# White Rose Extension Project EIS
# Environment Canada Comments
# March 1, 2013

## Chapter 2 Project Description

### 2.3.2.2 Evaluation of Material Disposal Options

Will there be any discharges of deleterious substances to receiving waters?

### 2.6.2 On-Land Construction

What will be the standards used for sewage treatment?

### 2.6.3.1 Excavation

*Quote:* "Site surface water and groundwater from any dewatering of the graving dock will be collected, assessed and, if necessary, held in an engineered lined settling pond onsite to satisfy all regulatory requirements before being discharged into the marine environment."

Are the regulatory standards both federal and provincial?

### 2.6.3.4 Site Dewatering and Disposal

*Quote:* "Water will be treated with a mobile treatment unit as required prior to discharge to ensure compliance with provincial and federal requirements."

Confirm that these standards will be used for site surface water and groundwater as above.

## Chapter 3 Summary of White Rose Extension Project Specific Models

### General:

The document did not reference the regular tanker traffic associated with the Come-by-Chance refinery. Nearshore Project Area will transect the shipping lanes for these oil tankers. What protocols will be developed to allow the safe coordination of project activities with tanker traffic in the dredging, module mating, and transportation to White Rose drilling site phases? Given weather conditions, navigational challenges, length of time required for project phases and the nature of all the vessels involved, there could be potential for close manoeuvering between vessels, which should be considered in the context of the assessment**.**

Nearshore work could involve the use of heavy lift vessels, supply vessels, tugs, as well as on-shore large construction equipment. The nearshore spill modeling considered fuel spills ranging from 100 to 350 $m^3$. Supply vessels can have a capacity of over 1100 $m^3$ of fuel and, in the event of collision, could lose more than 350 $m^3$. It may be useful to run nearshore scenarios with expanded fuel capacity reflecting what is carried in larger vessels.

Again, for nearshore work, it may be useful to examine the potential for spills in the land-water interface (e.g., heavy equipment upset into a water body; puncturing of an onshore fuel tank that could spill into a water body). Planning could include placing in local inventory the material and equipment needed to deploy a boom from land to contain a water-borne slick, as well as having appropriately trained personnel.

**3.6 Hydrocarbon Spill Probabilities**

In general, this section is difficult to follow. Some of the sources and information used are fairly dated (e.g., NAS 2000; Scandpower 2000). It might also be useful to change the format of the section so that calculations are done in an equation format with corresponding data tables reflecting the results of those calculations. In the discussion, it would also be useful to indicate which calculations were used to derive the spill probability for the White Rose Expansion Project.

**3.6.1.1 Blowouts During Drilling**

*Quote:* "Up to 2011, four development-drilling blowouts have produced spills in the very large spill category (Table 3-48, including the recent incident in Australia, and including the spill in the extremely large category)."

Unclear. The description could be reworded to something like, "From Table 3-48, there are four large spills from development well blowouts, giving a spill frequency of (4/67,703) x 5.9 x $10^{-5}$ / well drilled = 1 spill / 17,000 wells drilled."

**3.6.1.2 Blowouts During Production and Workovers**

*Quote:* "…it is estimated that the total oil produced offshore on a worldwide basis up to 2011 has been approximately 210 billion bbl, and that the total producing oil well-years has been 350,000 well-years… On this basis, the world-wide frequency of extremely large hydrocarbon spills from oil-well blowouts that occurred during production or workovers is 5.7 X $10^{-6}$ blowouts/well-year. For very large, the number is 1.4X$10^{-5}$ blowouts/well-year."

In recent decades, there has been an increasing move to explore and exploit hydrocarbon reserves that had been previously less accessible, or even inaccessible, given technologies available at the time. With the move to exploration in less hospitable frontiers, there would seem to be greater risk for spills from blowouts posed by environmental and geological conditions. These differences could be statistically smoothed by looking at the longer term drilling record. Perhaps the reference cited (Deloitte Petroleum Services. 2012. *List of Offshore Petroleum Wells to December 31, 2011*. Report generated on request from Deloitte LLP. London, England) discussed this aspect -- it would be informative if this was addressed in looking at exploration that has occurred in more challenging environments, which could have an impact on the calculated probabilities.

