Evaluation of the Eider Rock Oil Refinery Environmental Impact Assessment Reports

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Executive Summary

This report provides evaluative comments on the Provincial and Federal EIA reports for the Eider Rock Oil Refinery Proposal as well as the Socio-economic Technical Report as prepared by Jacques Whitford Consulting. We find the above-mentioned reports to be significantly lacking in their assessment of the impacts of the proposed project on the commercial fisheries of the area. Our evaluation found inadequacies in the public consultation process, the assessment of cumulative effects, the spatial and temporal factors regarding the commercial fisheries, and the assessment of shipping impacts. We have shown that the number of fishermen who utilize the fishing grounds of Saint John Harbour adjacent to the proposed project are significantly higher than the EIA reports state. Through our research we have identified 43 fishermen who fish in Saint John Harbour. In addition, a survey of Saint John fishermen yielded 30 respondents. DFO logbook data also supports our statement that the number of fishermen is underestimated in the EIA reports.

We also find the mitigation strategies proposed in the EIA Reports to be inadequate in addressing the potential impacts of the proposed project on the fishing industry. Therefore, we propose alternative mitigation strategies that include: the establishment of voluntary ship traffic lanes with incentives for compliance or financial compensation for all fishermen who utilize the fishing grounds of Saint John Harbour based on a fair scale and set of criteria; the participation in the TERMPOL process as a condition of approval of the EIA; and the establishment of a gear loss compensation fund to compensate fishermen who lose gear due to accidents involving ship traffic.

1. Scope of the Evaluation

To prepare this evaluation, we have read relevant chapters of both the Provincial and the Federal EIA reports, as well as the Socio-Economic Technical Report sections on Commercial Fisheries. The two final reports (Federal and Provincial) contain essentially the same information. The Technical Report (on the other hand) is not a close match with the relevant chapters in either the Provincial or the Federal EIA report. One indication of this is that the Technical Report includes spatial analysis that is not included in the final reports (see Figure 2.2 from the Technical Report and compare with Figure 11.2 in the Federal EIA). Also, the final reports (both federal and provincial) seem to state conclusions that are not supported by the technical report. This leads to some confusion and explains why we refer to multiple documents below.

The primary point we challenge is the conclusion stated in the Federal EIA (page 355), that:

> "With proposed mitigation and recognizing that the majority of Project activities will occur within the Proponent's water lot[1] and within the Saint John Harbour as administered by the Saint John Port Authority on behalf of the Government of Canada, it is predicted that the residual environmental effects of the Project on Commercial Fisheries will not be significant".

This is a problem because the proposed mitigation fails to address the real impact that will be experienced. The proposed mitigation includes:

1. Financial compensation to Mispec fishermen
2. The establishment of clear practices and procedures for marine terminal operations (unspecified)
3. The delineation of Project vessel zones of operation during construction (also unspecified)
4. Encouragement of the use of established approaches by project-related vessels; and
5. Working through the Saint John Traffic Committee to address ongoing effects.

We have organized our response based on the three main sections in the Federal report that appear to relate to the fisheries: Commercial Fisheries (Chapter 11), Marine Safety (Chapter 13) and Accidents (Chapter 16).

In each case where we critique the EIA report, we show why the above mitigation will be inadequate and suggest alternative mitigation measure that may address

[1] Note that we have not been able to determine what the rights attached to this water lot are under current legislation. It is a shortfall of this EIA that this is not specified in the document.

shortfalls in the current EIA assessment. We begin with the methods section of the Federal EIA before moving on to the relevant three chapters.

2. Concerns of Process and Assessment Methods

2.1 Process Comments:

We found it difficult to review the EIA report documents due to numerous omissions in the available electronic documents, and the lack of hard copies of the reports. First, when the Provincial EIA report was initially uploaded onto the Eider Rock – Irving Oil website, the table of contents (TOC) for Volume 3 was missing several pages, making it impossible to navigate through the document. In addition, the practice of placing the TOC documents at the bottom of the list of files complicated navigation. Also at this time, the technical reports, which had been on the website for several months, were stripped of all their figures and graphics. In fact, even the CD containing the Provincial EIA report and the technical studies was devoid of figures and graphics (technical reports only). We were told this was due to the large size of the files, making it difficult to house the entire report on a single website or CD. Though we can appreciate that these reports are very large, we expect that it would have been possible to accommodate them all on a single website. We also found pages missing from the Federal EIA report. Each time we contacted Irving Oil and/or Government officials to request the missing information our request was granted in a timely manner (see Appendix A). Nonetheless, such flaws make a process, which is already exceedingly challenging for the public to participate in, even more cumbersome. We feel that hard copies of all reports should be available to the public upon request. When we requested hard copies of the Provincial EA report, we were told there were none available. We did not put in a request for the Federal report. It is time consuming and expensive to print out such lengthy reports, digital documents are difficult to navigate, and not every one has computer skills. Many of the Fundy North Fishermen's Association members are not computer literate; therefore, we were required to print out sections of the report for them to read. These process flaws effectively disadvantage the public in the consultation process.

2.2 Cumulative Impacts:

There is a problem with the methodological approach to cumulative impacts – the approach is clearly expressed in the Provincial EIA, where the consultants write that:

> "With some exceptions, the cumulative environmental effects assessment does not specifically consider past and present projects and activities because the environmental effects resulting from past and present projects and activities are captured in the description of baseline conditions." (Provincial EIA, p. 5-10).

We argue that this approach has proven totally inadequate to capture cumulative effects.

One example is the Black Point dredge disposal site, which will be the site for dredge dumping for the proposed project. The assumption is that the dredge disposal site is acceptable as several agencies are already monitoring it. However, there have been questions about the impact of dredge dumping. Several studies have suggested that *dredge dumping may have very specific impacts at different times of year and on different species* (see Lawton et al. in press, Lawton et al. 2005, O'Donnell et al. 2007). The impact on migrating lobsters (particularly juveniles who are known to migrate down the Bay of Fundy in regular waves – see Campbell and Stasko 1986) may be particularly deleterious. Lawton et al.'s two-year study funded by Environment Canada tagged lobsters at the dumpsite and confirmed that juvenile and adult lobsters migrate through the Black Point dumpsite in waves all summer long. He also looked at the impact of dumping dredge spoils on lobster and found death, injury, and stress in the immediate vicinity of the dumpsite (Lawton et al. n.d.).

Another example is of methodological shortfalls in assessing the impacts of the proposed increase in shipping on the harbour. Current shipping and vessel traffic in the harbour has not been fully evaluated for present problems or for potential future conflicts and interactions (see the Federal EIA p. 400), thus *there is little opportunity to evaluate the conflict that may be created by increasing shipping up to 45%* (see below). The Federal Report states that project-related vessel traffic is small relative to the physical capacity of the established shipping lanes and that the current level of vessel traffic in the Port is well within the physical and management capacity of the Harbour (p 408). The accuracy of this statement is hard to assess as little information is provided on the international shipping lane traffic levels or on traffic levels within the Harbour. We return to the cumulative impacts problem in several places in our response to specific chapters of the Federal Report in what follows.

