

## **Notes from the Meeting Between DFO-HMD and Bilcon of Nova Scotia November 2, 2004**

In attendance: Paul Buxton - Project Manager, Bilcon  
Dave Kearns - Environmental Consultant, Bilcon  
Marci Penney-Ferguson - Section Head, DFO-HMD  
Phil Zamora - Habitat Assessment Biologist, DFO-HMD

This meeting was requested by Bilcon to establish a working relationship with DFO in order that the fish and fish habitat provisions under the *Fisheries Act*, for the proposed Whites Point Quarry and Marine Terminal Project, may be discussed. The objective of the meeting was to identify the issues pertaining to fish and fish habitat, which have the potential to be affected by the project. Although the environmental impact statement (EIS) is not yet available, many of the issues are referred to in the Project Description and the EIS Guidelines. The following issues were identified:

### **HADD of fish habitat**

A harmful alteration, disruption or destruction (HADD) of fish habitat is likely, as a result of construction of the proposed marine terminal. Therefore, Bilcon will be required to obtain a *Fisheries Act* (FA) subsection 35(2) Authorization from the DFO Minister before the project can proceed. The issuance of a FA subsection 35(2) Authorization cannot be considered until the current panel review process under the *Canadian Environmental Assessment Act* is completed. A suitable fish habitat compensation plan will also be required from Bilcon as an integral part of a FA subsection 35(2) Authorization.

An application for a FA subsection 35(2) Authorization was received from Bilcon on May 19, 2003. DFO will review the application to determine whether any amendments or updates are required.

There is also potential for a HADD of fish habitat to occur in the freshwater environment resulting from quarry excavation. Although the proposed excavation area does not include any fish bearing streams, the quarry could affect groundwater supplies to fish bearing streams that flow southward into Saint Mary's Bay. This question will be investigated by looking at hydrologic data collected by Bilcon. DFO will seek expert advice from Natural Resources Canada on this issue when information on groundwater test results is available.

## **Blasting**

Proposed blasting at the Whites Point quarry will have the potential to cause harmful effects on fish and fish habitat. Since blasting is planned for near shore areas, there is concern that pressure waves have the potential to harm or kill finfish and marine mammals and that sound could harm marine mammals or disrupt their behavior.

DFO began a review of the blasting issue when Bilcon (then Nova Stone Inc) submitted a Blasting Plan in 2003. Technical and scientific information has been exchanged and the review is ongoing.

## **Species at Risk**

There are at least two species at risk identified as potentially being effected by blasting operations. These are the inner Bay of Fundy (iBoF) Atlantic salmon and the North Atlantic right whale.

Information on potential harmful effects of blasting pressure waves on iBoF Atlantic salmon and safe set back distances have been provided to Bilcon as a result of DFO's review of the Blasting Plan previously submitted.

Review of the potential effects of blasting on the North Atlantic right whale is in progress. Technical information on time delays for the charge as well as on pressure and sound waves that will result from blasting is required in order to complete the review. Bilcon agreed to supply this information.

Bilcon raised the possibility of performing a test blast to measure the pressure waves and their effects on species at risk. DFO would only support a test blast if it were necessary in order to gain information that was not already available for determining safe levels for operation with respect to protecting fish and fish habitat. At this point in their review, DFO science has not concluded this to be the case.

These were identified as being the key issues. Other issues such as ballast water transfer and invasive species will be discussed as the EIS is developed. There was agreement to continue to meet again as needed.

## **Notes from the Meeting Between DFO-HMD and Bilcon of Nova Scotia December 10, 2004**

In attendance: Paul Buxton - Project Manager, Bilcon  
Dave Kearns - Environmental Consultant, Bilcon  
Marci Penney-Ferguson - Section Head, DFO-HMD  
Phil Zamora - Habitat Management Biologist, DFO-HMD  
Thomas Wheaton - Area Habitat Coordinator - DFO  
Brian Jollymore - Habitat Management Biologist, DFO-HMD  
Peter Amiro - Diadromous Biologist - DFO Science  
Carol Jacobi - Habitat Management Officer - DFO-HMD

This meeting was requested by Bilcon who asked that Thomas Wheaton be present to discuss habitat compensation, a DFO expert to discuss inner Bay of Fundy (iBoF) Atlantic salmon, and a DFO expert to discuss blasting.