**3.6.1.3 Summary of Extremely Large and Very Large Oil Spills from Blowouts**

*Quote:* "…the *Ixtoc I* oil-well blowout ... was caused by drilling procedures (used by PEMEX, …) that are not practised in US or Canadian waters and that are contrary to US or Canadian regulations and to the accepted practices within the international oil and gas industry. Therefore, extremely large spill frequencies in North America are expected to be even lower."

A few points to consider:

- Mexico is part of North America;
- the Macondo blow-out in the Gulf of Mexico occurred partly due to "… BP, Transocean, and Halliburton's conduct violated federal offshore safety regulations under BOEMRE's jurisdiction… " and poor risk management (*Oil and Gas Journal*, Sept. 14, 2011);
- there are different regulations in the US and Canada (e.g., 3.6.2.1 Shallow Gas versus Deep-well Blowout, Page 3-63 indicates that Canada requires two barriers in exploration and development, while only one is required in the US); and
- *Quote:* "…extremely large spill frequencies in North America are expected to be even lower" is a conclusion that could be modified based on the above.

**3.6.2.1 Shallow Gas versus Deep-well Blowout**

Blowout stats are derived from Scandpower (Scandpower A/S 2000. *Blowout Frequencies 2000, BlowFAM Edition*. Report No. 27.20.01/R3.). While very informative, it would be good to have stats up to 2013, given the significant blowouts that have occurred since 2000 (e.g., Deep Water Horizon in the Gulf of Mexico (2010) and the Montara spill off the west coast of Australia (2009)). These occurrences would not have been included in the other document cited (IAOGP 2010) since statistics quoted are up to 2005.

*Quote:* "Finally, it is worth noting (Table 3-52) that shallow gas blowout frequencies in the North Sea and in the US GOM have been on the decline in the most recent years of the record."

This is based on a period up to 1997 – 16 years ago. It would be good to determine if data are available to the present to indicate whether that trend has changed.

**3.6.3 Large Platform Spills**

*Quote (P. 3-65, para. 2):* "BOEMRE statisticians … have decreased the estimate gradually over the past 15 years, mostly in recognition of a statistical trend towards a lower spill frequency."

What is the lower value? For what year?

*Quote (P. 3-65, para. 4):* "Note that the above statistic for spills >10,000 bbl (i.e. $5.5 \times 10^{-6}$ spills/well-year) is almost four times smaller than the statistic derived earlier for production blowout spills >10,000 bbl (i.e. $2.0 \times 10^{-5}$). This is impossible because the first category includes blowout spills. The reason for the anomaly is that the US record was used for the former and the world-wide record was used for the latter. The world-wide statistic is higher than the US-derived one because the former was developed on a very conservative basis, which considered an exposure of only oil wells and not gas wells."

This paragraph is unclear, please clarify which probability is going to be used and why.

*Quote:* "It is noted that there has been … Given the limited statistical database of Newfoundland and Labrador production operations, the US statistics are used in this frequency calculation."

Is it because of similar geologic and marine conditions? Are there greater similarities with North Sea operations?

### 3.6.6 Summary of Blowout and Spill Frequencies

*Quote (P. 3-68, last para.):* "…0.5 and 0.2, respectively."

Are those values percentages?

### 3.7 Fate and Behavior of Hyrdocarbon Spills in the Nearshore Study Area (Trajectory Modelling) and 3.8 Fate and Behavior of Hyrdocarbon Spills from a Platform or Seafloor Blow-out in the Offshore Study Area (Trajectory Modelling)

Please see the attached report "Review of Husky Energy Proposal for The White Rose Extension Project Oil Spill Aspects" by Dr. Merv Fingas.

In general, Environment Canada is in agreement with the proponent's findings with some differences in direction due to differences in winds and currents utilized (the EC modelling was done in stochastic mode with winds from CMC and currents from DFO). The persistence of the oils differed somewhat, with the proponent overestimating dispersion. In the EC modelling, there were a few cases where oil impacted the shorelines in Placentia Bay and the movement was consistently to the south, driven by NE winds. In contrast, the proponent had the oil moving further into the bay.

### 3.7.1 Model Inputs and Scenarios

*Quote (P. 3-69, para. 1):* "The only potential sources of marine spills from the WREP nearshore operations are batch spills of fuel as a result of ship accidents or groundings during tow-out activities from the graving dock to the deep-water mating site and the support vessel activities during the topsides installation."

Could add dredging operations here.

*P. 3-69, para. 2:*
If supply vessels are in the nearshore, they can have fuel capacities of around 1150 $m^3$, so the batch spills could range from 100 to 1150 $m^3$ rather than the 350 $m^3$ suggested.

