

NATIONAL ENERGY BOARD

IN THE MATTER OF

Trans Mountain Pipeline ULC (Trans Mountain)
Application for the Trans Mountain Expansion Project

National Energy Board reconsideration of aspects of
its Recommendation Report as directed by
Order in Council P.C. 2018-1177

Hearing Order MH-052-2018

WRITTEN FINAL ARGUMENT OF
BC NATURE AND NATURE CANADA

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PART I. INTRODUCTION

1. Few National Energy Board (“NEB”) panels have been burdened with a more weighty responsibility than this one. During the last election, the Prime Minister levelled strong criticisms about this very review process and the need for substantial institutional reform in the way we review major resource and infrastructure projects.¹ His government’s proposed remedy – Bill C-69 – is now before the Senate of Canada.² In the meantime, of course, his government has completed the purchase of the Trans Mountain Expansion Project (the “Project”)³ and the Federal Court of Appeal has rendered judgment finding serious flaws with the manner in which the original panel conducted its review of this same Project.⁴ All of which has set the stage for this hasty and accelerated reconsideration process (the “Reconsideration”).
2. Throughout original Project assessment, BC Nature and Nature Canada worked within the confines and parameters of the process in order to assist the Panel to carry out its statutory authority. On several occasions, we brought to that panel’s attention key ways in which the process was grossly deficient in terms of ensuring that the requirements of *CEAA, 2012* were met.⁵ We also brought those deficiencies to the attention of the Government of Canada during the public consultation on reforming the *CEAA, 2012*.⁶
3. This hasty and accelerated Reconsideration process has only reinforced those concerns. The Governor in Council remitted to the NEB the responsibility of convening a public hearing to address the impacts of Project-related marine shipping.⁷ The hearing into this issue must be a *de novo* one. This is a newly constituted Panel tasked with undertaking a job that its predecessor failed to do. Moreover, this Panel must ensure that it is seen to be independent and worthy of the trust of Canadians as it discharges this duty. This is especially so given the history of this process and, in particular, the decision of the federal government to take ownership of the project.
4. Trans Mountain Pipeline ULC (“Trans Mountain”) takes the view that this Panel is entitled to assume that all of the work done and conclusions reached by the former panel can be

¹ Tamsyn Burgmann, “Justin Trudeau unveils Liberals’ environmental platform” (29 June 2015), *The Star*: <https://www.thestar.com/news/canada/2015/06/29/justin-trudeau-unveils-liberals-environmental-platform.html>.

² Bill C-69, *An Act to enact the Impact Assessment Act and the Canadian Energy Regulator Act, to amend the Navigation Protection Act and to make consequential amendments to other Acts*, 1st Sess., 42nd Parl., 2015 (as passed by the Senate in Second Reading 12 December 2018).

³ Geoffrey Morgan, “Canada buys Kinder Morgan’s Trans Mountain pipeline for \$4.5 billion — but can we sell it?” (29 May 2018), *Financial Post*: <https://business.financialpost.com/commodities/energy/ottawa-buys-trans-mountain-pipeline-for-4-5-billion-but-can-it-sell-it>.

⁴ *Tsleil-Waututh Nation v. Canada (Attorney General)*, 2018 FCA 153 (“*Tsleil-Waututh*”).

⁵ See, BC Nature and Nature Canada (“BCN/NC”) – Motion to Compel Full and Adequate Responses to IR1 (OH-001-2014 Hearing) (Filing ID [A3Y8A7](#)); BCN/NC – Letter of Support for Province of BC Motion dated Dec 5 2014 (OH-001-2014 Hearing) (Filing ID [A4F9I8](#)); BCN/NC – Motion to Compel Full and Adequate Responses to IR2 (OH-001-2014 Hearing) (Filing ID [A4I4J4](#)); BCN/NC – Written Evidence (OH-001-2014 Hearing) (Filing ID [A4L8K8](#)); BCN/NC – Written Argument-in-Chief (OH-001-2014 Hearing) (Filing ID [A4X5A0](#)).

⁶ See, BCN/NC, “Science, the Law, & the EA Process – Reclaiming Legitimacy in Federal EAs”, submission to Expert Panel on the Review of Environmental Assessment Processes (9 December 2016): http://eareview-examence.ca/wp-content/uploads/uploaded_files/bc-nature-science-the-law-the-ea-process-reclaiming-legitimacy-in-federal-eas.pdf.

⁷ Order in Council P.C. 2018-1177.

relied on without question or re-visitation by this Panel.⁸ In Trans Mountain's submission, the only evidentiary question this Panel must concern itself with is whether the intervenors have demonstrated that there has been any material factual change since the original panel rendered its report.⁹ In rejecting the vast majority of motions by intervenors for full and adequate responses to their respective information requests ("IRs"),¹⁰ it would appear that this Panel agrees with Trans Mountain's narrow view of the nature of this Reconsideration process.

5. Adopting this narrow and erroneous approach, in our submission, would be a serious mistake. It will undoubtedly lead to further litigation about the legal adequacy and fairness of this process. As we set out in our argument below, the accelerated nature of this hearing process combined with the inefficacy of the IR process has meant that, on many key scientific and technical issues that are in play, the state of the evidentiary record is hopelessly conflicted and uncertain. The process has effectively left this Panel unable to discharge its duties to determine whether there are any significant adverse environmental effects that cannot be mitigated pursuant to the *Canadian Environmental Assessment Act, 2012*, S.C. 2012, c. 19, s. 52 ("*CEAA, 2012*"). Not only that, but to the extent that this Panel may determine that such effects exist, it has failed to collect evidence on such key issues as alternative means as would be necessary for this Panel to properly inform the Governor in Council on whether such effects can be justified in the circumstances. Compounding the confused and unsatisfactory nature of the record, Trans Mountain has effectively failed to offer any expert reply evidence: see Part II below. This means, in our submission, that intervenor expert evidence properly tendered in this Reconsideration raising questions about the adequacy of this Project assessment (including expert evidence tendered by BC Nature and Nature Canada) is uncontradicted by Trans Mountain and must be received and treated as such by this Panel.
6. In short, for both historical reasons and as well as those arising from the accelerated nature of this hearing process, this Panel has a very daunting task ahead. We offer, at the conclusion of each section in Part IV (summarized in Part V), some thoughts on how the Panel must grapple with this weighty responsibility. The simplest and most straightforward approach would be for the Panel to seek from the Governor in Council additional time to conduct a full and proper hearing into the issues that have been placed before it. The timeline originally set in this matter was completely unrealistic, and it placed this Panel in a completely untenable position. While this Panel perhaps hoped that it could labour on and surmount these challenges, it is now clear, in our submission, that this was impossible. The trust of Canadians in this Panel and in this process now hangs in the balance.

⁸ Trans Mountain – Argument-in-Chief of Trans Mountain (Filing ID [A6R2D0](#)) ("TM Argument-in-Chief"), PDF 6 of 33.

⁹ *Ibid.*

¹⁰ NEB Ruling No. 28 (Filing ID [A6Q9V5](#)).

PART II. PRELIMINARY ISSUE: IMPERMISSIBLE EXPERT OPINION

7. BC Nature and Nature Canada submit that Trans Mountain has adduced expert opinion evidence in this Reconsideration that is inadmissible and therefore ask that this Panel either strike such evidence from the evidentiary record or to give such evidence no weight.

A. Relevant Facts

8. In this Reconsideration, the Panel established a schedule for the filing and testing of evidence.¹¹ In accordance with this schedule, Trans Mountain filed its opening statement and direct evidence on October 31, 2018.¹² While Trans Mountain's direct evidence contains some fact evidence, most of its direct evidence consists of interpretation and analysis of technical or scientific information that are opinion evidence. Trans Mountain did not identify any authors in its direct evidence, let alone any expert qualifications that such authors might have to give opinion evidence.
9. On December 5, 2018, BC Nature and Nature Canada filed their opening statement and direct evidence.¹³ Our direct evidence consists of two expert reports. The "Expert Opinion of Anne Harfenist" was prepared by Anne Harfenist, M.Sc. and, in her report, Ms. Harfenist included her qualifications, her *curriculum vitae*, and her certification of an expert's duty.¹⁴ The report by EnSys Energy & Systems, Inc. ("EnSys") was prepared under the direction and control of Martin R. Tallett and, in this report, Mr. Tallett included his qualifications, his *curriculum vitae*, and his certification of an expert's duty.¹⁵
10. On December 11, 2018, Trans Mountain filed its reply evidence.¹⁶ In this reply evidence, Trans Mountain purports to rebut some of the claims made by various intervenors in their direct evidence. Again, Trans Mountain's reply evidence consists largely of opinion evidence, including opinion evidence that purports to rebut the expert opinion of BC Nature and Nature Canada's experts. Trans Mountain did not identify any authors in its direct evidence, let alone any expert qualifications that such authors might have to give opinion evidence.
11. On December 31, 2018, Trans Mountain filed responses to information requests ("IRs") made by intervenors, including response to IRs made by BC Nature and Nature Canada.¹⁷ On January 16, 2019, pursuant to the Panel's ruling on BC Nature and Nature Canada's motion to compel full and adequate IR responses, Trans Mountain filed supplemental response to BC Nature and Nature Canada IR1.5a.¹⁸ Trans Mountain's original IR responses and its supplemental response to IR1.5a consist largely of opinion evidence. Trans Mountain

¹¹ Hearing Order (Filing ID [A61718](#)), as amended by Procedural Direction No. 3 (Filing ID [A6K3E5](#)).

¹² Trans Mountain – Opening Statement and Direct Evidence (Filing ID [A95280](#)).

¹³ BCN/NC – Opening Statement and Direct Evidence (Filing ID [A96452](#)).

