Review of the *Fisheries Act*

23 DECEMBER 2016
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## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Delegation to the NEB</td>
<td>3</td>
</tr>
<tr>
<td>Assessments and regulatory guidance</td>
<td>4</td>
</tr>
<tr>
<td>Provincial requirements</td>
<td>4</td>
</tr>
<tr>
<td>Offset Projects</td>
<td>5</td>
</tr>
<tr>
<td>Industry best practices and mitigation techniques</td>
<td>5</td>
</tr>
<tr>
<td>Recommendations</td>
<td>6</td>
</tr>
<tr>
<td>Conclusions</td>
<td>6</td>
</tr>
<tr>
<td>Appendix I – Case study</td>
<td>7</td>
</tr>
<tr>
<td>Appendix II - Contribution to research</td>
<td>13</td>
</tr>
<tr>
<td>Appendix III - Watercourse crossing construction methods</td>
<td>14</td>
</tr>
</tbody>
</table>
INTRODUCTION
The Canadian Energy Pipeline Association (CEPA) is pleased to have the opportunity to participate in this review of the Fisheries Act. It is through periodic review of legislation and regulatory regimes that we can ensure that the goals of legislation are being achieved.

With over 60 years of experience in the construction of pipelines, including tens of thousands of watercourse crossings, CEPA’s members have developed best practices and standard mitigation methods with high standards for the protection of the environment. The environmental assessments and permit applications that are required prior to construction have also enabled CEPA members, as well as Fisheries Authorities, to develop a very good understanding of the potential environmental effects of watercourse crossings.

In preparation for this review, CEPA members reviewed the data collection and analysis, mitigation measures and accepted best practices that were implemented in the field prior to the changes to the Act in 2012 (see Appendix I for specific case studies). The results of the review found that while there are fewer circumstances in which authorizations are required, the effort that pipeline companies must invest in determining whether to apply for an authorization has not changed, because the Act still requires the protection of commercial, recreational and Aboriginal fisheries. The practical measures that were implemented by project proponents to avoid the “destruction of fish through means other than fishing” and the “harmful alteration, disruption or destruction of fish habitat”, are the very same measures that the transmission pipeline industry continues to use to avoid “serious harm to fish.” Essentially, nothing has changed in practice.

Various groups have expressed concern about the changes that were made to the Act in 2012; however, those concerns tend to focus on the fact that fewer authorizations are required under the revised Act. CEPA posits that the number of authorizations issued under the Act should not be equated to “lost protections”. This review should focus on whether actual protection of fish and fish habitat has diminished with the 2012 changes, and not on the number of authorizations issued.

With this in mind, we encourage the federal government to focus any changes to the Act on ensuring resources are used efficiently and effectively for the protection of fish and fish habitat. Below we have provided evidence and facts that show the protection, as it relates to pipeline watercourse crossings, remains robust. We also submit recommendations on how we believe the government can focus their review to ensure the implementation of best practices in the field is upheld and opportunities for continuous improvement are encouraged.

DELEGATION TO THE NEB
CEPA supports a review of the Fisheries Act that adheres to the principle of avoiding unnecessary duplication. The 2012 changes enabled the National Energy Board (NEB) and Fisheries and Oceans Canada (DFO) to sign a Memorandum of Understanding (MOU) which gave the NEB the responsibility to assess impacts of pipeline watercourse crossings on fisheries during reviews of federally-regulated pipelines. This significantly reduced the overlapping authority between the NEB and DFO by placing this responsibility with the NEB as the single, best placed regulator. This was a positive step that not only created a more efficient permitting process, but also created better outcomes by reinforcing accountability with a single regulator.

The NEB employs experts who are familiar with pipeline construction and operation. They have the expertise to not only assess impacts on fisheries, but also to identify safety and environmental effects of pipeline projects. Although other federal government departments have expertise specific to their areas, it is the NEB, with nearly 60 years of experience, that has the expertise specific to pipelines.

Under the MOU, the NEB conducts site-specific reviews of the in-stream work to determine whether a project could result in serious harm to fish, including aquatic species at risk, based on measures identified by the DFO. If the NEB finds in-stream activity may result in serious harm, it refers the project to DFO for
review and a decision as to whether an authorization is required. However, if the NEB determines the project will not result in serious harm, the project applicant does not have to make a separate submission to DFO for their review. The NEB's assessment of impacts to fish and fish habitat takes place during its comprehensive review of pipeline applications, which has proven to be effective, efficient, and outcome oriented.