*P. 3-69, para. 3:*
Why not include current maps for the autumn (Oct – Dec) as well?

### 3.8.22 Surface (Platform) Spill

*Quote (last para.):* "…the oil will be broken into small tar-balls spread over a large area, with the oil particles separated by large expanses of water."

Where would the tar-balls end up? Are there potential impacts for Greenland, Iceland and further east?

## Chapter 4 Socio-Economic Terrestrial and Physical Environment Setting

### 4.2.1.1 Climate Overview and 4.2.1.3 Wind Climatology

The stations used to describe the nearshore climate of Placentia Bay did not include St. Lawrence, located near the mouth of the bay on the west side, with a record of hourly and daily weather reports nearly as long as that of Argentia. It is more exposed to open water conditions than the other three land stations with hourly data.

EC recommends that hourly wind reports from St Lawrence be analyzed to improve the wind climatology near the mouth of the bay, and could be compared to the southernmost MSC50 grid point.

### 4.2.1.3 Wind Climatology

Winds from the MSC50 grid point locations and the SmartBay buoys are compared in Tables 4-8 and 4-9. The differences in wind statistics are attributed to the much shorter record of the buoys, but the low buoy anemometer heights, compared to the 10 m MSC50 winds, would also contribute to an apparent low bias.

The wind climatology describes only the hourly-reported sustained (mean) wind speeds. Analysis of gust wind speeds, available from the hourly automatic stations, would be important for planning and design.

### 4.2.2.2 Waves

The MSC50 dataset was not intended for use very nearshore. The model resolution, representation of the coastline and islands, and the bathymetry, are not optimized for nearshore applications, such as well into the Placentia Bay. EC suggests that this limitation be acknowledged.

### 4.2.2.5 Tides, Storm Surges

The text gives an estimate of 0.8 m for probable maximum storm surge from 40-year return period hindcast values (from Bernier and Thompson (2006), Figure 4-64), however the storm surge model used by Bernier and Thompson does not include wave set-up or wave run-up or seiche effects, which can contribute significantly to extreme water levels. EC recommends that the EIS include an extremal analysis of water levels based on long time series tide gauge data at Argentia.

### 4.2.4 Sea Ice and Icebergs

*Page 4-112, Figure 4-75:*
Typo – The x and y axes are labelled identically as ”Annual Total Number of Icebergs Observed South of 48N”. The label is correct for the x-axis, but the y-axis should simply be labelled “Year”.

#### 4.2.4.1 Sea Ice Conditions in Placentia Bay

*Page 4-112, Sentence 3*:
Two errors

- The ice that enters the Bay in February is generally grey or grey-white ice (less than 30cm thick), and is not first-year ice (>30cm thick). First-year ice incursions into Placentia Bay only take place from March onwards.
- First-year ice is >30 cm thick. Contrary to indicated, it can be >120cm thick. First-year ice that is >120 cm is called "thick first-year" ice. Ice that is 30-70cm is thin first-year ice, and ice that is 70-120cm is medium first-year ice.

*Page 4-114, Paragraph 2, Sentence 2* and *Page 4-115, Figure 4-78*:
Error with respect to the upper limit for the standard ice types – In Figure 4-78, the thickness of thin first-year ice (e.g., Mar 19, Mar 26, Apr 02) is given as 50 cm. This is the average thickness for this ice type, not the upper limit as indicated. The upper limit for this ice type is 70 cm.

*Page 4-115, Sentence 1*:
Typo – It appears that "(Figure 4-4)" should be "(Figure 4-78)".

## 4.3 Offshore

*Page 4-201*:
Figure caption is missing – The sea ice chart on this page has no figure number (it should be Figure 4-121). There should also be a reference to the Canadian Ice Service in the caption, as the chart was obtained from its archives.

#### 4.3.1.2 Wind Climatology

The caption for Table 4-44 has the word "anemometer", which should be replaced by MSC50.

#### 4.3.1.5 Icing

This section includes only potential sea spray icing. EC recommends that the EIS include analysis of observed freezing spray and icing accumulation measured on the platforms.