Finally, there are methodological problems with the assessment of fisheries and the relative importance of different commercial fisheries. The Socio-Economic Technical Report, for example, lists landings and values for two stocks (shad and gaspereau) that are closely affiliated as historic fisheries in Saint John Harbour. Both of these fisheries are considered insignificant in the Federal Report. However, the assessment of their importance misses two important factors. First, the report takes DFO landings statistics for the years 2000-2005 as evidence that these two fisheries are insignificant. The Report fails to acknowledge however that these statistics likely misrepresent the two fisheries. Mandatory reporting of landings through logbooks for the shad and gaspereau fisheries was only instituted in 2009. Prior to this year there were minimal reporting requirements with no follow-up or enforcement. Therefore, meaningful statistics on landings for these two species is unlikely in the years 2000-2005. Second, the primary use for gaspereau is as lobster bait and thus, *the relative value of the catch is not "landed value", but the relative*

value of replacing this source of bait (see Harnison and Willison 2009). There are no other easily obtained and relatively cheap sources of bait for lobster fishing in the LAA.

3. Commercial Fisheries – Chapter 11

The selection of measurable parameters (Federal EIA: 357) to assess the impact of the proposed project on existing commercial fisheries, and the resulting conclusions about the significance of these impacts (see p. 382) are inadequate to capture the possible impacts of the proposed project. We outline our reasons for this assessment below.

3.1 Temporal Factors

Several problems occur with the Temporal Boundaries as defined in the Federal Report (see p. 358). The temporal boundaries of the environmental effects assessment include the construction phase and the operation phase of the marine components of the project (p. 358). The temporal impact is said to be effective primarily during fishing seasons as specified by the Department of Fisheries and Oceans regulations. However, fishing seasons have been adjusted in the past and may be adjusted again in the future, primarily to deal with environmental changes that may be associated with global warming.

Another indication of this temporal framing problem is the calculation (in the Socio-Economic Technical Report p. 6) that "the average annual revenue obtained from each lobster trap is approximately $600". Lobster trap catch rates vary considerably in terms of season and location. The Saint John Harbour area has become a particularly lucrative fishing ground in the last fifteen years. Lobster stocks (contrary to the claim of the Socio-Economic Technical Report p. 6-7) have been on the increase and are presently at a historic high (see Acheson and Steneck 1997, DFO 2007, Miller 2003, Steneck 2006). A graph of the history of lobster landings, showing the sharp rise in landings in recent years, is included in Appendix B**.** Although, lobster stocks have been more abundant everywhere in the region over the last 15 years, the fishing grounds of the Saint John Harbour have yielded disproportionately higher landings than surrounding fishing grounds in the spring fishery. As a result, Saint John Harbour fishing grounds yield an extremely high rate of return on investment and thus draw a large number of fishermen to the area. Traps fished within the proposed project's LAA are known to yield more catch than traps fished further offshore.

The extreme tides and subsequent tidal currents require Bay of Fundy fishermen to employ in-depth experiential knowledge often acquired through generations (Recchia n.d.). This high knowledge requirement makes it difficult for fishermen to change their fishing patterns and to utilize new fishing grounds unknown to them.

Nonetheless, fishermen do make changes when there are significant financial rewards. Such changes generally occur slowly as it takes many years to acquire the necessary expertise to fish a new area. Fishing in Saint John Harbour has increased significantly over the last 15 years and continues to change.

During the construction period for the new Canaport LNG terminal, the regional distribution of fishermen changed slightly, as a few fishermen avoided the high traffic areas around the construction site (Roger Hunter, personal communication). This is evidence of a direct impact on the fishing industry due to an increase in ship traffic. Over the past decades lobster fishing has tended to vary between several optimal areas depending on a number of influencing factors. The local knowledge required to be successful at fishing any particular fishing ground takes time and skill to acquire. Fishermen learn by doing. They try different locations and require the flexibility to do so if their industry is to be sustainable. Fishing in this EIA report is fixed in time and space when in fact it tends to be highly variable across time and space.

Finally, temporal issues are also a problem in the several mitigation measures that are proposed to redress the project impact on commercial fishing. The project refers to several potential future management planning activities as if they are currently well functioning aspects of the socio-political environment. For example, in several places in the document, the proponent proposes to employ the Saint John Harbour Traffic Committee to address concerns surrounding the commercial fishery (see for example Federal Report p. 498). While this committee has occasionally met in the past, and may even meet again in the future, it currently has no mandate, no official jurisdiction, no enforcement mechanism, and rarely encompasses all stakeholders in the Harbour when it does meet. Fundy North Fishermen's Association generally takes the initiative to request meetings and bring potential solutions the table. Many of the other stakeholders including representatives of the shipping industry and government agencies have not fully participated in the process. In fact, over the last 5 years very little progress has been made in resolving conflicts and creating a functional co-operative environment for the shipping and fishing industries to conduct their business.

Similarly, the EIA report refers to the Southwest New Brunswick Marine Resources Planning exercise as a mechanism to develop mitigation solutions. Firstly, this initiative does not encompass Saint John Harbour (its scope ended at the western boundary of the Musquash protected area, well below Saint John Harbour). Also, the SWNB MRP process has so far been ineffective in creating positive planning or policy change. A report prepared by the group and submitted in March 2009 has not yet received a response from the government. All government funding has ceased for this initiative, the project manager is no longer employed, and the group has not met in eight months.

3.1.1 Mitigation of Temporal Factors

Functional integrated management institutions for this region of the Bay of Fundy would go a long way to addressing many of the concerns expressed here. It is unfortunate that the recent report of the Southwest New Brunswick Marine Resources Planning group has never been made public. A strong mandate and making an agency responsible for moving the mandate forward for this, and for the various ad hoc committees that have organized around Saint John Harbour issues, would do much to mitigate problems. The proponent could commit to facilitating the Traffic Committee, but there would still need to be federal support for the committee to give it teeth. Transport Canada was formally asked to co-chair the Saint John Harbour Traffic Committee, with the Saint John Harbour Authority, but have declined to do so.

3.2 Spatial Factors

The Federal EIA report identifies several areas of interest and assessment (assessment areas) at various points throughout the document. These spatial areas are defined by their relationship to a VEC (Valued Environmental Component) and by "the probable geographical extent of the environmental affects (i.e. the zone of influence)" of the project. Thus spatial boundaries of the effects of the proposed project shift at various points throughout the document, and indeed throughout the three documents. (The relevant figures include: Provincial Report, Figure 12.1; Socio-Economic Technical Report, Figure 2.2; Federal Report, Figures 11.1, 11.2, 11.3, and 13.1.) The Project Development Area (PDA), the Local Assessment Area (LAA), and the Regional Assessment Area (RAA) for impact on commercial fisheries are in fact different; depending on whether you are reading the sections on commercial fisheries, marine safety, or accidents.

We argue that *in none of these sections of the report is the appropriate area of assessment specified for the commercial fisheries* (lobster in particular). In fact, there is a much larger area that is utilized heavily by lobster fishermen that will be impacted by the implementation of this project. Even in the Local Assessment Area as defined in Figure 11.1, there are substantially more fishermen involved than the three reports indicate.