### **iBoF Atlantic salmon**

The proponent stated that because iBoF salmon have become an issue with respect to this project, they commissioned Mike Dadswell, from Acadia University, to do a study on the presence of this species in the Bay of Fundy. The consultants report indicates that based on historical data, iBoF salmon do not pass along the Bay of Fundy shoreline of Digby Neck. There have been no tags recovered and no fisheries in that area.

Peter Amiro, Diadromous Biologist with DFO Science, stated that because there has not been a fishery for salmon in that area, one would not expect to recover tags. DFO remains of the opinion that historic fishing, scientific sampling and theoretic modeling indicates that there could be migrating iBoF Atlantic salmon in the Whites Point, Digby Neck area from May until October.

Because they are listed as endangered by the Species at Risk Act (SARA), the disruption or killing of iBoF Atlantic salmon are prohibited. DFO will work with the proponent to guide them in their desire to mitigate the potential harmful effects of their operation on this species.

### **Blasting**

The proponent's original blasting plan was for the toe of the quarry, this area is closest to the water and will give them a working platform. The working face will be a couple of hundred meters back from the water. As they move away from the water they will increase the size of the charge. The original blasting plan was within the guidelines. The guidelines were formulated before SARA became an issue. Under SARA the loss of

a single individual iBoF Atlantic Salmon would be prohibited, so for the proposed size of the blast, distances were increased by 3 times the guideline calculated set back distance, extending the necessary protection afforded to fish. DFO's calculations used site specific information and were based on smaller, stacked charges and a charge delay timeline of 25 milliseconds. The proponent stated that the charge delay timeline of 25 milliseconds, used for the guideline calculation, was too long. If they used it to satisfy DFO guideline calculation it would create Health and Safety problems. The Proponent requested access to the model DFO is using so they can recalculate for each blast. The model used by DFO is described in the document entitled "Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters" - 1998.

Adaptive management was discussed as a possible approach to the blasting issue. DFO suggested that if the potential effects from blasting could be modelled and if the model predicted that the effects would not be harmful to fish (including SARA species) and fish habitat, then any initial blast could be monitored to confirm the predictions and subsequent blasts could be adapted according to monitoring results.

The proponent has suggested mitigation measures to deal with the effects of using ANFO (ammonium nitrate-fuel oil) based explosives. DFO will review these measures for effectiveness and advise the proponent.

### **Species at Risk**

The proponent stated that although their original blasting plan contained mitigation it did not address SARA species. They have revised it by increasing distances and would like someone to review it to see if it is sufficient to protect SARA species.

### **Invasive Species**

The proponent inquired about ballast water discharge guidelines and the invasive species issue. DFO does have experts in the invasive species field that would be able to review information provided on this issue. However, Transport Canada regulates ballast water discharge.

### **Other Questions**

The Proponent asked for a clarification of a statement on page 14 of the 'Draft Guidelines for the Preparation of the Environmental Impact Statement for the Whites Point Quarry and Marine Terminal Project – November 2004'. The statement reads 'The Proponent is not required to generate new stock assessments for species other than

fish in affected aquatic environments, but it must include all available historical data on population stocks and status'.

DFO will review the statement and, if necessary, suggest appropriate changes DFO would recommend as clarification. This would likely be done in DFO's response to a request from the Review Panel for comments on the Draft EIS Guidelines.

The Proponent asked if there were any freshwater fish or fish habitat concerns with respect to this project. DFO stated that affects on the ground water supply could affect the Little River watershed and that a fluctuation in base flow to Little River could be a habitat concern. Although there will be no active quarrying in the Little River Watershed, it is necessary to know the ground water flow contributing to the system. A groundwater study should reveal information on this potential effect, and mitigation is available. Natural Resources Canada has expertise in this area.

The Proponent expressed a desire for a co-operative approach to the collecting of information needed for an environmental impact statement, for example DFO could monitor a test blast to give verification to the modelling of predicted effects from blasting. DFO stated that they are interested in a co-operative approach as well. However, with respect to a test blast, DFO will not support one unless they felt a test blast was necessary to help answer uncertainties that needed to be answered in order to protect fish and fish habitat, including marine mammals and species at risk. At present, DFO has not determined a test blast to be necessary.