#### 4.3.4.1 Sea Ice

**Spatial Distribution:**

*Page 4-204, Paragraph 3, last sentence*:
Clarity – This sentence could easily be misunderstood as written. To make it clearer, it is suggested that it be rewritten as two sentences: "**Thin** first-year or white ice becomes the dominant ice form in areas off Newfoundland beginning in March, just before water temperatures rise above the freezing level. **In April and May, during years when ice lingers in the area, medium to thick first-year ice are the dominant ice forms.**"

*Page 4-204, Paragraph 4, first sentence*:
Clarity + Typo – For clarity, it is suggested that this sentence be rewritten as: "By the end of July, the ice pack **has retreated** northward, with substantial ice concentrations confined north of Labrador."

*Page 4-205, Paragraph 1, Sentence 1 and Figure 4-122*:
Slight error – In the first sentence, it says the mid-month Frequency of Presence of Sea Ice charts (taken from the CIS atlas) are shown January through May. All the charts shown are indeed for the middle of the months, except for the one for January. The chart shown for January is that of the week of January 08, when really, to be consistent with the statement and the other months, it should be that for January 15.

*Page 4-209, Paragraph 1, Sentence 1*:
Clarity – For greater clarity, it is suggested that the phrase "annual timing of all ice incursions" in the first sentence of this paragraph be replaced, since that is not exactly what the bar graph in Figure 4-127 shows. The sentence should rewritten as: "The **average ice coverage during the initial period of** ice incursions near the White Rose field, **between end of November and mid-February**, from 1980 to 2012, is shown in Figure 4-127."

*Page 4-209, Paragraph 1, Sentence 2*:
Clarity, as in Sentence 1 – Suggested revision of this sentence: "These data show the years of higher-than-average **ice coverage during the initial period of ice** incursions (1983 to 1995, 2000 and 2008)."

*Page 4-209, Paragraph 1, Sentence 3*:
Clarity – as in Sentences 1 and 2
Inconsistency – The incursion period shown in Figure 4-127 spans Nov 26 – Feb 19. But the representative chart shown for 1993 is for March 01.

Suggested revision of sentence 3: "The maximum recorded **amount of ice during the initial period of** incursion of sea ice for east Newfoundland waters occurred in 1993 **(Figure 4-127). The 1993 ice coverage chart for the second week following the incursion period** is illustrated in Figure 4-128."

**Concentrations:**

*Page 4-212, Paragraph 2, Sentence 1*:
Illustration or example required – When talking about the "seasonal ice tongue", it would be helpful if the reader were pointed to a visual example of this. A bracket could be added to the end of the first sentence, such as "(e.g. see Figure 4-124)".

**4.3.4.2 Icebergs**

**Origins and Controlling Factors:**

*Page 4-217, Paragraph 1, Sentence 4*:
Correction – Since the Humboldt Glacier and Jacobshavn Isbrae are two of the major sources of icebergs, the sentence should read, "…primarily from 20 major glaciers between **and including** the Jacobshavn and Humboldt glaciers". Also, note that there is no "e" in Jacobshaven.

*Page 4-217, Paragraph 4*:
Additional explanation could be added here – It could be explained that the reason why there is a positive correlation between iceberg numbers and pack ice extent is that the pack ice protects the icebergs from melt and wave-induced deterioration during their trip southwards. Because of this, many more bergs survive the trip to Newfoundland during winters with extensive pack ice.

*Page 4-217, Paragraph 5, Sentence 1:*
Inconsistency – It is stated that according to the data (Figure 4-133) **iceberg counts of zero occurred in 1966**, 2006 and 2011, **however the bar chart in Figure 4-133 only goes back to 1981**. If a low of zero bergs did occur in 1966, a bracket after this year saying "(not shown)" should be added to the sentence.

**Variations in Local and Regional Iceberg Numbers:**

*Page 4-219, Paragraph 1, Sentence 2*:
Inconsistency – Here it is stated that iceberg distributions between March and May of 2009 and 2010 are illustrated in Figures 4-134 and 4-135. However, the two charts shown for 2009 are for March and April, while those shown for 2010 are for March and May. While April does fall "between March and May", it would be better to compare the same months for the two years (i.e., either use a May chart for 2009 or an April chart for 2010).

*Page 4-223, Figure 4-137*:
Chart does not make sense and needs more explanation – According to this chart, which is said to be based on the PAL database, zero bergs were sighted everywhere over the last decade except in the vicinity of the White Rose platform (smack in the middle of the highest observation densities) and along the Northern Peninsula of Newfoundland. Clearly this is not the case (see Figures 4-134 and 4-135). I suspect that what this chart is showing is a subset of the PAL sightings, based around or made from either the White Rose or Hibernia platforms. What exactly this chart is showing needs to be better explained here.

