops are filter feeders that use currents created by short hairs on the gills to move and filter water containing suspended particulate matter (Cargnelli, 1999). This matter is then transferred to the labial palp (located at the forward end of the gills), where it is

sorted for digestion (Nova Scotia, 2001). Scallops feed on phytoplankton, diatoms, and microscopic animals, although those close to shore tend to also feed on seaweed detritus when phytoplankton is not plentiful (Cargnelli, 1999).

### **History of Scallop Harvesting in the Bay of Fundy**

Scallops have been an important contributor to the economy of Digby and Annapolis Counties for more 80 years. Captain Roland Wormell first discovered them in the Annapolis Basin in 1920. He and a few other fishermen depleted those stocks very quickly using small drags from small boats. High demand led them to drag the Bay of Fundy, where they found full and massive scallop beds. In these early days when small boats were used, shucking was done onshore, but when larger scallop draggers were developed it was done at sea. Early in the development of the Bay of Fundy scallop fishery, Jim Trohon invented the Trohon scallop rake, variations of which are still used today. Although the rake tends to quickly deplete scallop beds and degrades the sea-floor ecosystem, scallop stocks always seemed to bounce back. However, scallop harvests fell dramatically between 1991 and 1999. A vast die-off of scallops caused serious concern for the future of the scallop fishery and led to the introduction of a “temporary” Enterprise Allocation (EA) system.

### **Introduction of Enterprise Allocations**

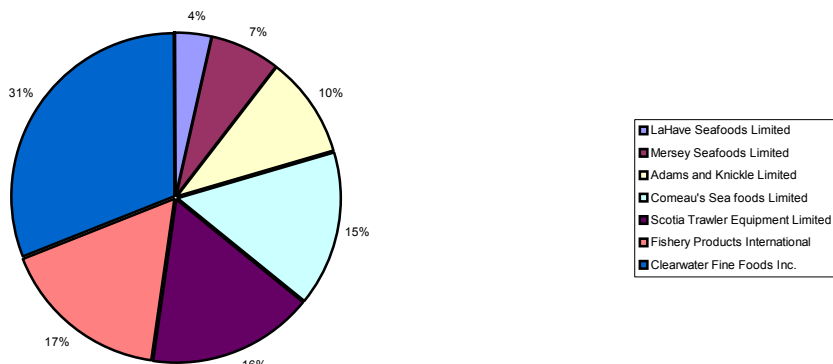
The last thing officials wanted was the collapse of another species, as had happened with cod, and DFO thought it would be beneficial for both recruitment purposes and the sustainability of the fishery to implement ITQ and EA systems in the scallop fishery. Traditionally, the fishery had been managed using limited entry, gear size limits, seasonal closures, minimum shell length, and meat count restrictions, but it became apparent in the late 1990s that these measures were no longer sufficient (DFO Science, 1999). The new system was first implemented on a trial basis in the offshore scallop fleet in June of 1996 but was soon extended to include the inshore fleet as well. However, the new system was implemented so quickly that the total allowable catch (TAC) each year was only very roughly estimated because scallop biologists were uncertain of the size of the biomass.

EAs were first introduced to the offshore scallop fishery on a three-year trial basis, after which a longer-term strategy would be developed. These allocations gave seven major offshore scallop companies varying shares of the TAC established for the entire fleet. The main objective of this EA program was to provide stability for fishermen and vessel owners so sound investment and working environments could be maintained and enhanced. This objective was achieved, though some might say that it has been *too* successful.

The following table summarizes the individual company shares of the offshore scallop TACs:

Figure 1. Percent Share of TAC among the Offshore Scallop Fleet

Percent Share of TAC amongst the Offshore Scallop Fleet



In October of 1996, shortly after the EA program was implemented, DFO declared the permanent separation of the inshore and offshore scallop fleets (DFO, 1998-1999). Upon completion of the three-year trial period for scallop EAs, DFO decided that the program would continue indefinitely, although a certain amount of fine-tuning would be necessary as knowledge and experience dictated. There remains much controversy over the degree to which fishermen had a say in this decision to make the quota system permanent in the scallop fishery. Some in the inshore fleet saw it as a way to “let the rich get richer and the poor get poorer.” Although no single fishing enterprise can legally hold more than 50 percent of any specific scallop stock, some companies have found ways around this by integrating themselves within the inshore fleet and by the use of “trust agreements.” Trust agreements are legal documents that usurp DFO’s owner-operator and fleet separation policies by allowing companies to buy out a fisherman’s licence, boat, and quota while maintaining the legal fiction that the licence still belongs to the former owner.

### Introduction of ITQs

DFO considers ITQs to be the most efficient and economical method of maintaining the sustainability of both stocks and the fishery. By giving individuals a guaranteed share of the TAC, DFO hopes to prolong the fishing season and promote safe fishing practices. Whereas in the previous “free-for-all” system, individual fishermen scrambled to get as much of the TAC for themselves as possible and so often fished in bad weather conditions, under an ITQ system such risky practices are unnecessary. By eliminating this “race for fish,” ITQs are said to “increase economic efficiency by providing the necessary incentives to reduce excess capacity in harvesting and ensuring that harvesting rights are allocated to those who can make most profitable use of them” (Apostle, page 13).

Individual quotas allocations were based on catch history, vessel size, and past participation in the fishery. Some fishermen who had fished scallops for many years but had stayed ashore while stocks were down felt penalized when they didn’t get the quota share they thought was owed to them.