¹⁴ BCN/NC – Expert Opinion of Anne Harfenist (Filing ID [A6L6H2](#)) ("Harfenist Report").

¹⁵ BCN/NC – EnSys Report on Tanker Movement in Salish Sea (Filing ID [A6L6H3](#)) ("EnSys Report").

¹⁶ Trans Mountain – Reply Evidence (Filing ID [A6L9U8](#)) ("TM Reply Evidence")

¹⁷ Trans Mountain – Response to BC Nature Reconsideration IR No. 1 (Filing ID [A6Q5Z5](#)) ("TM Response to BCN/NC IR...").

¹⁸ Trans Mountain – Supplemental Response to BCN/NC IR1.5a (Filing ID [A6R0Q8](#)) ("TM Supp. Resp. to BCN/NC IR1.5a").

did not identify any authors in these IR responses, let alone any expert qualifications that such authors might have to give opinion evidence.

12. BC Nature and Nature Canada filed affidavits from Ms. Harfenist and Mr. Tallett on January 16, 2019 in which these experts adopted the evidence that were prepared under their direction and control.¹⁹
13. On January 17, 2019, Trans Mountain filed affidavits adopting evidence. Among these affidavits is an affidavit of Scott Stoness, who deposes that he is the “Vice President, Compliance and Regulatory for Trans Mountain Corporation and Trans Mountain Pipeline ULC”.²⁰ In a table, Mr. Stoness identifies a list of evidence filed in this Reconsideration that he affirms were “prepared by myself or under my direction and control”.²¹ Included in this list of evidence are:
 - a. Trans Mountain’s opening statement and direct evidence;
 - b. Trans Mountain’s reply evidence;
 - c. Trans Mountain’s response to intervenor IRs; and,
 - d. Trans Mountain’s supplemental response to BC Nature and Nature Canada IR1.5a.
14. Nowhere in his affidavit does Mr. Stoness depose his expert qualification to give opinion evidence contained in those filings.
15. Also on January 17, 2019, Trans Mountain filed its argument-in-chief.²² Nowhere in its argument-in-chief does Trans Mountain provide the expert qualification or other basis for Mr. Stoness to give expert opinion evidence.

B. Legal Submissions

16. While as an administrative tribunal the NEB is the master of its own procedure, BC Nature and Nature Canada submit that a public hearing of the NEB such as this Reconsideration requires the Panel to adhere to the principles of procedural fairness and natural justice and to the rules of evidence at the higher end of the spectrum.
17. In this Reconsideration, the Panel acts in a quasi-judicial capacity. The NEB is a court of record that has all the same powers, rights, and privileges as any other superior court of record with respect to the attendance, swearing and examination of witnesses, and to the production and inspection of documents.²³ Orders of the NEB can be enforced as a rule, order or decree of the Federal Court or of a superior court of a province.²⁴

¹⁹ BCN/NC – Affidavits Adopting Evidence (Filing ID [A97347](#)).

²⁰ Trans Mountain – Affidavits Adopting Evidence (Filing ID [A6R2D2](#)).

²¹ *Ibid.*, PDF 3 of 5.

²² TM Argument-in-Chief, *supra* note 8.

²³ *National Energy Board Act*, R.S.C. 1985, c. N-7, ss. 11(1) & (3).

²⁴ *Ibid.*, s. 17(1).

18. As the Supreme Court of Canada held:

... the Board’s function is quasi-judicial or, at least, is a function which it must discharge in accordance with rules of natural justice, not necessarily the full range of such rules that would apply to a Court (although I note that the Board is a court of record under s. 10 of its Act) but certainly to a degree that would reflect integrity of its proceedings and impartiality in the conduct of those proceedings.²⁵

19. The obligation to comply with the rules of natural justice does not depend on “whether or not there is a *lis inter partes*, in a traditional court sense [in relation to a hearing] for the grant of a certificate, so long as the Board is required to apply statutory standards to any application”.²⁶

20. The admissibility of expert opinion evidence is an exception to the general rule that opinion evidence is inadmissible.²⁷ The Supreme Court of Canada has established a two-step test for the admissibility of expert opinion:

At the first step, the proponent of the evidence must establish the threshold requirements of admissibility. These are the four *Mohan* factors (relevance, necessity, absence of an exclusionary rule and a properly qualified expert) and in addition, in the case of an opinion based on novel or contested science or science used for a novel purpose, the reliability of the underlying science for that purpose...

At the second discretionary gatekeeping step, the judge balances the potential risks and benefits of admitting the evidence in order to decide whether the potential benefits justify the risks...²⁸

21. Notably, the Supreme Court of Canada characterizes the *Mohan* factors as “threshold” requirements. Failure to meet the *Mohan* factors is fatal to the admissibility of the proposed expert opinion. In *Mohan*, the Supreme Court of Canada held that, to satisfy the requirement of having a properly qualified expert, the “evidence must be given by a witness who is shown to have acquired special or peculiar knowledge through study or experience in respect of the matters on which he or she undertakes to testify”.²⁹

22. We submit that Mr. Stoness is not a properly qualified expert and therefore Trans Mountain fails to meet the threshold requirement for admissibility of expert evidence in respect of the impugned evidence given in the documents listed in paragraph 13 above. Trans Mountain has provided no evidence to support a proposition that Mr. Stoness has the “special or peculiar knowledge through study or experience” in respect of the expert opinion evidence that is given in those documents.

²⁵ *Committee for Justice and Liberty v. Canada (Energy Board)*, [1978] 1 S.C.R. 369 at 385.

²⁶ *Ibid.* at 389.

²⁷ *White Burgess Langille Inman v. Abbott and Haliburton Co.*, [2015] 2 S.C.R. 182, 2015 SCC 23 at paras. 11-12.

²⁸ *Ibid.* at paras. 23-24.

²⁹ *R. v. Mohan*, [1994] 2 SCR 9 at 25.

23. BC Nature and Nature Canada first became aware of the impropriety in Trans Mountain's evidence on January 17, 2019 when Trans Mountain filed its affidavits adopting evidence, three business days before the deadline for intervenors to file written argument. Until that point, BC Nature and Nature Canada had no reason to believe that Trans Mountain would be tendering expert opinion through someone other than a properly qualified expert. Trans Mountain's affidavits could have revealed that the evidence adduced by Trans Mountain in this Reconsideration was being tendered by expert witnesses who could depose as to their qualifications. Instead, Mr. Stoness' affidavit reveals that Trans Mountain is tendering expert opinion evidence through a lay witness. Given that there are only three business days between Trans Mountain filing its affidavit and the deadline for intervenors to file written argument, BC Nature and Nature Canada are raising this evidentiary issue at the earliest opportunity here.

C. Relief Sought

24. Based on the foregoing, BC Nature and Nature Canada submit that this Panel must strike from the evidentiary record the documents listed in paragraph 13 above, or portions thereof containing expert opinion evidence.
25. In the alternative, BC Nature and Nature Canada submit that this Panel must assign no weight to the expert opinion evidence given by Mr. Stoness in the documents listed in paragraph 13 above. Particularly in situations where Mr. Stoness purports to rebut expert evidence that is properly adduced by BC Nature and Nature Canada, or any other intervenor whose expert evidence raises questions about the adequacy of the Project assessment, the Panel must favour the expert evidence of the intervenor.
26. We now turn to our substantive arguments.

PART III. PANEL'S LEGAL DUTIES IN THIS RECONSIDERATION

27. In this Part, we provide an overview of the legal framework for this Reconsideration and the legal duties that this Panel must carry out. We first discuss the proper scope of this Reconsideration. Then, we turn successively to the legal duties that we submit the Panel must discharge under the *CEAA, 2012* and the *Species at Risk Act, S.C. 2002, c. 29* ("SARA"). We end with our submissions on the precautionary principle and its role in this Reconsideration. Our submissions in this Part frames the submissions on deficiencies in the evidentiary record and in the Panel's environmental assessment in Part IV.

A. Scope of this Reconsideration

28. It is critical that the Panel carefully consider and understand the implications of the scope of this Reconsideration. In doing so, as a threshold matter, the Panel it must appreciate that responsibility for the scoping of this Reconsideration lay with Governor in Council. It was the Governor in Council's considered opinion that this Reconsideration should be broadly scoped. This is confirmed in the Order in Council that refers back to the NEB all its recommendations, including recommended conditions, set out in its original report "that are relevant to addressing the issues specified by the Federal Court of Appeal in paragraph 770

of *Tsleil-Waututh Nation v. Canada (Attorney General)* (2018 FCA 153), including conditions 91, 131 to 134, 144 and 151.”³⁰

29. The paragraph in *Tsleil-Waututh* that the Order in Council references states:

Specifically, the Board ought to reconsider on a principled basis whether Project-related shipping is incidental to the Project, the application of section 79 of the *Species at Risk Act* to Project-related shipping, the Board’s environmental assessment of the Project in the light of the Project’s definition, the Board’s recommendation under subsection 29(1) of the *Canadian Environmental Assessment Act, 2012* and any other matter the Governor in Council should consider appropriate.³¹

30. In its letter dated October 12, 2018, this Panel of the NEB held that Project-related marine shipping is incidental to the Project.³² Therefore, the Panel must reconsider its environmental assessment of the Project in light of its finding that the Project includes Project-related marine shipping. The inclusion of marine shipping in the definition of the “Project” does not simply mean that the NEB must consider whether marine shipping is likely to cause significant adverse environmental effects. Consideration of the likelihood of significant adverse environmental effects is but one of several legal duties that the Panel must discharge in the conduct of this environmental assessment reconsideration under the *CEAA, 2012*. As directed by the Order in Council, the Panel must conduct this Reconsideration taking into account “the environmental effects of Project-related marine shipping in view of the requirements of the *Canadian Environmental Assessment Act, 2012*.”³³
31. Before we turn to the requirements of the *CEAA, 2012*, it is important to stress that nothing in the Order in Council, nor in the Federal Court of Appeal’s decision in *Tsleil-Waututh*, limits this Reconsideration to new information that has arisen since the original report. The findings of the original NEB panel do not bind this Panel. This is a separately constituted panel that the Chair of the NEB has assigned to conduct this Reconsideration. It is the legal duty of this Panel, not the original one, to carry out this Reconsideration and discharge its duties under the *CEAA, 2012* and the *SARA*. The Panel cannot allow the findings of the previous panel to fetter its own discretion or to fetter its exercise of legal duties. Rather, this Panel must conduct its own assessment and come to its own findings based on its consideration of the entirety of the relevant and properly adduced evidence before it.
32. In its argument-in-chief, Trans Mountain argues that the scope of this Reconsideration is limited.³⁴ Trans Mountain submits that there is no merit in arguing that the assessment of Project-related marine shipping conducted by the panel in the original hearing was “not functionally or legally the same” as an assessment under the *CEAA, 2012* because “it made no difference under which Act the effects were assessed”.³⁵ Further, Trans Mountain argues

³⁰ Order in Council P.C. 2018-1177.