**Size Distributions:**

*Page 4-226, Table 4-80*:
Slight errors in quoted height and length values, and in quoted mass values

- Height / Length – The ranges of heights and lengths for each category should begin one increment higher than that of the previous category. So if a Bergy Bit has a length range of 5-15 m, then a Small Iceberg has a length range of 16-60 m (not 15-60 m). Ditto for height. This needs to be corrected for the small, medium and large iceberg categories in the table. See MANICE, Tables 2.3 and 4.8.
- Approximate Mass – Although ranges for the masses of medium and large icebergs are given in Table 4-80, the cited source of information does not give ranges for these categories. According to MANICE (Table 2.3), a Medium berg has an approximate mass of 2,000,000 tons and a Large berg has a mass of 10,000,000 tons.

**Iceberg Length:**

*Pages 4-227 to 4-228, Figure 4-140*:
Figure is split across 2 pages – This is a little confusing because the Figure has two panels. The panels should either be labelled "a)" and "b)" with descriptions of these in the Figure caption so that it is clear these panels both belong to "Figure 4-140", or the Figure should be published on a single page and not split across pages.

*Page 4-227, Paragraph 3, Last Sentence*:
Clarification – It should be stated that the Petermann Glacier is in northwest Greenland, north of the 20 greatest sources of icebergs noted earlier, which lie between and include Jacobshavn Isbrae and the Humboldt Glacier. It could also be noted that the Petermann Glacier has a

history of calving large tabular ice islands as opposed to hundreds of smaller bergs, the way the other glaciers do.

**Iceberg Draft:**

*Pages 4-228 to 4-229, Figure 4-141:*
Figure is split across 2 pages – This is a little confusing because the Figure has two panels. The panels should either be labelled “a)” and “b)” with descriptions of these in the Figure caption so that it is clear these panels both belong to “Figure 4-141”, or the Figure should be published on a single page and not split across pages.

*Page 4-227, Paragraph 4, First Sentence*:
Inconsistency – It is stated here that the data used in Figure 4-141 were derived from observations and measurements made from **2000 to 2012**, but the source under Figure 4-141 says the PAL data span **2000-2011**. According to our iceberg expert here at CIS, the 2012 data are not yet available.

**Iceberg Height:**

*Page 4-229, Paragraph 2*:
Reference to Figure 4-141 missing – The reader should be directed to Figure 4-142 somewhere in this paragraph.

**4.3.9 Climate Change,**

The proponents discuss the impacts of NAO on climate and storminess of the region as well as on the path of hurricanes over the 20th century. Although confidence in projections is generally low (see IPCC SREX), they should provide some general discussion of projected future changes in these climate phenomena as well as extratropical storm tracks, frequency and intensity.

*Page 4-264:*
MSC50 is mistakenly used in the sentence citing Swail et al 1999. It should be AES40, the earlier hindcast.

**4.3.9.1 Sea Level Rise**

The proponents cite the IPCC AR4 which gives projections of global sea level rise of 18-59 cm by 2100 across the range of scenarios and models (the proponents cite an increase of 22-44 cm for the A1B scenario). These estimates are derived from process-based models and exclude possible effects of accelerated ice sheet dynamics. More recent studies based on process-based models give an estimated rise of 20-80 cm by 2100 (e.g. Church et al., 2011). Semi-empirical models yield estimates in excess of 100 cm. As such, the proponents may want to consider a wider range of possible change than they have presented here and discuss local (as opposed to global) sea level changes.

**4.3.9.2 Waves**

Projections of wind-driven ocean wave heights are not available from current global climate models. As such, future projections of wave height have been based on either: (1) dynamical models that use wind speed projections to drive wave models, or (2) statistical downscaling based on relationships with variables related to wave height (e.g., sea level pressure projections). Wave height projections are considered uncertain (see IPCC SREX) in part because there are few studies but also because of limitations with GCM estimates of wind speed (used to drive wave models). The proponents rely on wind speed projections from a single scenario from a single climate model (CGCM2, B2) to make inferences about changes in wave height. This approach is inadequate to capture the range of uncertainty. They note increased wind speed is projected from this run. Recent studies project decreased wave height in this area (e.g., Hemer et al. 2012).