For example, the study done to evaluate the level of lobster fishing (see Figure 11.2 Federal EIA) corresponds to none of the areas of assessment as described for the commercial fishery (PDA, LAA, or RAA). The Federal document explains that in fact the Commercial Fisheries LAA was "expanded and modified to include an area indicated by local fishermen to be important areas currently fished" (Federal Report, p. 356); but there is no figure that corresponds to this "expanded LAA". If the expanded LAA is reflected in Figure 2.2 of the Socio-Economic Technical Report, it appears to largely concern areas fished by the Mispec fishermen and ignores areas fished by Saint John fishermen, and fishermen from other communities down the

Fundy coast (see the results of our survey of lobster fishermen utilizing the harbour area below for further discussion of this point).

The Federal Report states that properly assessing the level of fishing in the areas affected by the project "cannot always be determined, resulting on technical constraints on the analysis" (p. 359). The technical constraints were "overcome by conducting a lobster trap marker buoy survey" (p. 360), which unfortunately had serious flaws. In both the Federal Report and the Socio-Economic Technical Report, the expanded LAA was determined "by weekly surveys of lobster trap markers conducted in the 2007 spring lobster season" (Federal Report, p. 358-9). The Fundy North Fishermen's Association has argued, and the Socio-Economic Technical Report also notes, that *these surveys suffered from serious methodological flaws* including counting buoys at times of strong tidal currents when most buoys would not be visible. Therefore the expanded local assessment area may not be appropriately defined. The extreme tides of the Bay of Fundy create very strong tidal currents that vary dramatically from place to place, based on the configuration of landmasses, ledges, etc. Lobster buoys are pulled under water when the tidal currents are moving swiftly and it is only at slack tide that the buoys are visible. To the inexperienced, it would seem that at low or high tide all the buoys would be visible at once. This is not the case. An experienced fisherman knows that his buoys will appear in one area before they will appear in another. Much of lobster fishing in the Bay of Fundy is about timing; arriving at your gear at just the right time of tide to be able to access those buoys. It is clear that Jacques Whitford staff did not understand the complexities of the tidal currents in the Harbour and therefore were unable to assess the extent of lobster fishing in the LAA through their buoy survey.

In light of this fact, Fundy North members and staff met with Jacques Whitford staff after the study of lobster buoys was conducted. At that time we were presented with a map showing very few lobster buoy sightings in the LAA (See Figure 11.2, Federal Report). At this meeting, Fundy North Fishermen's Association members explained how the tides work and the complexities of finding buoys in this area and offered to take Jacques Whitford staff on their fishing boats at the height of the spring lobster season (June) to demonstrate the high densities of lobster gear in the LAA and beyond. We offered this free of charge. Jacques Whitford staff did not take us up on our offer. They did however hold individual meetings with each of several fishermen who fish in the harbour including fishermen with homeports in Saint John, Mispec, Dipper Harbour, Lorneville and elsewhere. At these meetings, fishermen were asked to plot on a nautical chart where they fished and how much of their lobster gear was placed within the LAA in a typical year. None of this data is presented in the EIA reports. While the Socio–Economic Technical Report that was released several months ago included a map (Figure 2.2) that directly reflects the fishermen's comments from the group meeting with Jacques Whitford, the final Federal and Provincial EIA reports do not contain this information.

Finally, it is important to distinguish between lobster buoys and lobster traps – Figure 11.2 (Federal Report) is labeled "Trap Distribution" when actually it is

discussing Buoy distribution – the two are not the same. In Saint John Harbour in particular, fishermen use mostly lobster trawls. A lobster trawl is a string of several traps (up to 30 traps) that have buoys or balloons on either end. For instance, if you see 2 buoys, they may represent a whole trawl of anywhere from 4 to 30 traps or they represent single, pair or triplets (i.e. 1, 2, or 3 traps per buoy). If buoys alone were counted, it would be insufficient to assess the number of traps (and fishermen) that were represented by those buoys. In order to achieve accurate data, such an assessment could only be done by an experienced fisherman. Jacques Whitford staff simply did not have the experience to gather accurate data nor to appropriately analyze the results of this survey.

The spatial variation in the assessment area affects the reliability and validity of some of the Federal EIA Report conclusions. For example, on page 376 of the Federal report it is stated that: "the change in available fishing area due to the footprint of the marine terminal jetty, barge landing facility and seawater cooling intake structure, as well as the associated safety exclusion zones, is a very small proportion (less than 1%) of the total area within the LAA". The accuracy of this statement is difficult to establish, as it is unclear to which LAA they refer (the original or the expanded one?). In either case, the claim appears to be spatially inaccurate (see Figure 11.1 and Figure 11.2). Perhaps they actually mean less than 1% of the RAA (i.e. LFA 36)? In any case, the Federal EIA and the Technical Reports do not recognize nor acknowledge the longstanding nature of fishing access rights in the Saint John Harbour area – common property rights worked out over decades by lobster fishing communities and well understood within them (see Wagner and Davis 2004, Recchia n.d.).

The RAA for the lobster fishery includes the entire Lobster Fishing Area 36 (see Figure 11.4) – which would be appropriate given that up to 75 fishermen (many from home ports other than Mispec and Saint John), fish in Saint John Harbour and surrounding areas at some point in the spring or fall fishery (pers. com. Steve Wilson, area director DFO Southwestern New Brunswick in 2008). Since the construction of the Canaport LNG terminal, fewer fishermen have been traveling to Saint John Harbour from other areas. We have assembled a list of 43 fishermen who continue to fish in Saint John Harbour and will be directly affected by this project (see Appendix C). We cannot be assured that is a complete list, since many fishermen who fish in Saint John Harbour are not members of the Fundy North Fishermen's Association and therefore we had limited contact information for them. Nonetheless, we feel confident Appendix C represents the vast majority of fishermen who significantly utilize the fishing grounds in Saint John harbour.

Despite the short time frame that we had to respond to the Federal EIA Report, we were able to conduct a mail-out survey of a sample of fishermen who fish in the LAA as defined in Figure 11.1 (see Appendix D). We did not include the Mispec fishermen in this survey since we felt that they were adequately covered in the EIA reports. Thirty fishermen who reported that they fished in the Saint John Harbour area completed our survey; of these 30 fishermen, 28 reported fishing within the

boundaries of the LAA as defined in Figure 11.1. Table 1 and Figure 1 illustrate the distribution of these fishermen in terms of their stated home harbours. It is apparent from this data that one third of surveyed fishers who fish in the Saint John Harbour actually use Saint John as their Home Port. It is worth noting that five of the boats that reported fishing in the LAA that operate out of Saint John Harbour are St. Mary's First Nation boats.

Table 1: Reported Home Port of Surveyed Fishers

PORT	FREQUENCY	PERCENTAGE OF FISHERS*
Saint John	10	33.3%
Dipper Harbour	5	16.7%
Head Harbour, Campobello	5	16.7%
Chance Harbour	4	13.3%
St. Martins	2	6.7%
Beaver Harbour	1	3.3%
Back Bay	1	3.3%
Lorneville	1	3.3%
Mispec	1	3.3%
MISSING VALUE	1	3.3%

* Note: The total Percentage of Fishers is more that 100%. While there were 28 respondents, one fisher stated that he had two home wharfs.