## **Notes from the Meeting Between DFO-HMD and Bilcon of Nova Scotia February 7, 2005**

In attendance: Paul Buxton - Project Manager, Bilcon  
Dave Kearn - Environmental Consultant, Bilcon  
Marci Penney-Ferguson - Section Head, DFO-HMD  
Phil Zamora - Habitat Management Biologist, DFO-HMD  
Thomas Wheaton - Area Habitat Coordinator - DFO  
Brian Jollymore - Habitat Management Biologist, DFO-HMD

This meeting was scheduled as a follow-up to the December 10, 2004 meeting.

### **HADD of fish habitat**

The Proponent stated that they had made the appropriate minor changes on the application for a HADD authorization (company name, addition of Transport Canada as the new department for NWP, and a revision of start/end dates). There are no changes in plans from their earlier submission of the application in 2003.

Bilcon wishes to work cooperatively with DFO to achieve a fish habitat compensation plan that will satisfy DFO's Policy for the Management of Fish Habitat and benefit the community. They will be looking to DFO for guidance. DFO stated that the, although the plan needs to meet the approval of DFO, its development and implementation is the responsibility of the proponent. DFO will provide guidance.

### **Blasting**

DFO provided the proponent with a paper entitled "Practical Methods to Reduce Ammonia and Nitrate Levels in Mine Water" by Gordon F. Revey on mitigation measures for the use of ANFO (ammonium nitrate-fuel oil) based explosives. DFO's explosives expert has said that if the mitigation that has been proposed by the proponent and the recommendations outlined in the paper by Gordon Revey were incorporated into the blasting plan, there will be little in the way of residual impacts accruing from this aspect of the proposal.

## **Notes from the Meeting Between DFO-HMD and Bilcon of Nova Scotia May 5, 2005**

In attendance: Paul Buxton - Project Manager, Bilcon  
Dave Kearns - Environmental Consultant, Bilcon  
Andree Leveille - Bilcon  
Marci Penney-Ferguson - Section Head, DFO-HMD  
Phil Zamora - Habitat Management Biologist, DFO-HMD  
Thomas Wheaton - Area Habitat Coordinator - DFO  
Brian Jollymore - Habitat Management Biologist, DFO-HMD

### **HADD of fish habitat**

DFO has reviewed the first draft of the habitat compensation plan submitted by Bilcon. The proponent is proposing the installation of artificial lobster shelters designed by Jacques Whitford consultants that have been used in the recent past in other marine compensation plans.

The enhancement structures, although predominantly designed to enhance lobsters, have been known to enhance other species important to the area as well. The proponent also plans to locate the structures in the vicinity of the terminal location. Since the area of potential HADD is very productive for lobster, the first preference in the hierarchy of preferences for achieving no net loss of productive capacity would be satisfied by this compensation plan. However, DFO identified a few deficiencies in the draft plan, including the absence of effectiveness and compliance monitoring.

There was a discussion concerning the potential for the marine terminal to block light penetration to the ocean bottom flora and fauna underneath. Although the marine terminal is expected to occupy a 10 acre area, based on current information it is likely only a small portion would interfere with light penetration, which is the portion consisting of the marine terminal deck, bent and mooring dolphins. As currently designed, light is not completely blocked even by these structures because they are suspended above the water with piles.

DFO also suggested the proponent contact the local fishers in the area to coordinate the best possible locations for the artificial lobster structures. Transport Canada's Navigable Waters Program should also be contacted to determine whether the structures are a navigation concern.

## **Blasting**

DFO had some questions regarding sound levels in the marine environment as a result of blasting operations which have been predicted by the model used by JASCO consultants. Bilcon will provide to DFO the JASCO's submission which includes the modelling done to calculate these predictions.

## **Invasive Species**

The proponent expressed concern about complying with guidelines for invasive species. Vessels could be compelled to comply with regulations, but they can't be forced to comply with guidelines. Also if a vessel is traveling between Digby and the US they may not be anywhere near the designated dump zone. DFO stated that Transport Canada, who is also a Responsible Authority for this project, would likely have some guidance on this issue.