³¹ *Tsleil-Waututh*, *supra* note 4 at para. 770.

³² NEB Letter to Parties dated 12 October 2018 (Filing ID [A6I4Q5](#)).

³³ Order in Council P.C. 2018-1177.

³⁴ TM Argument-in-Chief, *supra* note 8, PDF 5-6 of 33.

³⁵ *Ibid.*, PDF 6 of 33.

that the Federal Court of Appeal in *Tsleil-Waututh* “did not express any concerns with the [original] hearing process or the Board’s assessment of effects of Project-related marine shipping” and that “[n]othing in [*Tsleil-Waututh*] requires the Board to re-assess effects of Project-related marine shipping that were already assessed [in the original hearing]”.³⁶ Lastly, Trans Mountain notes that the Panel has directed parties to “limit their evidence filings to (i) new or updated evidence, and (ii) aspects of the List of Issues that were not fully canvassed in the [original] hearing”.³⁷

33. BC Nature and Nature Canada submit that Trans Mountain’s arguments regarding the scope of this Reconsideration do not withstand scrutiny. Firstly, the Panel’s direction limiting the *filing of evidence* to new or updated material is an efficient measure as a result of the Panel’s decision to include the entire record of the original hearing as part of the record of this Reconsideration. This direction to limit the filing of evidence does not limit or affect the legal duties that this Panel must carry out as part of this Reconsideration, which as we discussed above are broad in scope.
34. Secondly, Trans Mountain mischaracterizes the findings of the Federal Court of Appeal in *Tsleil-Waututh*. In our submission, the Court did not offer the broad support of the NEB’s original assessment of Project-related marine transportation as Trans Mountain implies. After the Court found that the NEB failed to produce a legally adequate report as a result of its failure to include marine shipping as part of the designated project, the Court turned its attention to whether “the assessment the Board conducted was, nevertheless, substantially adequate such that the Governor in Council could rely upon it for the purpose of assessing the public interest and the environmental effects of the Project”.³⁸ The Court devotes paragraphs 411 to 437 to this task, and summarizes its review in the following paragraphs:

This review of the Board’s report has shown that the Board in its assessment of Project-related marine shipping considered:

- the effects of Project-related marine shipping on Southern resident killer whales;
- the significance of the effects;
- the cumulative effect of Project-related marine shipping on the recovery of the Southern resident killer whale population;
- the resulting significant, adverse effects on the traditional Indigenous use associated with the Southern resident killer whale;
- mitigation measures within its regulatory authority; and,
- reasonable alternatives to Project-related marine shipping.

Given the Board’s approach to the assessment and its findings, the Board’s report was adequate for the purpose of informing the Governor in Council about the effects of Project-related marine shipping on the Southern resident killer whales and their use by Indigenous groups...³⁹

³⁶ *Ibid.*

³⁷ *Ibid.*

³⁸ *Tsleil-Waututh*, *supra* note 4 at para. 410.

³⁹ *Ibid.* at paras. 438-439.

35. As the above quote shows, the Court’s finding regarding the adequacy of the NEB’s assessment of the effects of marine shipping was limited to Southern resident killer whales and their use by Indigenous groups. The Court did not find that the NEB’s original report contained an adequate assessment of marine shipping impacts on other matters such as marine birds, including marine bird species at risk, and alternative means of carrying out the Project.
36. Ultimately, the Court held:

The unjustified exclusion of Project-related marine shipping from the definition of the Project thus resulted in successive deficiencies such that the Board’s report was not the kind of “report” that would arm the Governor in Council with the information and assessments it required to make its public interest determination and its decision about environmental effects and their justification. In the language of *Gitxaala* this resulted in a report so deficient that it could not qualify as a “report” within the meaning of the legislation and it was unreasonable for the Governor in Council to rely upon it. The Board’s finding that the Project was not likely to cause significant adverse environmental effects was central to its report. The unjustified failure to assess the effects of marine shipping under the *Canadian Environmental Assessment Act, 2012* and the resulting flawed conclusion about the effects of the Project was so critical that the Governor in Council could not functionally make the kind of assessment of the Project’s environmental effects and the public interest that the legislation requires.⁴⁰

37. Based on the foregoing, the Court’s findings in *Tsleil-Waututh* and its direction reproduced in para. 29 mean that this Panel is under a broad duty in this Reconsideration to assess the environmental effects of this Project associated with Project-related marine transportation.

B. Legal Duties under the *CEAA, 2012*

1) Assessing Environmental Effects

38. The *CEAA, 2012* sets out the mandatory factors that the Panel must take into account when conducting the environmental assessment under s. 19(1) of the Act. Among other things, the Panel must take into account:
- a. “the environmental effects of the designated project” including “any cumulative environmental effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out”;⁴¹
 - b. “the significance of [those] effects”;⁴²

⁴⁰ *Ibid.* at para. 470 (emphasis added).

⁴¹ *Canadian Environmental Assessment Act, 2012*, S.C. 2012, c. 19, s. 52 (“CEAA, 2012”), s. 19(1)(a).

⁴² *Ibid.*, s. 19(1)(b).

- c. “mitigation measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the designated project”,⁴³ and,
 - d. “alternative means of carrying out the designated project that are technically and economically feasible and the environmental effects of any such alternative means.”⁴⁴
39. In carrying out its statutory mandate under the *CEAA, 2012*, the Panel must also interpret the statute consistently with the Act’s stated purposes, including that designated projects “are considered in a careful and precautionary manner to avoid significant adverse environmental effects.”⁴⁵ Furthermore, the Act requires that the Panel “exercise their powers in a manner that protects the environment and human health and applies the precautionary principle.”⁴⁶
40. The Panel must prepare a report that sets out its recommendations on whether the Project is “likely to cause significant adverse environmental effects” and, if so, whether such effects are “justified in the circumstances”.⁴⁷ The Governor in Council, after taking into account the Panel’s report, is required to make the final determination on those two questions.⁴⁸
41. Within the context of this Project, therefore, the environment assessment is a two-step process. The first step consists of an assessment of all potential project-related adverse environmental effects by the Panel. Based on the assessment completed in step one, the next step involves decision-making by the Governor in Council. One of the key functions of the *CEAA, 2012* is to ensure that the responsible authority (here the Panel) provides the ultimate decision-maker with an evidentiary basis adequate to decide whether the Project should proceed.
42. Consistent with the two-step process of an environmental assessment, the Federal Court in *Cardinal River* set out three duties that a review panel must discharge in order to ensure the ultimate decision-maker has information adequate to decide whether or not to approve or not approve a project: 1) gather all the information required for an assessment, 2) conduct an environmental assessment that considers the list of factors under what is now s. 19(1) of the *CEAA, 2012*, and 3) prepare a report that includes the rationale, conclusions, and recommendations of the panel.⁴⁹ While Federal Court was referring specifically to review panels, we submit that these duties apply equally when the NEB, or its delegate panel, is the responsible authority.
43. These three duties reflect the fact that the role of the responsible authority in an environmental assessment extends beyond simply answering the question of whether a designated project is likely to cause significant adverse environmental effects. As Professor

⁴³ *Ibid.*, s. 19(1)(d).

⁴⁴ *Ibid.*, s. 19(1)(g).

⁴⁵ *Ibid.*, s. 4(1)(b).

⁴⁶ *Ibid.*, s. 2(2).

⁴⁷ *Ibid.*, s. 29(1)(a).

⁴⁸ *Ibid.*, s. 30(1)(a).

⁴⁹ *Alberta Wilderness Assn. v. Cardinal River Coals Ltd.* (1999), [1999] 3 F.C. 425, 1999 CarswellNat 2487 at para. 18. See also *Pembina Institute for Appropriate Development v. Canada (Attorney General)*, 2008 FC 302, and *Grand Riverkeeper, Labrador Inc. v. Canada (Attorney General)*, 2012 FC 1520.