The MOU also gives the NEB the power to monitor a project to ensure that it complies with the conditions of a Fisheries Act Authorization after it has been issued. This complements the NEB’s lifecycle oversight of pipelines from design to abandonment. This integrated approach takes into account the full range of safety and environmental concerns and allows both industry and the regulator to work towards effectively achieving better results, while simultaneously ensuring federal objectives are met.

CEPA does not believe that the delegation to the NEB has resulted in lost protection or weakened the protection of fish or fish habitat associated with pipeline projects. Rather, it created a more efficient permitting process, and resulted in better outcomes by reinforcing accountability with a single regulator. Furthermore, it allows DFO resources to focus on projects that have real or uncertain impacts on fish and fish habitat.

ASSESSMENTS AND REGULATORY GUIDANCE
As stated earlier in the document, the concerns expressed by various groups regarding the 2012 changes to the Act tend to centre on the fact that fewer DFO Authorizations have been given under the revised legislation. While DFO has determined that fewer Authorizations are required, the effort that pipeline companies must invest when assessing a project is the same, regardless of whether an Authorization under the Fisheries Act is required. This is because the Act still requires the protection of “commercial, recreational and Aboriginal fisheries”. The practical measures that pipeline companies used before the 2012 changes under the previous Act’s definitions are the very same measures that continue to be used after 2012 to avoid “serious harm to fish.”

Furthermore, the risk management framework previously used by DFO contained a large element of uncertainty. To manage that uncertainty, project proponents would submit projects for DFO review, even though the watercourse activities would have no impact or these impacts could be mitigated. This caused inefficiencies and administrative burden, and did not improve outcomes.

By using DFO supported tools that are based on science, fact and evidence, assessment of watercourse crossings and mitigation of impacts can be carried out without the need for DFO Authorization. CEPA believes that DFO resources should be focused on the review of works that have the potential of causing significant impacts that cannot be mitigated using accepted practices, or where impacts are uncertain.

It is also worth noting that the changes in 2012 allowed for project proponents to engage a qualified environmental professional to prepare a self-assessment for a project and identify appropriate mitigation methods to address any potential impacts. This has been a positive change because it has allowed professionals with knowledge and expertise of aquatic habitat, pipeline construction and operations to apply best practices to meet regulatory requirements. To build on this positive change, CEPA believes this review of the Act provides an opportunity to introduce revised DFO-issued Operational Statements that existed under the previous Act. These Operational Statements provided information to proponents regarding how an assessment should be completed to determine whether the project causes serious harm to fish and when a review by DFO would be required.

PROVINCIAL REQUIREMENTS
CEPA members believe that the current regulatory framework provides appropriate regulatory oversight of pipeline projects, including a robust environmental assessment process. Jurisdictional boundaries between federal and provincial responsibilities are clear and there are processes in place (including substitution and delegation) to avoid duplication in the regulatory process.
Provincial regulators, such as the British Columbia Oil and Gas Commission (BCOGC) and the Alberta Energy Regulator (AER), have similar project review processes in place for pipelines that are contained within provincial boundaries. These provincially regulated pipelines continue to be subject to the regional requirements of DFO. CEPA supports opportunities for DFO and provincial authorities to further enhance the coordination of federal and provincial requirements for the protection of fish and fish habitat.

An example of a provincially regulated project that was reviewed by DFO in 2013 is provided in Appendix I. The project met the measures to avoid causing harm to fish and fish habitat, however, at the time, the project proponent decided to submit the project to DFO for a review due to the uncertainty in the new measures. DFO determined the project met the appropriate requirements and determined that the project was "not reviewable."

OFFSET PROJECTS
CEPA supports the Canadian Wildlife Federation’s (CWF) suggestion to have enabling legislation and programs in place that focus on achieving better outcomes for fish and fish habitat. CEPA has been in early discussions with the CWF regarding this initiative. Partnerships among conservation groups, industry and communities, in conjunction with flexibility in developing offset projects within watersheds, can lead to effective implementation of government policy resulting in the best restoration decisions. We encourage the federal government to ensure flexibility is in place to allow for the development of offset projects within watersheds.

INDUSTRY BEST PRACTICES AND MITIGATION TECHNIQUES
CEPA and its members have taken a proactive approach to ensuring their construction practices and mitigation methods maintain the highest standards for the protection of the environment. This is evident through the collaborative development of the Pipeline Associated Watercourse Crossing (PAWC) Guideline. First developed in the early 1990s, the PAWC is a reference for best practices, which provides pipeline companies and their contractors with information to carry out watercourse crossings in a safe and environmentally responsible manner. A wide range of stakeholders participated in its development and revision, including CEPA, the Canadian Association of Petroleum Producers (CAPP), the Canadian Gas Association (CGA), DFO and the NEB.