Figure 1: Reported Home Port of Surveyed Fishers

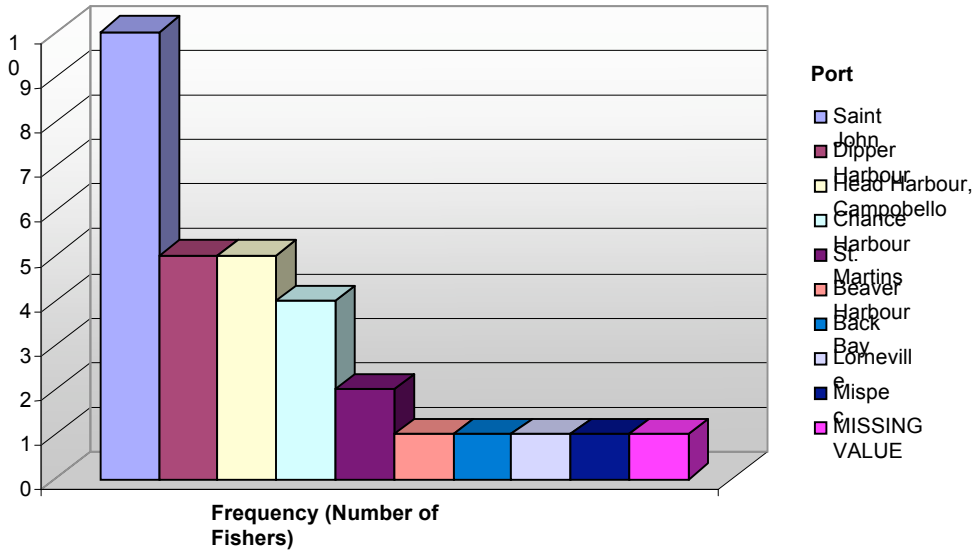


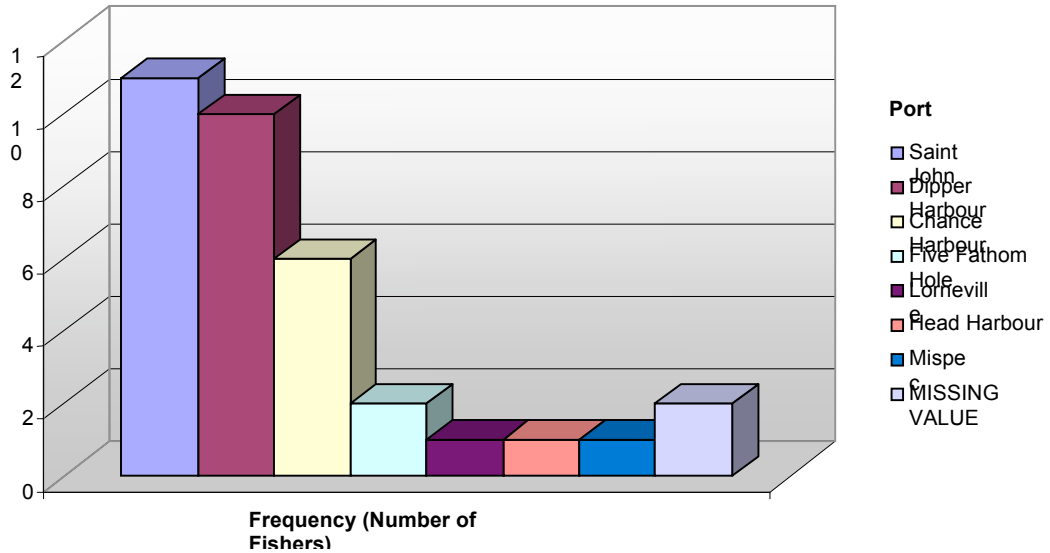
Table 2 and Figure 2 represent the distribution of the harbours where the 30 surveyed fishers who fish in the Saint John Harbour area land their catches. As indicated below, almost 40% of surveyed fishers presently land their catch in Saint John Harbour.

Table 2: Where Surveyed Saint John Harbour Area Fishers Land Their Catch

PORT	FREQUENCY	PERCENTAGE OF FISHERS*
Saint John	11	39.3%
Dipper Harbour	10	35.7%
Chance Harbour	6	21.4%
Five Fathom Hole	2	7.1%
Lorneville	1	3.6%
Head Harbour	1	3.6%
Mispec	1	3.6%
MISSING VALUE	2	7.1%

* Note: The total Percentage of Fishers is more that 100%. While there were 28 respondents, five fishers land their catches at more than one wharf.