Meinhard Doelle states, environmental assessment “is about more than a consideration of biophysical environment, what is expected is that the EA process will result in integrated decision-making, considering environmental, social and economic consequences of projects”.⁵⁰ As he explains, the responsible authority serves two important functions for those who must ultimately decide the fate of the project:

One is to help with the determination of whether the project is likely to cause significant adverse environmental effects. The other is to more generally help federal decision-makers decide whether to exercise their discretion to make a decision that allows the project to proceed... taking account of the full range of environmental, social and economic factors.⁵¹

44. The importance of a responsible authority discharging its legal duty to provide a proper and adequate EA report to the ultimate decision-maker was highlighted in the Federal Court of Appeal’s decision in *Tsleil-Waututh*.⁵² The Court quashed the Order in Council approving the Trans Mountain Expansion Project because, among other things, the original panel had failed to conduct a proper assessment of project-related marine transportation under the *CEAA, 2012*.⁵³ The Court found that this deficiency arose because, due to a series of errors, the original panel failed to provide the Governor in Council with a legally adequate “report” on which the Governor in Council could make its legal determinations under the *CEAA, 2012*.⁵⁴
45. Therefore, in order for the Panel to conduct a legally adequate environmental assessment and to provide a legally adequate report to the Governor in Council, the Panel must do more than simply provide its findings as to whether this Project is likely to cause significant adverse environmental effects, or whether new information has arisen since the original hearing that would alter the NEB’s conclusions in the original report. This Panel must also discharge its duty to gather the information necessary for the Governor in Council to discharge its decision-making powers in relation to this Project; in particular, whether the significant adverse environmental effects that are likely to occur are “justified in the circumstances” under the *CEAA, 2012*.

2) Framework for Justification

46. As discussed above, this Panel is under a legal duty to make a recommendation on whether significant adverse environmental effects that are likely to occur are nonetheless “justified in the circumstances”.
47. The *CEAA, 2012* requires this Panel to interpret the Act consistently with the concepts of sustainable development and the precautionary principle.⁵⁵ Unlike the *NEB Act*, which

⁵⁰ Doelle, M., *The Federal Environmental Assessment Process: A Guide and Critique* (Markham, Ontario: LexisNexis, 2008) at 137-138.

⁵¹ *Ibid.* at 140.

⁵² *Tsleil-Waututh*, *supra* note 4.

⁵³ *Ibid.* at para. 469.

⁵⁴ *Ibid.* at para. 470.

⁵⁵ *CEAA, 2012*, *supra* note 41, ss. 4(1)(b), 4(1)(h), and 4(2).

provides the NEB with broad discretion to arrive at a set of criteria to determine “public convenience and necessity”, the set of criteria that this Panel must use to assess whether significant adverse environmental effects are “justified in the circumstances” must conform to the express purposes of the *CEAA, 2012*.

48. The purposes of the *CEAA, 2012* are set out in s. 4, of which paragraphs 4(1)(g) & (h) are most relevant to the determination of justification:

(g) to ensure that projects ... are considered in a careful and precautionary manner to avoid significant adverse environmental effects;

(h) to encourage federal authorities to take actions that promote sustainable development in order to achieve or maintain a healthy environment and a healthy economy.⁵⁶

49. In the context of these express purposes, the exercise of the discretion to justify significant adverse environmental effects “is expected to be made in light of whether the project is expected to make a net positive contribution to sustainable development”.⁵⁷ Prof. Doelle elaborates this concept further:

If the project does make a net positive contribution to sustainable development, then presumably that contribution may under some circumstances be enough to justify even significant adverse effects. Such circumstances would include an overall conclusion that the project meets an important need and that there are no alternative ways of meeting the need without the significant adverse effect. A precondition for “justified in the circumstances” would reasonably be that opportunities for an integrated solution involving net gains from environmental, social and economic perspectives are explored first. If no such opportunities are identified, “justified in the circumstances” would then be used as the basis for a balanced approach to determine whether a particular significant adverse effect can be justified in light of the overall net contribution of the project to sustainable development.⁵⁸

50. Using a sustainability development framework to assess whether adverse effects are justified is not a new approach in federal environmental assessments. The Whites Point Quarry and Marine Terminal Project Joint Review Panel adopted such an approach in its report:

When evaluating whether projects should proceed in environments that provide habitat to species at risk, environmental assessments must pay special attention to the precautionary principle. The Bay of Fundy hosts several endangered species such as the North Atlantic right whale, the inner Bay of Fundy salmon and the harlequin duck. Rare plant species were identified on the site. While the risk of incidents that could cause death to members of these species may be low, experts were less certain about the potential for adverse behavioural or habitat effects that could be caused by project activities. For instance, incremental additions to shipping traffic in the Bay of Fundy

⁵⁶ *Ibid.*, s. 4(1)(g) & (h).

⁵⁷ Doelle, *supra* note 50 at 139.

⁵⁸ *Ibid.* at 141.

from a range of projects incrementally increase the risk of ship strikes with whales or the release of invasive organisms that could affect the lobster fishery, but at what point does the increase in vessel traffic become “significant”? The Panel concluded that in answering such questions it must consider whether the overall benefits from the Project may be worth the risks that the Project generates. Does the Project make a net contribution to sustainability?⁵⁹

51. The Joint Review Panel in that application recommended rejection of the project:

The Panel believes that the Project would not make a net contribution to sustainability and that it is likely to cause a significant adverse environmental effect that, in the opinion of the Panel, cannot be justified in the circumstances.⁶⁰

52. Similarly, the Kemess North Copper-Gold Mine Project Joint Review Panel adopted a sustainability framework:

The Panel concluded that it needed to take a broad perspective in considering these implications, and the relevant government agency views and public values. The Panel decided to adopt a sustainability framework for its overall assessment of whether or not the Project is in the public interest.⁶¹

53. The Joint Review Panel there developed five criteria for assessing sustainability: 1) environmental stewardship, 2) economic benefits and costs, 3) social and cultural benefits and costs, 4) fair distribution of benefits and costs, and 5) present versus future generations.⁶² Based on these criteria, the Panel recommended that the project be rejected:

Based on an analysis of the pros and cons of Project development, evaluated individually for each of these five sustainability perspectives, and then in combination, the Panel has concluded that overall, from a public interest perspective, the benefits of Project development do not outweigh the costs. The Panel recommends to the federal and provincial Ministers of the Environment that the Project not be approved, as proposed.⁶³

54. Based on the foregoing, BC Nature and Nature Canada submit that the Panel should adopt a sustainability framework in making its recommendation to the Governor in Council on whether any significant adverse environmental effects that are likely to occur in connection with this Project are justified in the circumstances. Such a framework brings to the forefront considerations of sustainable development and the precautionary principle, which have eminent status as the guiding tenets of the *CEAA, 2012*.

55. For an appropriate sustainability framework that the Panel can adopt in this Reconsideration, BC Nature and Nature Canada commend to the Panel the work done by the Lower Churchill

⁵⁹ *Joint Review Panel Report on the Proposed Whites Point Quarry and Marine Terminal Project* (2007) at 102-103.

⁶⁰ *Ibid.* at 101.

⁶¹ *Joint Review Panel Report on the Kemess North Copper-Gold Mine Project* (2007) at xxiii.

⁶² *Ibid.* at xxiii-xxiv.

⁶³ *Ibid.* at xxiv.

Hydroelectric Generation Project Joint Review Panel, which developed one of the most comprehensive sustainability frameworks for determining whether adverse effects are justified.

56. The Joint Review Panel, of which Prof. Doelle was one of its members, described this framework in Appendix 8 of the Joint Review Panel's report. The appendix, entitled *Framework for Determining Whether Significant Adverse Environmental Effects Are Justified and Whether the Project Should Be Approved*, sets out the two components of this sustainability framework:

The first component is a set of sustainability criteria designed to assist in identifying the range of effects on sustainability the Project is predicted to have, and to work toward minimizing adverse effects and maximizing benefits.

The second component is a set of principles that set out the proposed approach to residual effects. These principles are designed to assist in assessing the range of positive and negative social, economic and environmental effects of the Project and to determine whether, in light of the identified range of effects, risks and uncertainties, the Project is expected to make a net positive contribution to sustainability.⁶⁴

57. The Panel listed six sustainability criteria: 1) ecological effects, benefit, risks and uncertainties; 2) economic effects, benefit, risks and uncertainties; 3) social and cultural effects, benefit, risks and uncertainties; 4) fair distribution of effects, risks and uncertainties; 5) present versus future generations; and 6) integration.⁶⁵
58. The Panel also listed three principles "to guide the consideration of the range of positive and negative effects identified through the application of the six criteria above".⁶⁶ These principles are: 1) maximum net gains: the Project should make a net positive contribution to sustainability; 2) avoidance of significant adverse effects: significant adverse effects can only be justified if the alternative is the acceptance of a more significant adverse effect; and 3) fairness: no current or future generation, and no geographic region, should bear an unreasonable share of the risks or be denied a reasonable share of the benefits, and the Project should make a net positive contribution to sustainability in each of the three main areas of environment, economy, and social conditions.⁶⁷
59. BC Nature and Nature Canada commends to the Panel this sustainability framework as a model for exercising its statutory duty under the *CEAA, 2012* to make a recommendation on whether significant adverse environmental effects that are likely to occur are justified in the circumstances.

⁶⁴ *Joint Review Panel Report on the Lower Churchill Hydroelectric Generation Project* (2011) at 352.

⁶⁵ *Ibid.* at 352-354.

⁶⁶ *Ibid.* at 354.

⁶⁷ *Ibid.* at 354-355.