In order to reflect changes to regulations and the development of new science and technologies, periodic revisions to the PAWC have been completed that ensure the continual improvement of industry practices. In February 2014, CEPA, CAPP and CGA commenced work on the 5th Edition of the PAWC. Over the past two years, hundreds of experts, including scientists, government officials and conservation groups have helped develop a new, user-friendly, web-based self-assessment tool for pipeline watercourse crossings. Additionally, Canadians were given the opportunity to provide feedback through an on-line workbook. This collaborative effort has resulted in a final product that reflects the most up-to-date advances in crossing technologies and mitigation methods.

In November 2016, the Canadian Science Advisory Secretariat (CSAS) reviewed the science underpinning the assessment and mitigation criteria set out in PAWC 5th Edition. This process included a review of the science related to a specific project by a selected group of experts who determined that the PAWC guideline provides a transparent and robust approach to the assessment and mitigation related to watercourse crossings. CSAS found that the guideline incorporates the best scientific evidence available, not only for pipeline crossings, but for in-stream works. CSAS also identified some gaps in the scientific literature, specifically related to the effects of suspended sediments at locations where trenchless crossing methods are not viable. This was already identified by CEPA as an area of focus and a research project is underway. Once the final CSAS report is received and comments addressed, the PAWC 5th Edition and the associated web-based tool will be finalized and published in both official languages for use by project proponents, regulators and interested stakeholders.
It is worth noting that the changes made to the Act enabled the incorporation by reference of externally developed standards into regulation and in 2013 the 3rd edition of the PAWC was endorsed by DFO officials. For further information on how the transmission pipeline industry is supporting and leading research into best practices for protecting the environment and mitigating impacts see Appendix II.

RECOMMENDATIONS
As the federal government moves forward with the review of the current *Fisheries Act*, there is an opportunity to ensure resources are used efficiently and effectively for the protection of fish and fish habitat. We believe that many of the changes made in 2012 have been successful in achieving this outcome. Any changes made to the Act should be focused on making improvements that ensure the continued protection of fish and habitat related to fisheries. On behalf of the transmission pipeline industry we have the following recommendations:

1. Allow the NEB to maintain the responsibility to assess impacts of pipeline watercourse crossings on fish and fish habitat during federally-regulated pipeline reviews;
2. Explore opportunities for DFO and provincial authorities to further enhance the coordination of federal and provincial requirements for the protection of fish and fish habitat;
3. Ensure there is flexibility to allow for the development of offset projects within watersheds;
4. Provide a process for reviewing and revising the activities and classifications under the previous Operational Statements with the view to issue revised Operational Statements for all activities; and
5. Preserve the ability to incorporate, by reference, externally developed standards into regulation.

CONCLUSIONS
With the above recommendations in mind, CEPA believes that if a practical approach to reviewing the effectiveness of the legislation is taken, efficiencies can be gained through minor revisions. The most effective regulatory framework for all stakeholders is one that is clear, efficient and comprehensive. In particular, the process should avoid duplication, outline clear accountabilities, contain transparent rules and processes, allow for meaningful participation from those who have valuable contributions to make and balance the need for timeliness with other objectives. CEPA supports any efforts the government makes to achieve this outcome.

Thank you again for the opportunity to provide our views and feedback on the review of the *Fisheries Act*. We look forward to working with your department and other stakeholders over the coming months and year to secure effective outcomes.
APPENDIX I – CASE STUDY

1.1 Provincially Regulated Pipeline Construction of New Pipeline
Sturgeon River Crossing (Pembina Pipeline Corporation)

Synopsis: The following Case Study is one example of the many watercourse crossings that have been undertaken by the pipeline industry since the legislative changes were made in 2012. Because of the uncertainty associated with the regulatory changes, Pembina Pipeline Corporation sent a request to DFO to review the fisheries assessment to determine whether an approval was required. DFO determined that this project met the self-assessment guidance provided on the DFO website under Diversion/Dewatering, and did not contravene any SARA prohibitions, therefore a review or notification was not required.

Project description: Pembina Pipeline Corporation constructed a 27-km long pipeline from Namao Junction to the Redwater Fractionator in Alberta. Two lines, one 24” and one 16” outside diameter, were installed in the trench. The pipeline crosses the Sturgeon River upstream from its confluence with the North Saskatchewan River. The subsurface geotechnical conditions precluded a trenchless crossing, so an isolated crossing of the river was made using a dam and pump method. A qualified consulting firm was commissioned to conduct aquatics surveys of fish and habitat the year before construction.