Figure 2: Where Surveyed Saint John Harbour Area Fishers Land Their Catch

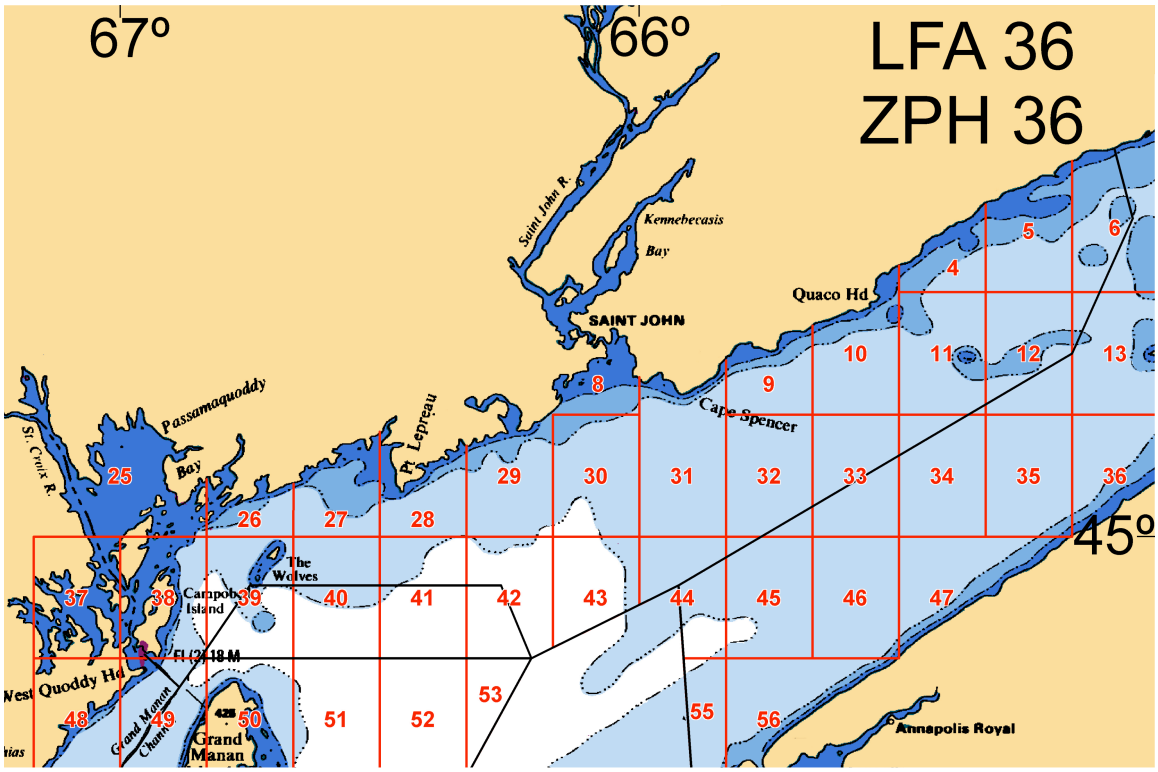


Our survey has determined that fishermen as far away as Campobello Island will be affected by the proposed project and by increased shipping. Together with the 6 fishermen from Mispec then, we have direct evidence of at least 36 lobster fishermen whose livelihood would be directly impact by this project in three possible ways, either through loss of access to lobster ground, or through increased steaming time, or through the expenses of gear loss. That figure is likely to be as high as 43 fishermen, and possibly even higher than that. Thus, while the survey was not completed by the whole population of fishers who utilize the Saint John Harbour fishing grounds, respondents represent approximately 70% of this population. Therefore it is likely a statistically representative sample.

Consequently, it is our assessment that *the spatial boundaries of the areas of assessment for the commercial fisheries are incomplete and the EIA reports do not properly assess the number of commercial fishermen likely to be impacted by the project*.

Our assessment is supported by logbook data. The DFO has provided logbook data from three grids that overlap to some extent with the LAA (see figure 3 below - grid 8, 30, and 31).

Figure 3: Lobster Fishing Area 36 Logbook Grid



As indicated in Table 3 below, in 2007 the logbook data lists a total of 38 licenses (in the fall fishery) operating in those three grids, while the 2008 data (spring fishery) shows 68 licenses operating in those grids.

Table 3: Logbook Data – Number of Licenses for LFA 36 (2007-2008)

	FALL 2007	SPRING 2008
Grid #	**No. of Licenses**	**No. of Licenses**
8	4	10
30	15	30
31	19	28
Total	38	68

Source: David Robichaud, Crustacean Biologist, Department of Fisheries and Oceans Canada, Science Branch, St. Andrews Biological Station. NB, Canada.

As represented below in Table 4, the logbook data also illustrates the significant increase in catch (kg) in total and in each season between 2006 and 2008.

Table 4: Logbook Data –Catch for LFA 36 (2007-2008)

	FALL 2007	SPRING 2008	TOTAL 2007-08
Grid #	**Catch (kg)**	**Catch (kg)**	**Catch (kg)**
8	1932	22300	24232
30	47307	81017	128324
31	76093	83260	159353
Total	**125332**	**186577**	**311909**

Source: David Robichaud, Crustacean Biologist, Department of Fisheries and Oceans Canada, Science Branch, St. Andrews Biological Station. NB, Canada.

It is important to note that lobster logbooks only became mandatory in Fall of 2007. Therefore DFO's geographically referenced catch statistics prior to fall 2007 are expected to be unrealistically low. In the 2007-2008 statistics presented above, there may be some overlap as boats fish multiple grids. A recent costs and earnings survey done by FNFA (survey distributed to 174 fishermen with a response rate of 56) found that 15 percent of respondents used Saint John Harbour to land their catch. That is the equivalent of 26 fishing boats that land catch in Saint John Harbour. We also know from our survey that many fishermen land their catch from Saint John Harbour in other ports. For example, it is common for fishermen from Campobello to fish in Saint John Harbour and land their catch back home in Campobello. In addition, because there is a severe shortage of wharf space in Saint John and given Post 9-11 Security restrictions of wharf access, many fishermen are not able to land their catch at Saint John wharf. If adequate wharf facilities were available in Saint John, it can be expected that many more boats would land their catch there.

Our assessment strongly concludes that a larger number of lobster fishermen could be impacted by the project than is suggested in the EIA assessment. On page 375, the Federal report suggests that increased steaming time and lost fishing time would largely affect "established Mispec-based fishermen". Similarly, the Technical Report, after mentioning that many more fishermen place traps in the project area, concludes that "Lobster fishing activity near the Project is dominated by Mispec-based fishermen" – a conclusion that is simply not supported by the facts (see also page 370 in the Federal Report).

Furthermore, it is not just boats that fish in the LAA who will be affected by loss of fishing ground. Several fishermen who responded to our survey reported that although they did not fish in the Local Assessment Area as identified in Figure 11.1, they fished in other areas in the Harbour. Their concern was that if fishermen were displaced from the Local Assessment Area, there would be more crowding and reduced landings for individual fishermen in other areas of the lobster fishing grounds. As we have demonstrated with our survey of fishermen utilizing the

fishing grounds of Saint John Harbour, there are many more fishermen and their families that would be impacted by this project than the EIA asserts.

In addition, skippers of fishing boats are not the only ones adversely affected by loss of fishing grounds. The Fundy North Fishermen's Association costs and earnings survey demonstrated that the 55 respondents generated an additional 30 full time year round jobs on the boats, plus 61 seasonal full time, 51 seasonal part time and 567 days of casual employment. Fishermen in our rapid survey of those fishing in the LAA reported hiring on average 2.6 crewmembers during the fishing season. This is a total of almost 80 crewmembers for the 30 fishers surveyed. *Fishing crews and the potential impact on them of any loss of revenue is not considered in any of the EIA reports*.

4. Marine Safety – Chapter 13

The proposed project would change both the volume and nature of shipping in Saint John Harbour. These changes have not been assessed as to their affect on the Commercial Fishery. The Federal Report does not include an assessment of shipping (it is argued that shipping will be assessed under a voluntary TERMPOL review process to which the proponent has committed at a later date), thus the Federal Report concludes that "it is not necessary to define a Local Assessment Area (LAA) or a Regional Assessment Area (RAA) for the purpose of this VEC" (i.e. shipping). Nevertheless, Figure 13.1 shows the Saint John Harbour as significantly affected by three types of spatial areas: anchorage areas, the Black Point Ocean Disposal Site, and the Project Development Area. All three types of areas will be affected by increased shipping, which in turn has the capacity to significantly reduce workable fishing grounds in the Harbour.

On the other hand, the report states that fishermen fishing "in the shipping lanes in the Bay of Fundy" must know and accept the risks – "they fish there at their own peril" (Federal Report p. 498). This assumes that the "peril" of today is largely the same as that of the past or of the future. This seems a poor assumption given the volume of projected shipping traffic change that the report itself predicts for the future (+45%).

A significant problem is the failure of any of the EIA documents to recognize the cumulative effects of increased shipping in that fishermen *are increasingly losing access to fishing grounds* – this will impact all fishermen who fish the Saint John Harbour area (not just the Mispec fishermen) – and the loss can be related to several Harbour activities, including increased shipping and gear conflicts, increased steaming time to avoid construction or terminal locations, and/or expanded use of anchorage areas as ships wait under conditions of fog or other adverse weather to offload or load their cargoes at the project site. The Federal EIA report argues that this loss must be balanced against the gain of "development and safe operation of marine infrastructure and port activities" (see p. 356). This balance may be

desirable, but at the current time, the full cost of the marine infrastructure development is falling on local fishermen and the communities that rely on the fishery.