C. Section 79 of the SARA

60. Section 79 of the *Species at Risk Act* places a positive duty upon this Panel to 1) notify the competent ministers if the Project is likely to affect a listed wildlife species or its critical habitat, 2) identify the adverse effects of the Project on the listed wildlife species and its critical habitat and, 3) if the Project is carried out, ensure that measures are taken to avoid or lessen those effects and to monitor them.⁶⁸

D. Precautionary Principle

61. As mentioned above, the *CEAA, 2012* incorporates the precautionary principle in the purpose section of the Act. Likewise, the precautionary principle is enshrined in the preamble to the *Species at Risk Act*. This Panel is under a legal duty to carry out its Reconsideration in a manner consistent with the precautionary principle.
62. The Supreme Court of Canada has adopted the definition from the *Bergen Ministerial Declaration on Sustainable Development* (1990):

In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.⁶⁹

63. The precautionary principle is recognized and affirmed in a number of Canadian statutes in addition to the *CEAA, 2012* and the *SARA*. These include the *Oceans Act*⁷⁰, the *Canadian Environmental Protection Act*⁷¹, the *Pest Control Products Act*⁷², and the proposed amendments to the *Fisheries Act*.⁷³ Indeed, there is a growing body of jurisprudence – including numerous Federal Court and the Supreme Court of Canada decisions – that applies the precautionary principle in the interpretation of statutory provisions, particularly where the precautionary principle has been explicitly referred to in the statute itself, as here in the *CEAA, 2012*.⁷⁴
64. Notable among these is a recent decision of the Federal Court in *Taseko Mines*.⁷⁵ In this case, the Court upheld a decision of the *CEAA, 2012* review panel to apply the precautionary principle in reaching the conclusion that the project under review was likely to cause

⁶⁸ *Species at Risk Act*, S.C. 2002, c. 29 (“SARA”), s. 79.

⁶⁹ *114957 Canada Ltée (Spray-Tech, Société d’arrosage) v. Hudson (Ville)*, 2001 SCC 40 at para. 31 (emphasis added).

⁷⁰ *Oceans Act*, S.C. 1996, c. 31, preamble.

⁷¹ *Canadian Environmental Protection Act*, S.C. 1999, c. 33, preamble and ss. 2(1)(a) & 76.1.

⁷² *Pest Control Products Act*, S.C. 2002, c. 28, ss. 20(1) & (2).

⁷³ Bill C-68, *An Act to amend the Fisheries Act and other Acts in consequence*, 1st Sess., 42nd Parl., 2015, cl. 2, s. 2.5 (as passed by the Senate in Second Reading 11 December 2018).

⁷⁴ See e.g., *Spray-Tech*, *supra* note 69; *Castonguay Blasting Ltd. v Ontario (Environment)*, 2013 SCC 52; *Taseko Mines v. Canada*, 2017 FC 1099; *Morton v. Minister of Fisheries and Oceans*, 2015 FC 575; *Environmental Defence Canada v. Canada (Fisheries and Oceans)*, 2009 FC 878; *Wier v. British Columbia (Environmental Appeal Board)*, 2003 BCSC 1441.

⁷⁵ *Taseko Mines*, *ibid.* at para. 120.

significant adverse environmental effects. Moreover, the Court rejected the proponent's argument that the review panel should have eschewed the precautionary principle in favour of one based on adaptive management. According to the Court, when faced with the choice between assessing project-related risks using a precautionary as opposed to an adaptive management approach, the Panel correctly erred on the side of precaution. In the Court's words:

Indeed, acceptance of vague adaptive management schemes in circumstances such as these would, in my view, tend to call into question the value of the entire review panel process – if all such decisions could be left to a later stage, then the review panel process would simply be for the sake of appearances.⁷⁶

65. Indeed, the Federal Court's admonition against "vague" measures to address potential adverse impacts is echoed by the Federal Court of Appeal in *Tsleil-Waututh*. In the context of the failure of the original panel to properly address potential significant adverse environmental effects on Southern Resident Killer Whales from marine shipping, Dawson J.A. writing for the Court held:

I have considered the reference in the Explanatory Note to the Order in Council to the government's commitment to the proposed Action Plan for the Southern resident killer whale and the then recently announced Oceans Protection Plan. These inchoate initiatives, while laudable and to be encouraged, are by themselves insufficient to overcome the material deficiencies in the Board's report because the "report" did not permit the Governor in Council to make an informed decision about the public interest and whether the Project is likely to cause significant adverse environmental effects as the legislation requires.⁷⁷

66. In the present Reconsideration, the Panel must be equally cautious in accepting "vague" or "inchoate" mitigation measures that Trans Mountain proposes as a way to mitigate Project-related impacts.
67. Based on the foregoing, we submit that the Panel must apply the precautionary principle where two criteria are met: 1) where there is a risk of serious or irreversible damage; and 2) where there is scientific uncertainty either as to the nature of the potential environmental harm or to the efficacy of possible mitigation measures. Where these criteria are met, the Panel should err on the side of caution. The appropriate response would depend on the particular situation, which can range from requiring additional information, requiring additional mitigation measures even if their efficacy is disputed, or to favouring a conservative recommendation that significant adverse environmental effects are likely to occur and cannot be justified in the circumstances.

PART IV. DEFICIENCIES IN THE ASSESSMENT

68. BC Nature and Nature Canada submit that, based on the submissions that follow in this Part, there is insufficient information in the evidentiary record to allow this Panel to carry out its

⁷⁶ *Ibid.* at para. 124.

⁷⁷ *Tsleil-Waututh*, *supra* note 4 at para. 471 (emphasis added).

duties under the *CEAA, 2012* and the *SARA*. In particular, we submit that there is insufficient evidence in the record for the Panel to conduct a proper consideration of the Project's impacts on marine and terrestrial birds associated with Project-related marine shipping and for the Panel to conduct a proper consideration of alternative means of carrying out the Project in respect of marine shipping.

69. The Panel has an obligation to provide the Governor in Council with the best available science and most up-to-date information on Project-related marine shipping. Trans Mountain's original application was filed in December 2013 and the original hearing process took place in 2014 to 2016, with the original panel's report being published in May 2016. It has been over two years since the original report, and approximately three years since the IR process in the original hearing. As discussed in more detail in this Part, new scientific information has surfaced since the original hearing process. This Panel should not so readily accept and rely upon the assessment conducted in the original hearing and the conclusions drawn in the original report. For all the matters that fall within the scope of this Reconsideration, this Panel has a duty to consider afresh each of the findings that the original panel had made to ensure that the Governor in Council receives a legally adequate report containing the Panel's best assessment of the Project's impacts based on the most current information.
70. Moreover, in reviewing the evidentiary record, the Panel should be mindful of the roles that the Panel, Trans Mountain, and intervenors play in this process. In many of its responses to IRs, in particular in relation to oil spills, Trans Mountain declines to provide additional information to the Panel because the intervenor failed to "include any new or updated information that casts doubt on the methodology used to assess effects of crude oil spills in the OH-001-2014 proceeding, or that would lead Trans Mountain to alter its conclusions regarding the environmental effects..."⁷⁸ Likewise, Trans Mountain in its argument-in-chief asks this Panel to give "little to no weight" to intervenors' submissions that do not contain new or updated evidence relative to what was filed in the original hearing.⁷⁹ We submit that the Panel should not take such a misguided view of the roles played by the Panel, Trans Mountain, and intervenors in this Reconsideration.
71. Trans Mountain, as the applicant, carries the ultimate persuasive burden to show the Panel that the information and contained in its application (including responses to IRs) are accurate and scientifically defensible. Ultimately, it is the role of the Panel to consider all the information and conduct the assessment. Intervenors assist the Panel in the discharge of its legal duties, but should not be subject to the same burden of proof as the applicant. Where intervenors such as BC Nature and Nature Canada provide sufficient evidence to put an aspect of Trans Mountain's application into question, Trans Mountain must be the one to defend the information it provides and the conclusions that it makes; the burden does not rest upon intervenors to disprove Trans Mountain's application.

⁷⁸ See e.g., TM Response to BCN/NC IR1.1b, *supra* note 17, PDF 3 of 31.

⁷⁹ TM Argument-in-Chief, *supra* note 8, PDF 6 of 33.

72. In this Part, we rely on the direct evidence provided by our experts Anne Harfenist, M.Sc. and Martin R. Tallett, who provided expert reports.⁸⁰ Trans Mountain did not test any of the evidence provided by either of these experts through IRs. While Trans Mountain did file reply evidence, we submit that the reply evidence contains improper and inadmissible expert opinion evidence: see Part II above. Even if this Panel finds that Trans Mountain's reply evidence is admissible, we submit that, in many instances, Trans Mountain's reply evidence does not engage with the new evidence put forward by BC Nature and Nature Canada, but rather simply argues that the matter was fully canvassed in the original hearing, or that we failed to provide any new information that would cast doubt on Trans Mountain's methodology or conclusions.
73. As discussed above, the onus is on Trans Mountain to support its application, not on intervenors to disprove it. To the extent that Trans Mountain fails to meaningfully contest the evidence put forward by Anne Harfenist and Martin R. Tallett, we submit that their evidence are uncontroverted in this Reconsideration.
74. Where Trans Mountain seeks, either in its responses to IRs or in its argument-in-chief, to challenge the evidence provided by these experts through bare assertions or counsel submissions alone, we submit that this Panel should give those assertions and submissions no weight.
75. It is fundamental in any hearing process, especially one that has been procedurally attenuated in the manner that this one has, for the Panel to give full credence to all evidence properly adduced in the hearing, especially expert evidence, that has not been challenged or countered by other properly adduced expert evidence. To do otherwise, to discount or fail to give full weight to uncontradicted expert evidence duly entered into the record would be a serious legal error that would go to the procedural fairness of the hearing. If Trans Mountain or the Crown had wished to dispute the evidence we have tendered, they were entitled to do so by tendering evidence of their own or made IRs testing our evidence. They chose not to do so and must live with the consequences of that decision.
76. In light of the critical deficiencies in the assessment discussed below, we submit that the Panel should request additional time from the Governor in Council to conduct a proper assessment. In the alternative, we submit that the Panel should make its recommendations in a precautionary manner consistent with the purposes of the *CEAA, 2012* and the *SARA*, the precise nature of which we will discuss at the end of each section and again summarized later in Part V.

A. Deficiencies in assessing “malfunctions or accidents”

77. In the original hearing, BC Nature and Nature Canada argued that various deficiencies in the information provided by Trans Mountain deprived the NEB of the ability to fully assess potential environmental effects of malfunctions or accidents that may occur in connection with the Project. Since the original hearing, new information and additional scientific studies have arisen that further show the significant threat marine oil spills pose to wildlife species.