## **Notes from the Meeting Between DFO-HMD and Bilcon of Nova Scotia July 29, 2005**

In attendance: Paul Buxton - Project Manager, Bilcon  
Dave Kern - Consultant, Bilcon  
John Wall - Mineral Assets Manager, Clayton  
Heidi Schaefer - SARA Biologist, DFO-HMD  
Marci Penney-Ferguson - Section Head, DFO-HMD  
Ted Potter - EA and Major Projects Division Manager  
Phil Zamora - Habitat Management Biologist, DFO-HMD  
Thomas Wheaton - Area Habitat Coordinator- DFO  
Brian Jollymore - Habitat Management Biologist, DFO-HMD

### **HADD of fish habitat**

DFO has reviewed the second draft of the habitat compensation plan submitted by Bilcon. The proponent is proposing the installation of artificial lobster shelters designed by Jacques Whitford consultants that have been used in the recent past in other marine compensation plans.

DFO acknowledged that the proponent had included a conceptual monitoring strategy within the plan to assess effectiveness and compliance. However, DFO will need to review the details of the monitoring when they become available.

DFO supports the proponent's proposal to construct marine growth enhancement structures along the piles in order to compensate for the water column portion of the HADD.

An application has been submitted by the proponent to the Navigable Waters Protection Program with Transport Canada for the habitat compensation structures.

### **Blasting**

DFO has reviewed the paper provided by JASCO in light of the current expert advice provided by DFO. DFO Regional Advisory Process office has been asked to formulate a Science Expert Opinion document regarding the potential effects of sound from blasting at the proposed Whites Point Quarry on marine mammals in the Bay of Fundy.

Bilcon expressed an interest to help enhance the knowledge base for this issue. They are very interested in the establishment of a threshold for them to work with, not only for

the North Atlantic right whale but also for iBoF Atlantic salmon. DFO maintains that the issue of the sound effects on behaviour are not well understood and that is why they have asked for a review, specifically, of this concern.

## **Notes from the Meeting Between DFO and Bilcon of Nova Scotia** **October 28, 2005**

In attendance: Paul Buxton - Project Manager, Bilcon  
Dave Kearn - Environmental Consultant, Bilcon  
Scott Clark, JASCO Research Ltd., Bilcon Consultant  
Marci Penney-Ferguson – Section Head, DFO-HMD  
Phil Zamora – Habitat Management Biologist, DFO  
Thomas Wheaton - Area Habitat Coordinator , DFO  
Brian Jollymore – Habitat Assessment Biologist, DFO-HMD  
Mark McLean – Senior Environmental Analyst, DFO  
Tana Worcester – Regional Advisory Process Coordinator, DFO  
Norman Cochrane – Research Scientist, DFO

Bilcon stated that they have informed the review panel they would file their Environmental Impact Statement on December 15, 2005. As part of this meeting Bilcon is seeking advice from DFO on the Blasting Plan, specifically they are looking for input related to thresholds, monitoring and fish habitat compensation.

### **Shipping**

Bilcon also asked how far beyond the terminal would they have to look at shipping impacts. DFO stated that scope of the project is set by the panel and any questions regarding scope of project should be directed to the panel. Bilcon indicated that they are including an analysis of the area between the main shipping line and the terminal in their EIS.

### **Fish Habitat Compensation**

DFO has reviewed the proposed fish habitat compensation plan submitted by Bilcon. Based on the preliminary information provided to date, DFO is satisfied that the components of this proposed habitat compensation plan would meet the requirements and objectives of the Policy for the Management of Fish Habitat under the Policy for the Management of Fish Habitat. DFO stated that it would be sending a letter to Bilcon on its review of the compensation plan. However, Bilcon was reminded that the issuance of a *Fisheries Act* Section 35 (2) Authorization and any subsequent fish habitat compensation plan can only be determined after consideration of the Joint Panel report issued at the conclusion of the environmental assessment.

### **Blasting**

There was a discussion on whether more information could be provided for the blasting model to address the uncertainty. It was noted that the inherent limitations within the model itself account for much of the uncertainty and therefore additional information would not address this uncertainty.

DFO gave a presentation which outlined the approach that is being taken for the analysis the Blasting Plan and some of the initial conclusions that will be provided more fully in DFO's final comments on the Blasting Plan. DFO indicated that it is waiting on some additional information before finalizing its comments on the Blasting Plan. The comments would be sent to Bilcon once they are finalized.

There was a discussion on the definition of significance. DFO will not be providing a definition of significance in the science advice provided to Bilcon. DFO may provide information with regard to significance during the panel review but it would be the panel who will define significance.