The Federal Report suggests that the bulk of loss of areas currently fished "is within the existing Proponent's water lot" (see Federal Report, Section 13). But this assessment is based on several assumptions; key among them that increased shipping (both during construction and during operation of the project) will have little impact on fishermen throughout the Saint John Harbour and the approaches to the Harbour. This is simply not true.

The Federal Report does indicate that the development of the project will increase vessel *calls* in the Harbour by 40 to 45% (see p. 412). This does not measure the impact of vessel *movements* within the Harbour, which as the report notes, can increase the vessel traffic rates significantly. The Federal Report states that the projected volume increase is within the capacity of the Harbour authorities to regulate safely, particularly with a planned increase of trained pilots (p. 412). However, as the report lists several types of marine traffic that do not require pilots, including commercial fishing boats, it is difficult to see how traffic will be safely managed solely using this approach.

The Federal Report compares Saint John to other large international ports in Canada (including Vancouver) (see p. 410). Fundy North Fishermen's Association has undertaken a study to assess how fishing is integrated into large industrial ports in North America. In many of the surveyed harbours, informal traffic lanes were developed to keep shipping away from established fishing grounds. In some cases, these informal agreements have been successfully separating fishing and shipping traffic for decades. The study looked for innovative solutions to harbour traffic, particularly where international traffic separation schemes end and port control begins. It looked at examples of tow or transit lanes or designated fishing areas to separate fishing and shipping operations. Specific ad hoc arrangements have been worked out in several US locations, some of which involve aboriginal fishermen. For example, designated towlanes separate crab fishermen and tug/barge operations in the Columbia River leading up to San Francisco port. The towlanes are voluntary and there is no government regulations to enforce them. The towlanes are negotiated annually and the scheme has been in place and functioning for 30 years. A similar scheme is being attempted to separate Lummi Indian Reserve crab fishermen and the Cherry Point refinery traffic in Washington State. In the Duwamish waterways leading to Seattle, vessel operators are requested to coordinate with tribal fishermen, by calling them directly to ensure that they are aware of planned vessel movements. In Penobscot Bay, New England, Maine and New Hampshire regulators have agreed on another voluntary scheme to separate lobster fishing from larger vessels through a "recommended vessel route" that is printed on all official nautical charts of the area. In a similar fashion, the Canadian regulators have supported vessel traffic routes that fishermen should avoid, rather than protected fishing areas that vessel traffic must avoid.

4.1 Suggested Mitigation of Shipping Issues:

Spatial separation of shipping and fishing areas, as in other North American harbours, would do much to mitigate the potential for spatial conflicts in Saint John Harbour. The establishment of voluntary lanes for ship vessel traffic in Saint John Harbour has been proposed by Fundy North Fishermen's Association repeatedly over the past 5 years and it was the primary reason for initiating the Saint John Harbour Traffic Committee. We feel that this is the best mitigation measure to address the conflicts that arise between the shipping and commercial fishing industries in the Harbour.

5. Accidents – Chapter 16

The issue of gear loss represents another way in which the Federal EIA report fails to capture the potential impact of the proponents proposed project. The issue of gear loss is very briefly addressed in Section 16 of the Federal EIA report (Accidents, Malfunctions, and Unplanned Events). As accidents are defined in the report as potential future events that for the most part "are very unlikely to occur", the high level of fishing gear entanglement *that exists now* is downplayed as only a potential future event (see p. 450). In this section, the potential loss of fishing gear is said to be limited to "15 different fishermen", a "substantial number" of whom are working "out of the Mispec wharf" (see Federal Report p. 497). This misrepresents the true pattern of gear loss, which affects all fishermen who fish the Harbour area. In addition it should be noted that only 6 fishermen fish out of the Mispec wharf. Fishermen have repeatedly raised the gear loss they are already experiencing as a consequence of poor management of shipping within the Harbour. This concern was raised in the Socio-Economic Technical Report (see p. 8), but in the Federal EIA, such gear entanglement and loss is categorized as "accidents"(see p. 356) and the *cumulative effects* of increased shipping on gear loss is not addressed (see below).

Unfortunately, in categorizing this regular entanglement and loss of fishing gear as "accidents", the EIA report seriously misrepresents the frequency and predictability of these entanglements. A recent HADD project that involved a collaboration between Fundy North Fishermen's Association and Fundy Engineering Ltd. involved the retrieval of ghost traps from the Harbour floor. In two years the project has recovered in excess of 500 lobster traps. In the first year of the ghost trap retrieval project (2008), 369 traps were retrieved; 94 of these were lost within the last 3 years, 63 in the 2008 fishing season. In the second year of the retrieval program (2009), 52 out of 173 traps retrieved were from the last 3 years, with 37 from the 2009 fishing season. The final report from this project has not been completed; however a preliminary report was released after the first season of fieldwork (Fundy Engineering 2009). These figures show definitively that gear loss occurs at a much higher rate than was presumed in the three EIA reports.

Until key components of the traps rot away, these traps continue to catch lobster. But as they cannot be easily retrieved after buoy and lines have been severed, it is difficult to mitigate the impact of this environmental damage and financial loss to fishermen, except by avoiding gear entanglement in the first place. Compliance with voluntary designated ship traffic lanes within the Harbour would adequately mitigate this impact.

6. Conclusions

In summary, we conclude that the EIA reports significantly underestimate the impact of the proposed project on the livelihoods of commercial fishermen that utilize the fishing grounds of Saint John Harbour. In addition, the proposed mitigation measures for the impacts on the commercial fishery are not adequate. Financial compensation for the Mispec boats only is inappropriate. The traffic committee is not capable, in its present configuration, of mitigating the impacts of increased shipping on the commercial fishery. And finally, the impacts of shipping are not adequately addressed in the EIA reports, which suggest that a voluntary TERMPOL process replace the full consideration of the issue in the EIA. TERMPOL is not a public process and in fact the commercial fishing industry would not be party to that process.

In light of our conclusions, we suggest that the following mitigation measures would best address the impacts the commercial fishing industry would incur should this project be undertaken.

1. **The creation of voluntary ship traffic lanes with incentives for compliance that would be used by all ship traffic in the harbour including all tug boats**
   These lanes should be agreed upon by Fundy North Fishermen's Association, Saint Marys First Nation, the Saint John Port Authority, Transport Canada, the Harbour Pilots, Atlantic Towing, Canaport, Irving Oil, Canaport LNG, and all other relevant parties. The spirit of such a mechanism is to allow the fishing industry and the shipping industry to pursue their business without undue losses on either part. Incentives for compliance should be put in place by appropriate regulatory bodies and the ship traffic lanes should appear on all nautical charts both digital and hard copy.