⁸⁰ Harfenist Report, *supra* note 14; EnSys Report, *supra* note 15.

We submit that Trans Mountain has failed to incorporate the new information into its assessments, without which the Panel cannot properly conduct an assessment of impacts from malfunctions and accidents.

78. Trans Mountain concedes in this Reconsideration that “if a large-scale oil spill were to occur as a result of Project-related marine shipping, such a spill would have the potential to result in significant adverse effects to marine birds.”⁸¹ However, Trans Mountain concludes that the “likelihood of a large crude oil spill is low throughout the regional study area.”⁸²
79. We submit that it is not enough for the Panel to conclude that the Project is not likely to cause significant adverse environmental effects due to oil spills from marine transportation simply because the likelihood of an oil spill is low. The Panel is under a statutory duty to conduct an adequate assessment of the effects of an oil spill and provide the Governor in Council with adequate information to make a final determination in respect of the Project.
80. Under s. 19(1)(a) of the *CEAA, 2012*, the Panel must assess “environmental effects of malfunctions or accidents that may occur in connection with the designated project”. The *CEAA, 2012* does not provide a definition for “malfunctions or accidents”. In its Application, Trans Mountain defines malfunctions or accidents as “unplanned events that could result in significant adverse effects to human health, property or the environment, but are unlikely to occur”.⁸³ With respect to the likelihood of malfunctions or accidents, while we submit that they *can* be unlikely, they certainly do not *have* to be. The Panel should scrutinize the evidence carefully to determine whether a particular malfunction or accident is indeed unlikely to occur (a poorly designed project may lead to a high probability of a malfunction or accident occurring). Nevertheless, the fact that Parliament has chosen to use the words “malfunctions or accidents that *may* occur” signifies an intention to require responsible authorities to conduct fulsome analyses of the environmental effects of malfunctions or accidents even when they are not likely.
81. The need to conduct fulsome investigation into the effects of malfunctions or accidents that may occur has to do with the fact that a responsible authority is under a duty to provide sufficient information and analysis for the ultimate decision-maker to decide whether to approve a project. Even if the Panel were to conclude (and the Governor in Council were to agree) that the Project is unlikely to cause significant adverse environmental effects, the Governor in Council still retains discretion to grant or deny approval for the project. The ability of the Governor in Council to meaningfully exercise this discretion depends on the accuracy and completeness of the analysis and information provided to the Governor in Council by the Panel in its Reconsideration report.
82. Accordingly, we submit that the Panel is under a duty to gather, analyze, and present evidence in relation to the environmental effects of malfunctions or accidents in such a way

⁸¹ TM Response to BCN/NC IR1.12a, *supra* note 17, PDF 27 of 31.

⁸² Trans Mountain – Response to BCN/NC Motion to Compel Full and Adequate Response to IR (“Filing ID [A6Q7W1](#)) (“TM Resp. to BNC/NC Motion to Compel IR...”), IR1.12d, PDF 21 of 21.

⁸³ Trans Mountain Application, Vol. 5A, Section 7.9 (OH-001-2014 Hearing) (Filing ID [A3S1R0](#)), PDF 112 of 260.

that the Governor in Council can decide whether to exercise its discretion to allow the Project to proceed, taking into account the full range of environmental, social, and economic factors.

83. The *CEAA, 2012* also requires the Panel to consider mitigation measures. Where the Panel relies upon mitigation measures to reduce adverse environmental effects of accidents below a significant level, the Panel is under a duty to gather and provide the Governor in Council with information about the actual expected effects from such malfunctions and accidents, and the degree to which they will be mitigated. The Panel cannot skip over the assessment of the actual predicted effects from malfunctions or accidents and proceed directly to consider mitigation and likelihood of the effects.⁸⁴
84. In the sections that follow, we discuss various deficiencies in the evidence that deprive the Panel of the ability to fully assess potential environmental effects of malfunctions or accidents that may occur in connection with Project-related marine transportation.

1) Deficiencies arising from the “habitat-focused approach”

85. In the original hearing, BC Nature and Nature Canada criticized the “habitat-focused approach” taken by Trans Mountain in predicting potential ecological consequences to marine birds from oil spills.⁸⁵ For the reasons we submitted in that hearing, we maintain that this approach is not adequate for assessing potential impacts on marine birds. New information, which has arisen since the original hearing, confirms the deficiencies in this approach, and Trans Mountain has failed to provide sufficient information to rectify these deficiencies:
- a. The habitat-focused approach simply assumes that marine birds can be present anywhere within the regional study area without adequate consideration of population abundance and distribution, aggregation behaviours, habitat use, and shoreline type.⁸⁶ The habitat-focused approach directly correlates the probability that a location may be exposed to an oil spill with the magnitude of ecological consequences to marine birds. This assumption does not take into account other factors that may contribute to the magnitude of ecological effects such as population abundance and density, location of spill, breeding cycles, lingering or submerged oil that may persist to subsequent seasons or years, and increased predation risk for birds exposed to oiling.⁸⁷

As discussed in the evidence of Anne Harfenist, new evidence has arisen regarding population abundance and distribution of various marine birds. Scientific studies published since the original hearing show that marine bird species found in the Salish Sea and surrounding areas continue to suffer population declines, including bird species listed under the Schedule to the *SARA* such as Marbled Murrelet.⁸⁸

⁸⁴ *Greenpeace Canada v. Canada (Attorney General)*, 2014 FC 463 at para. 271, rev'd 2015 FCA 186 (not on this point), leave to appeal to S.C.C. refused, 2016 CanLII 23172.

⁸⁵ BC Nature and Nature Canada – Written Argument-in-Chief (OH-001-2014 Hearing) (Filing ID [A4X5A0](#)) (“BCN/NC Original Argument”) at paras. 41-46, PDF 11-13 of 33.

⁸⁶ BC Nature and Nature Canada – Written Evidence (OH-001-2014 Hearing) (Filing ID [A4L8K8](#)) (“BCN/NC Original Evidence”), PDF 12 & 48-51 of 86.

⁸⁷ *Ibid.*, PDF 12-13 & 53-54 of 86.

⁸⁸ Harfenist Report, *supra* note 14 at paras. 9-11 & 21-26, PDF 3 & 7-8 of 26.

Furthermore, Anne Harfenist notes recent studies showing the tendency of certain bird populations to aggregate in hot spot areas, making them particularly vulnerable to the effects of a potential oil spill.⁸⁹

Since the habitat-focused approach does not depend on population abundance and distribution, this approach fails to account for the potentially catastrophic impact on a marine bird population (particularly one that is a species at risk) if an oil spill were to affect one of these hot spots. The new evidence on the distribution and abundance of marine birds, and their tendency to aggregate in certain areas, in waters in and adjacent to the Marine RSA confirms the likelihood that the habitat-focused approach used by the proponent underestimates the impacts of an oil spill on marine bird species at risk.⁹⁰

- b. Trans Mountain fails to assess the impact of an oil spill on marine birds that use both shoreline habitat and surface water habitat because the habitat-focused approach erroneously assumes birds use shoreline habitat or surface water habitat exclusively.⁹¹
 - c. The Biological Sensitivity Factors that Trans Mountain assigned to various bird groups as part of the habitat-focused approach are unsubstantiated, and the descriptions that Trans Mountain attaches to these groups as they are ranked do not reflect their abundance, distribution, and sensitivity to oiling in the Fraser River Estuary.⁹² As discussed in the evidence of Anne Harfenist, the results of new research and studies showing continued declines in populations of species at risk suggest that the significance of impacts of oil contamination on those species should be re-assessed with species status and population trends taken into consideration.⁹³ Trans Mountain fails to address information on the continued declines of these species in its assessment of impacts from oil spills on these species.
86. Based on the foregoing, Trans Mountain's habitat-focused approach fails to take into account increased vulnerability to the effects of an oil spill due to species' population trend, population abundance, and aggregating behaviour. Given new evidence showing that vulnerability of marine bird species to oil spills may depend on these factors, the Panel must require Trans Mountain to provide information on the potential impacts of oil spills on various marine bird species that properly takes into account trends in population abundance and distribution and their aggregating behaviour. So far, Trans Mountain has refused to provide this information, thereby depriving the Panel the ability to properly discharge its duty to consider malfunctions or accidents under s. 19(1)(a) of the *CEAA, 2012*.

⁸⁹ *Ibid.* at paras. 28-33, PDF 8-9 of 26.

⁹⁰ *Ibid.*

⁹¹ BCN/NC Original Evidence, *supra* note 86, PDF 13-14 of 86.

⁹² BCN/NC Original Evidence, *supra* note 86, PDF 15-16 of 86.

⁹³ Harfenist Report, *supra* note 14 at paras. 21-27, PDF 7-8 of 26.