### 4.3.9.3 Sea Surface Temperatures

It is not clear exactly which gridpoints the SST anomalies plotted in Figures 4-163 and 4-165 are from.

Why are trends in SSTs only discussed over the period 1981-2010? Much longer records are available and would be more appropriate for trend analysis

What are future SST projections for the region?

## Chapter 10 Marine Birds

### General:

The species “Greater Shearwater” should be changed to updated common name of “Great Shearwater” throughout the text.

### 10.3.1 Nearshore Overview

*Quote:* “It contains the largest Northern Gannet nesting colony (14,696 pairs (2011) (CWS unpublished data)), the largest Thick-billed Murre colony and third largest Common Murre colony (14,789 pairs (2009) (CWS unpublished data)) in Newfoundland and Labrador (Table 10-2).”

The largest Thick-billed Murre colonies are located in Labrador. The colony mentioned above is the largest colony on the Island of Newfoundland, but is also the most southerly colony of the Thick-billed Murre's breeding range.

*Quote:* “The only sustained breeding site for Manx Shearwater in eastern North America is located at the Middle Lawn Islands, Burin Peninsula (Figure 10-1) (Roul 2011).”

It should be noted here that Middle Lawn Island, along with two adjacent islands, which are collectively known as the Lawn Islands Archipelago, are now established as a Provisional Ecological Reserve by the Government of Newfoundland and Labrador, Parks and Natural Areas Division.

### Figure 10-1 Locations of Seabird Nesting Colonies at Important Bird Areas in Relation to the Study Areas

The Cape Freels Important Bird Area (IBA) should highlight Cabot Island as an important nesting area for migratory birds. Cabot Island supports approximately 10,000 pairs of nesting

Common Murre (Canadian Wildlife Service, unpublished data). Gull Island should be removed from the list of important bird areas. This information should be updated in this section and in subsequent maps.

**Table 10-2 Numbers of Pairs of Marine Birds Nesting at Marine Bird Colonies in Eastern Newfoundland**

Cabot Island should be added to this table.

**10.3.5 Marine Bird Nesting Colonies Along Southeastern Newfoundland**

*Quote:* "More than 4.6 million pairs nest at these three locations alone (Table 10-2; Figure 10-1). This number includes the largest Atlantic Canada colonies of Leach's Storm-Petrel (3,336,000 pairs on Baccalieu Island), Black-legged Kittiwake (23,606 pairs on Witless Bay Islands), Thick-billed Murre (1,000 pairs at Cape St. Mary's) and Atlantic Puffin (272,729 pairs on Witless Bay Islands) (Cairns et al. 1989; Rodway et al. 2003; Robertson et al. 2004)."

It should be noted here that two of the three Northern Gannet colonies in the province of Newfoundland and Labrador are on the Avalon Peninsula.

*Quote:* "The Offshore Study Area is well beyond the foraging range of breeding birds during the breeding season (approximately May to August)."

Murres will feed close to their breeding colonies when spawning inshore capelin are available (late June/early July), but prior to the capelin spawning period will feed further from the colonies. Gannets and storm-petrels are known to feed considerable distances away from the colonies and may forage within the offshore study area (as noted on page 10-28 of the EIS).

**10.3.6.8 Alcidae (Atlantic Puffin)**

*Quote:* "Grand Colombier in St. Pierre et Miquelon is the only breeding colony near Placentia Bay; approximately 400 pairs nest there."

The number of pairs breeding at the Grand Colombier colony should be updated to 9,543 pairs breeding pairs (Lormee et al. unpublished data).

**<u>Chapter 13 Sensitive Areas</u>**

**Figure 13-3 Ecological Reserves and Special Places Identified in Placentia Bay**
The Lawn Islands Archipelago Provisional Ecological Reserve should be added to this section. The Lawn Islands Archipelago Provisional Ecological Reserve is also an Important Bird Area, and should be identified as such where Important Bird Areas are discussed.

**Table 13-2 Number of Pairs of Marine Birds Characteristic of Placentia Bay Colonies**

Columns should be added here regarding the Lawn Islands Archipelago IBA and the Corbin Island IBA.

Additionally, data for population numbers of Northern Gannet and Common Murre at the Cape St. Mary's IBA are incorrect. Numbers reported in Chapter 10 of this EIS should instead be used.