   <u>Or</u>

   The 43 or more fishermen who utilize the fishing grounds of Saint John Harbour be compensated financially for their loss of access to fishing grounds, their forced deviation, and the loss and/or destruction of their

gear, with consideration of the impacts on those who fish from high water ports.
Financial compensation should be granted on a scale based on fair criteria that evaluate the level of impact that would be incurred by each individual fisherman. Fundy North Fishermen's Association should participate in the development of such a scale and in the development of the evaluation criteria.

2. **Conditions of approval of the EA that include the proponent participating in the TERMPOL process AND abiding by the recommendations that come out of it AND that the TERMPOL process include those "potential impacts" that were identified in the EA and those that were not adequately identified (i.e. lobster fishery).**

3. **A gear loss compensation fund be established to compensate fishermen who lose lobster gear due to 'accidents' involving ship traffic.** Fair criteria to govern the dispersal of this fund should be established and agreed upon with participation from the Fundy North Fishermen's Association.

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Lawton, P., A. D. MacIntyre, D. A. Robichaud and M. B. Strong 2005 Preliminary studies on coastal habitat occupancy by lobsters, *Homarus americanus*, in relation to dredge spoil disposal in the approaches to Saint John Harbour, New Brunswick, Canada. Canadian Manuscript Report of Fisheries and Aquatic Sciences 2718.

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APPENDIX A

Communications with Irving Oil and relevant government departments concerning access to Eider Rock EIA report documents

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From: Maria Recchia <mariarecchia@nb.aibn.com>
Date: October 28, 2009 12:05:27 PM ADT
To: eiderrock@irvingoil.com
Subject: mistake in TOC for Eider rock EIA

The TOC for Volume 3 is missing several pages - it shifts from chapter 15 to chapter 23. Please fix this and let me know when it has been fixed. It makes it difficult to navigate the document. Thank you very much,

Maria Recchia
Executive Director
Fundy North Fishermen's Association
mariarecchia@nb.aibn.com
--
On 3-Nov-09, at 2:41 PM, McPhail, Jennifer wrote:
Hi Maria,

The issue with the volume 3 table of contents for the Eider Rock EIA Report located on Irving Oil's website has been resolved, and the complete document is now available for downloading.

Jennifer

Jennifer McPhail, M.Eng., EIT Stantec Ph: (506) 634-2185 Cell: (506) 647-7837 jennifer.mcphail@jacqueswhitford.com **stantec**.com

---
From: Maria Recchia <mariarecchia@nb.aibn.com>
Date: November 3, 2009 2:52:27 PM AST
To: "McPhail, Jennifer" <Jennifer.McPhail@JacquesWhitford.com>
Subject: Re: Elder Rock EIA document on website

thank you very much
Maria Recchia
Executive Director
Fundy North Fishermen's Association

From: Maria Recchia <mariarecchia@nb.aibn.com>
Date: November 17, 2009 1:12:52 PM AST
To: eiderrock@irvingoil.com, CEAR-RCEEMar@mar.dfo-mpo.gc.ca
Subject: Fwd: Eider Rock report - missing data

Begin forwarded message:
From: Melanie Wiber <wiber@unb.ca>
Date: November 17, 2009 12:11:03 PM AST
To: Maria Recchia <mariarecchia@nb.aibn.com>
Subject: Eider Rock report - missing data

Hi Maria,
further to our telephone conversation today, I am reading through the Federal EIA report which I downloaded from the net last week. I notice in the chapter on assessing the impact on the fisheries, that the scallop fishery regional assessment area map (Figure 11.4) is missing as is the next page (both page 367 and 368 are blank).
I believe the provincial report may have this map included, but haven't confirmed that yet.
thanks,
Melanie

Begin forwarded message:
From: "Steward, Louise" <Louise.Steward@irvingoil.com>
Date: November 17, 2009 1:51:47 PM AST
To: <mariarecchia@nb.aibn.com>
Subject: FW: Eider Rock report - missing data

Maria:

Thank you for bringing to our attention the issue regarding the missing figure in the Eider Rock Comprehensive Study Report that was downloaded from the CEEA website. Please find attached a copy of the figure 11.4 –Scallop Regional Assessment Area. Pages 366 and 368 are “blank” as the front-facing pages have letter size figures and this was done so that the images would not bleed through.

I have notified CEEA and we are looking at options to address the issue.

Regards,

Louise Steward
Permitting Manager- Project

506-202-2321

Begin forwarded message:
From: Maria Recchia <mariarecchia@nb.aibn.com>
Date: November 18, 2009 1:02:18 PM AST
To: eiderrock@irvingoil.com, EIA-EIE@gnb.ca, CEAR-RCEEMar@mar.dfo-mpo.gc.ca
Cc: Melanie Wiber <wiber@unb.ca>
Subject: Eider Rock technical reports missing figures

Hi, I had read the socio-economic technical report several months ago when it was released and all the figures and maps were present. Today I went to check something in the technical report and all the figures are blank pages. I need figure 2.1, 2.2, 2.3, 2.4 of the '002 Eider Rock Socio-economic Technical Study'. I need this info ASAP as I am preparing my comments for tonight's public meeting in Saint John. This is at least the third time I have had to ask for information that is missing form the website. Thank you for your time,

Maria Recchia
Executive Director
Fundy North Fishermen's Association
46 Reed Avenue #1
St. Andrews, NB E5B 1A1
506 529-4165
mariarecchia@nb.aibn.com

On 18-Nov-09, at 2:40 PM, McPhail, Jennifer wrote:
Maria,

Please find attached a copy of the Eider Rock Socio-Economic Technical Study. The problem with this document on the project website is being corrected.

Please let me know if you require anything further.

Regards,
Jennifer

Jennifer McPhail, M.Eng., EIT
Stantec
Ph: (506) 634-2185
Cell: (506) 647-7837
jennifer.mcphail@jacqueswhitford.com

On 24-Nov-09, at 11:11 AM, Daigle, Michelle (ENV) wrote:
Good morning,

In response to your request below, I apologize for not getting back to you sooner. Did you get copies of the figures you were looking for? If not, would you like me to see if I can find a copy for you?

Regards,
Michelle Daigle

Begin forwarded message:
From: Maria Recchia <mariarecchia@nb.aibn.com>
Date: November 24, 2009 1:07:35 PM AST
To: "Daigle, Michelle (ENV)" <Michelle.Daigle@gnb.ca>
Subject: Re: Eider Rock technical reports missing figures

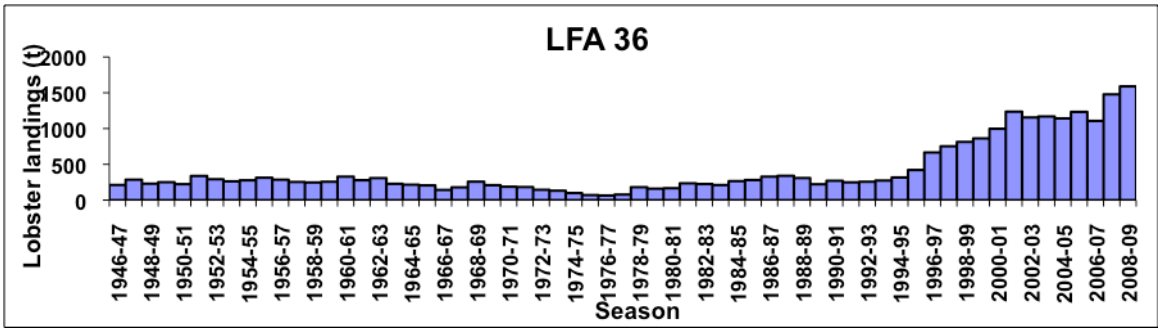
Yes, I got a copy. Thank you very much. MAria