2) Deficiencies relating to ecological consequences of an oil spill

87. Apart from the deficiencies in the habitat-focus approach, Trans Mountain has failed to provide the Panel with sufficient information to properly assess the environmental effects of an oil spill that may occur:
- a. Trans Mountain fails to adequately assess the potential ecological consequences to wildlife and wildlife habitats exposed to submerged and sunken oil. Since the original hearing, there have been new scientific studies on the fate and behaviour of petroleum products in the marine environment. ECCC summarizes some of this new research in its direct evidence.⁹⁴ ECCC notes “that a gap exists in the scientific community’s understanding of the potential impact of submerged oil on marine birds in the context of this hearing record”.⁹⁵ In addition, ECCC notes “that scientific studies regarding impacts to marine birds specifically from subsurface oil are not numerous, the issue is subject to considerable scientific uncertainty, and often impacts from subsurface and floating oil are not differentiated”.⁹⁶ Trans Mountain has not provided sufficient information to this Panel that analyzes the ecological consequences of an oil spill in light of the scientific uncertainty that exists regarding the fate and behavior of submerged oil.
 - b. In the original hearing, BC Nature and Nature Canada argued that, even for the credible worse-case spill scenarios that Trans Mountain did model, Trans Mountain failed to provide an adequate assessment of potential ecological effects because the predicted area of surface oiling under those scenarios would extend beyond the boundaries of the RSA in its ecological risk assessment.⁹⁷ New evidence confirms the deficiency in Trans Mountain’s credible worse-case spill scenario modelling. As discussed in Anne Harfenist’s direct evidence, the results from the Salish Sea Spill Map project suggest that the potential impact zone following an oil spill in the Salish Sea may extend into marine areas not considered by Trans Mountain.⁹⁸ Trans Mountain fails to take into account this new evidence in the information that it has provided to this Panel.
 - c. In the original hearing, we argued that deficiencies in Trans Mountain’s assessment of marine oil spills put into question Trans Mountain’s predicted timeframes for the recovery of marine bird populations after a large oil spill.⁹⁹ Some of these deficiencies arise from the over-reliance by Trans Mountain on recovery times from a single case: the Exxon Valdez Oil Spill (“EVOS”) and the significant and unreconciled disagreements remain among scientists about the impact of EVOS and recovery by marine bird population. Since the original hearing, results of new studies continue to

⁹⁴ Department of Justice Canada – Opening Statement and Evidence of ECCC (Filing ID [A6J6L9](#)) (“ECCC Opening Statement and Evidence”), PDF pages 139-153 of 242, and annexes cited therein.

⁹⁵ Environment and Climate Change Canada – Response to BCN/NC IR (Filing ID [A6Q5V4](#)) (“ECCC Response to BCN/NC IR...”), IR1.2a, PDF 10 of 36.

⁹⁶ Environment and Climate Change Canada – Response to BCN/NC Motion to Compel Response to IR (Filing ID [A6Q7T7](#)) (“ECCC Resp. to BCN/NC Motion to Compel IR...”), IR1.2b, PDF 14-16 of 40.

⁹⁷ BCN/NC Original Argument, *supra* note 85 at para. 47(d), PDF 15 of 33.

⁹⁸ Harfenist Report, *supra* note 14 at para. 44, PDF 13 of 26.

⁹⁹ BCN/NC Original Argument, *supra* note 85 at paras. 56-58, PDF 17-19 of 33.

cast doubt on the recovery times that Trans Mountain attributes to marine birds after an oil spill. As ECCC notes:

It is ECCC's opinion that the Proponent's characterization of the EVOS recovery and application of the recovery times to potential spill impacts from this Project do not reflect the full breadth of conclusions in the literature regarding recovery times for marine birds. Some studies suggest longer impacts to certain species than what the Proponent is suggesting. For example, Iverson and Esler (2010) developed a model for recovery of Harlequin Ducks from the Exxon Valdez Oil Spill using survey and demographic data. The model estimates a timeline to recovery for Harlequin Ducks of 24 years under the most likely combination of variables, with a range of 16 to 32 years for the best and worst-case scenarios. Thus, it is important to recognize that there is a broad spectrum of results from Exxon Valdez Oil Spill studies on marine birds; some provide evidence of longer-term impacts (including suggestions that impacts to some species are still ongoing) and some suggest that impacts only persisted in the short to mid-term.¹⁰⁰

Trans Mountain fails to provide the Panel with adequate information regarding recovery times after an oil spill that properly considers new scientific evidence since the original hearing.

- d. In the original hearing, Trans Mountain largely relied upon studies after the EVOS for its assessment of ecological impacts of an oil spill. Since the original hearing, there have been new scientific studies about oil spill impacts from the Deepwater Horizon oil spill, which occurred in 2010 in the Gulf of Mexico. As discussed in Anne Harfenist's direct evidence, these studies provide additional information regarding sublethal adverse effects from oil contamination on marine birds.¹⁰¹ In a response to IR, Trans Mountain dismisses the relevance of these studies to a potential oil spill in the Salish Sea. Trans Mountain argues that "warm air and water temperatures of the Gulf of Mexico" coupled with the "very large size and long duration of the Deepwater Horizon oil spill" make the results from studies of the Deepwater Horizon oil spill inapplicable to a credible oil spill in the Salish Sea.¹⁰² However, Trans Mountain fails to provide scientific evidence to justify these assertions. We submit that the Panel should give these bare assertions no weight. Trans Mountain fails to provide information on the ecological consequences of potential oil spills on marine birds that properly considers new scientific evidence relating to the Deepwater Horizon oil spill.
- e. As discussed in Anne Harfenist's direct evidence, studies of the Deepwater Horizon oil spill show potentially high levels of disturbance on marine birds from oil spill clean-up activities.¹⁰³ Trans Mountain fails to address potential adverse impacts on marine birds due to clean-up activities following a possible oil spill.

¹⁰⁰ ECCC Response to BCN/NC IR1.1d, *supra* note 95, PDF 5-6 of 36.

¹⁰¹ Harfenist Report, *supra* note 14 at paras. 35-40, PDF 10-12 of 26.

¹⁰² TM Response to BCN/NC IR1.7a, *supra* note 17, PDF 17-18 of 31.

¹⁰³ Harfenist Report, *supra* note 14 at para. 40, PDF 12 of 26.

- f. Studies of the Deepwater Horizon oil spill also show that marine oil spills can have potential adverse impacts on terrestrial birds.¹⁰⁴ Barn Swallow and Bank Swallow, both terrestrial bird species, are both found on lands adjacent to the Marine RSA and were recently listed as threatened under the Schedule to the *SARA*.¹⁰⁵ The Common Nighthawk, a species of special concern, is also found on adjacent habitat.¹⁰⁶ The diet of these species parallels that of the Seaside Sparrow, a terrestrial bird species that was found to be adversely affected by the Deepwater Horizon oil spill.¹⁰⁷ Trans Mountain fails to provide information on potential impacts on terrestrial birds from marine oil spills that properly addresses new scientific studies of the Deepwater Horizon oil spill.
- g. In the original hearing, BC Nature and Nature Canada noted Trans Mountain’s failure to properly assess the Project’s impacts on Red-necked Phalarope.¹⁰⁸ While not yet listed under the Schedule to the *SARA*, Red-necked Phalarope is a COSEWIC-listed species of special concern and a Blue-listed species in British Columbia. In a response to IR, Trans Mountain argues that Red-necked Phalarope behave “rather like an auk” during the winter when the birds are likely to be in the Marine RSA, and therefore Red-necked Phalarope “would be represented by the guilds of auks and divers”.¹⁰⁹ However, Trans Mountain fails to address the new scientific evidence discussed by Anne Harfenist in her direct evidence, which suggests that auks and phalaropes have different feeding habits.¹¹⁰ Auks forage by diving and phalaropes feed on the surface and “tend to forage in the same areas as oil accumulates: along fronts, in tidal rips and eddies”.¹¹¹
- h. Trans Mountain fails to provide an assessment of prey-mediated impacts on bird populations from an oil spill: the indirect impact on marine birds from an oil spill through impacts on the food sources of the bird species. As discussed in Anne Harfenist’s direct evidence, there are new scientific studies showing the importance of biofilm, a food source, to shorebird species.¹¹² ECCC also provides new studies regarding the abundance and quality of biofilm.¹¹³ While Trans Mountain provides some information regarding potential impacts of oil spills on biofilm, which while relevant to prey-mediated impacts is not in itself an assessment of prey-mediated impacts.

Moreover, Trans Mountain relies upon research findings from the Vancouver Airport Fuel Delivery Project. As Trans Mountain notes: “In its review of the Vancouver Airport Fuel Delivery Project, Environment Canada similarly concluded that the potential effects of a Jet A fuel oil spill on biofilm were unlikely to be high-magnitude

¹⁰⁴ *Ibid.* at paras. 41-42, PDF 12 of 26.

¹⁰⁵ *Ibid.* at para. 42, PDF 12 of 26.

¹⁰⁶ *Ibid.*

¹⁰⁷ *Ibid.* at paras. 41-42, PDF 12 of 26.

¹⁰⁸ BCN/NC Original Argument, *supra* note 85 at para. 65(d), PDF 20 of 33.

¹⁰⁹ BCN/NC Motion to Compel Trans Mountain for Full and Adequate Response to IR (Filing ID [A6Q7C9](#)) (“BCN/NC Motion to Compel TM Response to IR...”), IR1.2, PDF 6-7 of 19.

¹¹⁰ Harfenist Report, *supra* note 14 at para. 17, PDF 6 of 26.

¹¹¹ BCN/NC Motion to Compel TM Response to IR1.2, *supra* note 109, PDF 6-7 of 19.

¹¹² Harfenist Report, *supra* note 14 at para. 43, PDF 12-13 of 26.

¹¹³ ECCC Opening Statement and Evidence, *supra* note 94, PDF 131-132 of 242 & annexes cited therein.

and irreversible”.¹¹⁴ Trans Mountain fails to explain how a study on jet fuel, which is a highly volatile light hydrocarbon compared with crude oil or dilbit, is relevant or comparable to a potential cargo spill from Project-related marine transportation.

Trans Mountain fails to consider new scientific studies relevant to prey-mediated impacts despite the fact that new evidence exists. For example, ECCC in a response to IR cites a study in which the authors discussed prey-mediated impacts of polycyclic hydrocarbon contamination on Barrow’s Goldeneye in coastal BC.¹¹⁵ Trans Mountain fails to provide information on prey-mediated impacts on bird populations from an oil spill that properly considers new scientific evidence on such impacts.