**Figure 13-4 Areas Identified as Important for Birds and Whales in Placentia Bay**

The Lawn Islands Archipelago IBA and the Corbin Island IBA should be identified on this map.

**13.3.1.5 Bird Habitat**

The Lawn Islands Archipelago IBA and the Corbin Island IBA should be added to this list.

**13.5.1 Effects Analysis and Mitigation – Nearshore**

It should be noted that eelgrass beds are wetlands.

The proponent should be aware that as part of its commitment to wetlands conservation, the Federal Government has adopted *The Federal Policy on Wetland Conservation* (FPWC) with its objective to "promote the conservation of Canada's wetlands to sustain their ecological and socio-economic functions, now and in the future." In support of this objective, the Federal Government strives for the goal of No Net Loss of wetland function on federal lands or when federal funding is provided. EC-CWS therefore recommends that the goals of the policy be considered in wetland areas, and EC-CWS recommends that that the hierarchical sequence of mitigation alternatives (avoidance, minimization, and as a last resort, compensation) recommended in FPWC is followed. Avoidance refers to elimination of adverse effects on wetland functions, by altering the siting or modifying the design of a project, and is the preferred option. In the event that avoidance is not possible, the reasons why elimination of adverse effects on wetland functions were not possible should be clearly demonstrated in environmental assessment documents, and EC-CWS should be contacted for advice on next steps to follow for compliance with the FPWC.

A copy of the FPWC can be found at: http://dsp-psd.communication.gc.ca/Collection/CW66-116-1991E.pdf

**13.5.2.1 Nearshore (Important Bird Areas)**

The Lawn Islands Archipelago IBA and the Corbin Island IBA should be added to this list.

**<u>Chapter 14 Effects of the Environment on the White Rose Extension Project</u>**

**14.4 Nearshore Potential Marine Effects**

The text gives an estimate of an extreme storm surge of 0.8 m occurring at the time of a large high tide, based on a model that does not include wave run up or set up, or seiche effects. As noted on the comments in 4.2.2.5, EC recommends an extremal analysis of water levels of long term tide gauge at Argentia would give better results for this location.

### 14.4.6 Sea Ice and Iceberg

*Sentence 2*:
Same comments as in Section 4.2.4.1
<u>Two errors</u>

- The ice that enters the Bay in February is generally grey or greywhite ice (less than 30cm thick), and is not first-year ice (>30cm thick). First-year ice incursions into Placentia Bay only take place from March onwards.
- First-year ice is >30 cm thick. Contrary to indicated, it can be >120cm thick. First-year ice that is >120 cm is called “thick first-year” ice. Ice that is 30-70cm is thin first-year ice, and ice that is 70-120cm is medium first-year ice.

## <u>Chapter 16 Environmental Management</u>

### 16.8 Emergency Response

As emergency response is covered in the *Incident Coordination Plan (EC-M-99-X-PR-00003-001)*, which is a pre-existing plan for operations, EC is not providing comments. Likewise for the *OSR Procedure – East Coast Oil Spill Response Plan (EC-M-99-X-PR-00125-001)*.

### 16.11.2 Single vessel Side Sweep System

It would be beneficial to have a brief description on how equipment would be retrieved and cleaned, and how waste oil and sorbents would be handled

### 16.13.3 Dispersants

It would be beneficial to indicate dispersant (Corexit 9500) availability, and whether quantities would meet the requirements at various levels of possible response.

### 16.14 Offshore Training – Spill Response Operations

It would be beneficial to indicate the types of exercises undertaken that would test crew and equipment under real conditions. Associated with these exercises could be the testing of communications and response management structures that combines the efforts of on-scene and on-shore emergency management. The communications hierarchy would also include communications to regulators and 24/7 pollution reporting (CCG-EC).

### 16.17.3 Physical Management

*Quote (Page 16-30):* “The effectiveness of operational iceberg towing conducted during the 1980s has been studied (Bishop 1989). The conclusions were that, of 354 iceberg towing operations considered, 277 were successful with no difficulties, 74 were successful but required several attempts and 49 were unsuccessful. This translates into an effectiveness of 86 percent. Recently, much has been made of the criteria used in this study to define successful tows. However, since in most cases it is unknown what the free-drifting track would have been if the iceberg were not towed, tow success can only be evaluated on one simple criterion: did the offshore facility have to move? If not, the tow was successful”.

Since the WHP is not mobile, how would this affect the required design of the CGS?