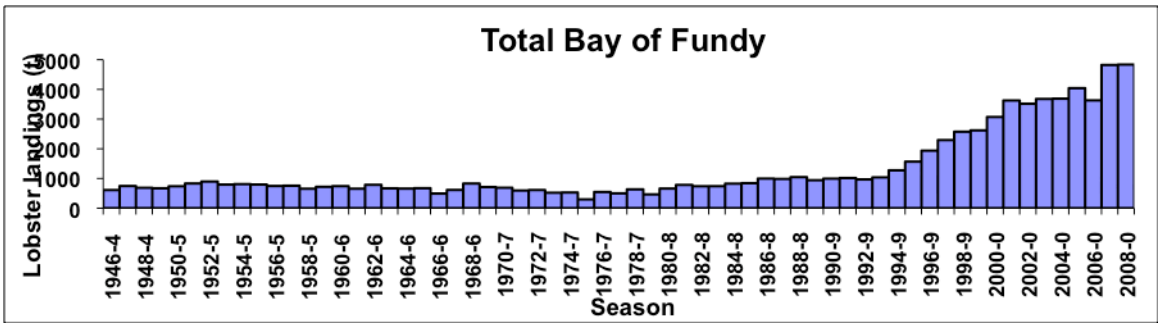
Maria Recchia
Executive Director
Fundy North Fishermen's Association
46 Reed Avenue #1
St. Andrews, NB E5B 1A1
506 529-4165
mariarecchia@nb.aibn.com

APPENDIX B

Historic Lobster Landing Trends

Source: David Robichaud, Crustacean Biologist, Department of Fisheries and Oceans Canada, Science Branch, St. Andrews Biological Station. NB, Canada.





APPENDIX C

Lobster Fishermen who utilize the fishing grounds of Saint John Harbour

1. David Thompson
2. Fred Thompson
3. Roger Hunter
4. Neil Smith
5. Sam Toner
6. Clifford Moore
7. Doug MacLellan
8. John McDade
9. Elmer Dixon
10. Luke LeBlanc
11. Saint Marys First Nation
12. Saint Marys First Nation
13. Saint Marys First Nation
14. Saint Marys First Nation
15. Saint Marys First Nation
16. Mark Mawhinney
17. Todd Nice
18. James Bradley (Rick Belding)
19. Kenny McCavour
20. David McCavour (Leon Breau)
21. Jeff Maguire
22. Bradley Small
23. Steven Belding
24. William Hanley
25. Richard Brown
26. James Mitchell
27. Dexter Henderson
28. Harvey Matthews
29. Jamie Tinker
30. Donell Alley
31. Graham Cook
32. Billy Muise
33. Joseph MacDonald
34. Barney Bright
35. Dave Taylor
36. Stuart Mawhinney
37. Stuart Taylor
38. Glen Cammick
39. John Mawhinney
40. Kevin Belding
41. Neil Withers
42. Norman Ferris
43. Dwayne Cook

APPENDIX D
Survey of Fishermen who utilize the fishing grounds of Saint John Harbour

NOTE: Completed surveys are not available in the electronic document. They will be faxed and mailed as hard copy.

Eider Rock Oil Refinery (Saint John) Environmental Impact Assessment: Public Comments
FUNDY NORTH FISHERMAN'S ASSOCIATION SURVEY

Boat Name: _____ **VRN #** _____

1. **Homeport:** _____ **Date:** / / (mm / dd / yyyy)
2. **How many crew do you employ when lobster fishing?** _____
3. **The area outlined in blue ——— on the map below is the Eider Rock Project Assessment Area.**

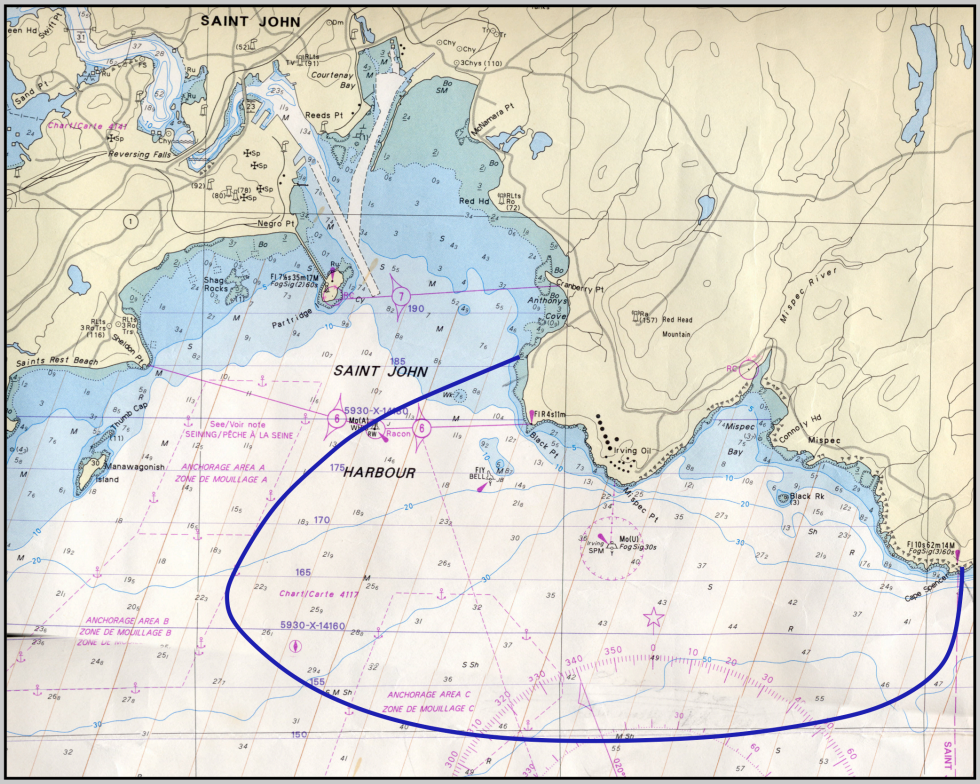
Do you lobster fish within this Project Assessment Area? Yes ☐ No ☐

If "Yes" ⟶ a. Shade in the general area where you lobster fish on the map below.

⟶ b. Where do you land your catch from this area? *(wharf name(s))* _____

⟶ c. What percent of your Spring catch is from the area inside the blue line? _____ %

⟶ d. What percent of your Fall catch is from the area inside the blue line? _____ %



Fisherman's Name: _____ **Signature (optional):** _____

Use reverse side for any additional comments you have about the Eider Rock Oil Refinery Project.