The Sturgeon River is known to support sport fishes. Construction of the crossing took place during low flow conditions and outside of the Restricted Activity Period as set out by Alberta Environment and Parks. Accepted construction and mitigation practices were used to prevent sediment from entering into the watercourse, and to reconstruct and stabilize the channel, streamed and banks. Fish were rescued from the isolated section and released downstream and water quality monitoring was carried out to determine sediment levels and turbidity downstream of the crossing. Post construction monitoring, including aerial and ground inspections during the following spring and summer, has shown the crossing had no impact on fish and habitat.

Chronology of Events

- August, 2013 Aquatic habitat and fish population studies were carried out at and adjacent to the proposed crossing location.
- February 12, 2014 Submission to DFO with a request for review.
- March 5, 2014 Response received from DFO indicating the project did not require a review.
- June 22, 2015 Start of construction
- October 27, 2015 Completion of construction
- April 16 – June 30 Restricted Activity Period

Recommendations: This project demonstrates that the effective implementation of proven construction and mitigation measures during the crossing of watercourses by pipelines prevent serious harm to fish and protect fish habitat. Both the pipeline industry and DFO staff understand the potential effects of watercourse crossings and have worked to develop best practices for these crossings. There is little added value in having DFO review crossings where the impacts are known and can be mitigated. Resources should be focused on reviewing projects where impacts are uncertain or significant and in assisting project proponents in developing appropriate fish protection plans.
Photo 1 – Pembina Pipelines, Sturgeon River Crossing, Pre-construction
Photo 2 – Pembina Pipelines, Sturgeon River Crossing, Upstream Dam Installation
Photo 4 – Pembina Pipelines, Sturgeon River Crossing, Installation of pipes (17 hours in-stream)
Photo 5 – Pembina Pipelines, Sturgeon River Crossing, One year after construction
APPENDIX II - CONTRIBUTION TO RESEARCH

CEPA member companies strive to develop pipeline projects using the best information possible to protect the environment and mitigate impacts. During the development of the new guidance materials, a gap in the understanding of the potential impacts from sedimentation on aquatic habitats during in-stream pipeline construction activities was identified. This gap in scientific knowledge was also noted by CSAS in its review of the PAWC guidelines. Sedimentation is an important issue related to potential impacts to fish and fish habitat, as recognized in DFO’s Fisheries Protection Policy Statement and provincial legislation and codes of practice.

In mid-2016, CEPA partnered with Stantec Consulting Ltd. to investigate the potential for impacts to the aquatic environment from instream pipeline construction activities. By assessing the effectiveness of applied mitigation measures, and looking at stream characteristics that affect sedimentation, the researchers will provide recommendations on mitigation measures and suspended sediment monitoring programs as part of a watercourse crossing project. The deliverable is expected to be submitted to a peer-reviewed journal.

Turbidity monitoring data has been collected from a number of CEPA member companies and is being assessed. The estimated completion date is March 31, 2017.
APPENDIX III - WATERCOURSE CROSSING CONSTRUCTION METHODS

To understand the impact that the previous amendments to the Act had on pipelines, it is helpful to understand how pipelines are installed at watercourses. During construction, there is some temporary disturbance to the water body, from an environmental perspective. CEPA members employ watercourse crossing methodologies that combine high standards for safety, engineering and environmental expertise. Project proponents use the latest available technologies to minimize adverse effects and avoid any disruption during construction, and where necessary, employ mitigation measures that are grounded in science to address any remaining residual effects caused by the water crossing.

When a pipeline is installed at a watercourse, qualified professionals determine the best crossing point using a variety of criteria. Specific soil conditions, timing windows for construction and the presence of aquatic species, among other criteria, influences the location and method used to construct a pipeline crossing.

There are two main methods used by the pipeline industry to cross watercourses:

- **Trenchless pipeline crossing methods** (including horizontal directional drilling or microtunnelling) involve no direct excavation to the banks or bed of a watercourse. They minimize or eliminate any impacts to the water body and to navigation. In certain circumstances, site-specific geotechnical conditions may prohibit the use of trenchless crossing techniques.

- **Trench methods of crossing watercourses** involve the excavation of a trench through the banks and bed of a watercourse. This can be done during dry or frozen conditions, or when water is flowing.

In very unique circumstances, aerial installations may also be used to minimize effects to a watercourse. In this case, the pipeline is carried across a structure above the high water mark, much like bridge supports. Aerial installations are not commonly used.

While crossing a watercourse, it may be necessary to install a temporary bridge, culvert, or ice, snow or log fill in the channel to allow construction vehicles a safe place to cross and to minimize disturbance to the bed or banks of the waterbody. These are removed immediately after construction is complete.

Consultation with Indigenous groups, communities and stakeholders that could be affected by these temporary impacts provide information that is used to help project proponents mitigate concerns.