### **Owner-Operator Policy**

DFO's owner-operator policy is outlined in its *Commercial Fisheries Licencing Policy for Eastern Canada - 1996*. It begins in Policy 11, "General Policy Guidelines":

*Licence holders restricted to using vessels less than [65 feet in length] will be required to fish their licences personally. Licence holders who have previously designated an operator for one or more of their vessels may continue to do so under a grandfather clause.*

It is touched upon again in Policy 12, "Vessel Registration":

*Unless provided otherwise under the Atlantic Fisheries Regulations, 1985 and Maritime Provinces Fishery Regulations and subject to section 33, every vessel used in a commercial fishery must be registered in the name of the licence holder using the vessel or for whom the vessel is being used.*

*A vessel can only be registered in the name of one licence holder at a time.*

Policy makers intended that, in order for a fisherman to have a licence, he or she must be the owner of the boat being fished from and be the one doing the fishing. There are exceptions to this rule in case the owner of the boat and licence has fallen ill, in which case there is also a policy guideline to be followed. Subsection 11 of Policy 11, "General Policy Guidelines," stipulates:

*Where the holder of a licence is affected by an illness which prevents him from operating a fishing vessel, upon request and upon provision of acceptable medical documentation to support his request, he may be permitted to designate a substitute operator for the term of the licence. Such designation may not exceed a total period of five years.*

These policies were evidently put in place to ensure that the owner of the vessel and holder of the licence was also the man or woman on the boat. Why would DFO not respect these policies? When it heard rumors of trust agreements, why did it not enforce its own policy? Whatever the answer to these questions, it can safely be said that, for decades, the federal government has been trying to downsize the fishery into the hands of a fewer and fewer fishermen.

### **Fleet Separation Policy**

Policy 15, titled "Fleet Separation Policy," of DFO's *Commercial Fisheries Licencing Policy for Eastern Canada, 1996* reads as follows:

*(1) One of the objectives of the licencing policy is to separate the harvesting and processing sectors of the industry, particularly in the fisheries where licence holders are restricted to using vessels less than [65 feet in length]. This is known as the Fleet Separation Policy.*

(2) Under this policy, new fishing licences for fisheries where only vessels less than [65 feet in length] are permitted to be used may not be issued to corporations, including those involved in the processing sector of the industry.

(3) Subject to subsection (4), corporations, including those involved in the processing sector, presently holding licences in this fleet sector may continue to do so, but they may not be issued additional licences.

(4) Notwithstanding section 16(5), fishing licences for vessels less than [65 feet in length] held by corporations that existed and held fishing licences for vessels less than [65 feet in length] prior to 1979 (referred to as pre-79 corporations) may be issued as replacement licences to another pre-79 corporation who still hold fishing licences for vessels less than [65 feet in length] or to an eligible recipient under section (16). Corporations eligible to be issued replacement licences under this provision are listed in Annex VII.

(5) When all licences held by a pre-79 corporation on the same vessel are issued as replacement licences to a qualified new entrant as per section (16), the new licence holder will be given core status.

The clearly stated purpose of this policy is to separate the harvesting and processing sectors. It was developed to protect the inshore fleet from being overrun by a vertically integrated industry, to ensure that small-business fishermen could make a decent living for themselves and their crews without feeling the constant need to grow bigger and better. Corporations were not supposed to be able to hold fishing licences for vessels less than 65 feet in length unless entitled to a replacement licence issued prior to 1979. Only 30 of these exist in DFO's Maritimes Region. (DFO Communications, 1996). Sadly, the intent of the fleet separation policy has been breached by DFO's lack of enforcement.

### **The Senate Standing Senate Committee on Fisheries and Oceans**

On December 10, 1998, the Senate Standing Senate Committee on Fisheries and Oceans submitted a final report entitled *Privatization and Quota Licencing in Canada's Fisheries*. It had five principal objectives (Comeau):

- review the literature on quota licencing;
- identify advantages and drawbacks associated with quota systems;
- assess the socioeconomic and biological effects of ITQ systems;
- determine whether some fisheries are more suitable to the ITQ system than others;
- use insight provided from experience in other fisheries to determine benefits or adverse effects of further expanding the ITQ system into other Canadian fisheries.

Upon completion of its research, the Committee developed ten recommendations. The first of these was that the Ottawa "issue a clear, unequivocal, and written public statement as to what individual quotas are and what their role will be in the future fishery." Among its other recommendations was that DFO "immediately begin to enforce its Atlantic fleet separation policy," and that it "more equitably distribute the resource in order to allow small-scale fishers a better opportunity of participating in the fisheries." Unfortunately, none of the Committee's ten recommendations have been addressed by DFO.

### **The Atlantic Fisheries Policy Review**

In its most recent draft of its discussion document, DFO's ongoing Atlantic Fisheries Policy Review went so far as to exclude any mention whatever of the owner-operator and fleet separation policies. This was in spite of the fact that the vast majority of the communities "consulted" through the course of the Review's work explicitly stated that they wanted the owner-operator and fleet separation policies enforced and strengthened. At a DFO-sponsored Antigonish roundtable discussion on March 13, 2001, it was noted that, "There is insufficient emphasis on the owner-operator and fleet separation policies in the discussion document. This is important because, if the people who own the licences don't live in the communities contiguous to the fishery, the profits go outside of those communities. This is contrary to the bonafide licencing policy," (DFO, page 13). At an owner-operator policy forum in Cornwallis on July 18, 2003 sponsored by the Nova Scotia Department of Agriculture and Fisheries and the Bay of Fundy Marine Resource Centre, Arthur Bull of Nova Scotia's Coastal Communities Network said, "What kind of process is this, where so many people are being ignored and so few interests served, behind closed doors?"

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