88. Based on the foregoing, the information provided by Trans Mountain regarding ecological consequences from marine oil spills fails to take into account new scientific studies that have arisen since the original hearing. Given the new evidence canvassed above, the Panel must require Trans Mountain to provide information on the potential impacts of oil spills that properly takes into account the results of these new studies. So far, Trans Mountain has failed to provide this information, thereby depriving the Panel the ability to properly discharge its duty to consider malfunctions or accidents under s. 19(1)(a) of the *CEAA, 2012*.

3) Conclusion on “malfunctions or accidents”

89. There is no serious contention that there could be significant adverse environmental effects if an oil spill were to occur. As Trans Mountain concedes in this Reconsideration, “if a large-scale oil spill were to occur as a result of Project-related marine shipping, such a spill would have the potential to result in significant adverse effects to marine birds.”¹¹⁶ However, in our submission, there is a high level of scientific uncertainty remaining in the evidentiary record regarding the actual ecological consequences of an oil spill. As canvassed in this Part, sources of scientific uncertainty include the following matters that Trans Mountain has failed to properly address:

- a. deficiencies in the habitat-focused approach;
- b. fate and behaviour of submerged oil;
- c. geographic extent of oil spill impacts;
- d. recovery times of marine bird populations after an oil spill;
- e. ecological consequences of an oil spill based on the Deepwater Horizon oil spill;
- f. impacts on marine birds from clean-up activities;
- g. potential impacts of marine oil spills on terrestrial bird species;
- h. potential impacts of marine oil spills on Red-necked Phalarope; and,
- i. prey-mediated impacts on bird species from an oil spill.

90. Due to the threat of serious environmental harm posed by an oil spill and the presence of scientific uncertainty regarding the ecological impacts of such a spill, the Panel must conduct the assessment of “malfunctions or accidents” under s. 19(1)(a) of the *CEAA, 2012* in a

¹¹⁴ Trans Mountain Response to NEB Reconsideration IR No. 1 (Filing IDA6L9C2), PDF 71 of 87.

¹¹⁵ ECCC Response to BCN/NC IR1.1, *supra* note 95, PDF 8 of 36.

¹¹⁶ TM Response to BCN/NC IR1.12a, *supra* note 17, PDF 27 of 31.

manner consistent with the precautionary principle. We submit that the application of the precautionary principle here requires the following:

- a. the Panel should require Trans Mountain to provide additional information to reduce or address the remaining scientific uncertainty regarding the ecological impacts of oil spills, and should consider requesting additional time from the Governor in Council to complete this Reconsideration;
- b. the Panel should decline to make any findings about the ecological consequences of oil spills except where the Panel can be satisfied that the preponderance of the evidence justifies a particular finding, in which case the Panel should provide cogent and intelligible articulation of its reasons capable of review by the Governor in Council and a reviewing court as the case may be;
- c. where the Panel cannot make a finding about the ecological consequences of oil spills due to scientific uncertainty in the evidentiary record, the Panel must provide cogent and intelligible articulation of the nature and degree of the scientific uncertainty capable of allowing the Governor in Council to meaningfully determine whether the Project ought to be approved in light of the uncertainty;
- d. if sufficient scientific uncertainty relating to the ecological consequences of oil spills remains, the Panel should err on the side of caution and favour a recommendation that this Project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances due to the potential impacts from marine oil spills.

B. Deficiencies in assessing species at risk

91. Since the original hearing, there have been changes to the at-risk status of some of the marine and terrestrial bird species that may be affected by the Project. Of the marine bird species that occur or potentially occur within the marine RSA, 9 were listed under the *SARA*, 13 were considered at risk by COSEWIC, and over 30 were Red or Blue-listed within British Columbia as of the end of the original hearing in 2015. Since then, the Western Grebe and Horned Grebe were added to the Schedule of the *SARA* as a species of “Special Concern”, and COSEWIC has changed the status of the Pink-footed Shearwater from “Threatened” to “Endangered”.¹¹⁷ In addition, two terrestrial birds that may be affected by the Project, Bank Swallow and Barn Swallow, have been added as “Threatened” to the Schedule of the *SARA*.¹¹⁸
92. New *SARA*-related documents have been published in relation to these species since the original hearing.¹¹⁹ There are new COSEWIC assessment reports for the Bank Swallow, Barn Swallow, and the Red-necked Phalarope. There are updated management plans for the Ancient Murrelet, Black-footed Albatross, Peregrine Falcon *pealei*, Red Knot *roselaari*, and Great Blue Heron *fannini*. Finally, there are updated recovery strategies for Common Nighthawk, and the Red Know *roselaari*. According to these *SARA*-related documents, oil

¹¹⁷ ECCC Opening Statement and Evidence, *supra* note 94, PDF 133 of 242.

¹¹⁸ *Ibid.*

¹¹⁹ *Ibid.*, PDF 133-134 of 242; Harfenist Report, *supra* note 14 at para. 43, PDF 4-5 of 26.

spill poses a major risk to the survival of many of these bird species at risk.¹²⁰ For example, as discussed by Anne Harfenist in her report, oil spills are considered one of the most serious threats to Western Grebe in the COSEWIC assessment report.¹²¹ For the Red-necked Phalarope, the COSEWIC assessment report indicates that oil spills are “the number one anthropogenic threat to offshore phalaropes”.¹²²

93. New evidence that has arisen since the original hearing show that Marbled Murrelet populations have become more vulnerable. ECCC notes in relation to Marbled Murrelet that:

Stress on the current population has likely increased since publication of the 2014 Recovery Strategy. Loss of nesting habitat (a high severity threat) has continued, and threats in the marine environment may have increased (e.g., pollution, oil, vessel traffic, prey availability/variability, climate change). Additionally, the population status of the species has been changed from threatened to endangered in both Washington State and Oregon State, since the release of the Canadian Recovery Strategy.¹²³

94. BC Nature and Nature Canada submit that Trans Mountain has failed to provide sufficient information regarding the Project’s impacts on species at risk for the Panel to properly discharge its duties under the *CEAA, 2012* and the *SARA*:

- a. Trans Mountain fails to take into account declining populations for at-risk bird species in its assessment of potential impacts from oil spills. Since the original hearing, new scientific evidence continues to show alarming declines in the populations of many marine bird species at risk.¹²⁴ For example, Anne Harfenist in her report summarizes the results of various studies that show large declines in the populations of Marbled Murrelet and Western Grebe.¹²⁵

Trans Mountain concedes that “the extent to which marine birds would be affected by an oil spill would depend on the degree to which the distribution and abundance of birds interacts with the distribution and quantity of oil in their habitats, as well as other factors.”¹²⁶ Nevertheless, by Trans Mountain’s own admission, the approach taken by Trans Mountain in the “assessment of potential adverse effects of a spill was not dependent on population size or trend”.¹²⁷ Given Trans Mountain’s concession that potential impact on marine birds from oil spills depend on population abundance and distribution, and given the fact that Trans Mountain’s previous risk assessment excluded consideration of population abundance and distribution, we submit that the Panel should give little to no weight to Trans Mountain’s assessment of oil spill impacts on bird species at risk.

¹²⁰ Harfenist Report, *supra* note 14 at paras. 15-19, PDF 5-6 of 26.

¹²¹ *Ibid.* at para. 18, PDF 6 of 26.

¹²² *Ibid.* at para. 17, PDF 6 of 26.

¹²³ ECCC Response to BCN/NC IR1.5b(i), *supra* note 95, PDF 21 of 36.

¹²⁴ Harfenist Report, *supra* note 14 at paras. 21-26, PDF 7-8 of 26.

¹²⁵ *Ibid.*

¹²⁶ TM Response to BCN/NC IR1.11a, *supra* note 17, PDF 25 of 31.

¹²⁷ TM Response to BCN/NC IR1.3c, *supra* note 17, PDF 8 of 31.

- b. Trans Mountain fails to provide adequate information regarding the Project’s potential impacts on Western Grebe and Horned Grebe, which were newly added to the Schedule of the *SARA* since the original hearing. Deficiencies in Trans Mountain’s information include:
- i. Unsubstantiated conclusions about significance of adverse effects;¹²⁸
 - ii. Failure to provide fulsome analysis of impacts from chronic oiling;¹²⁹
 - iii. Unsupported claim that increase in tanker traffic would have no population level impacts on these two species;¹³⁰ and,
 - iv. Absence of adequate cumulative effects assessment for these two species.¹³¹
- c. Trans Mountain fails to provide sufficient information that the Panel would need in order to identify adverse effects of Project-related marine transportation on current and potential critical habitat for marine bird species and to ensure that measures are taken to avoid or lessen those effects and to monitor them.

In response to an IR regarding the kind of information that would be needed for this purpose, ECCC states the following:

In a general sense, to identify adverse effects from the project on critical habitat and/or potential critical habitat there would need to be an understanding of the habitat that is necessary for the survival or recovery of the species as it relates to the population and distribution objectives for the species. In the absence of defined critical habitat, best available information can be used to assess effects to a given species/population/subpopulation and its habitat. Habitat that is needed for the survival or recovery of marine bird species would include, but not be limited to, habitat necessary for breeding and foraging, including an understanding of how this habitat is used by the species (timing, etc.). There would also need to be an understanding, based on best available information, of how each species could be impacted by project-related marine transportation. Plans outlining the measures to avoid or lessen the effects would be needed in advance of the effects occurring to ensure minimization and avoidance.¹³²

Trans Mountain has not placed the necessary information before the Panel. BC Nature and Nature Canada asked Trans Mountain to provide information on the use of marine habitat by Marbled Murrelet and an assessment of impacts from oil contamination due to project-related marine shipping on Marbled Murrelet, including impacts on marine habitat used or likely to be used by Marbled Murrelet.¹³³ Instead of providing a proper response, Trans Mountain’s answers were non-responsive.

¹²⁸ BCN/NC Motion to Compel TM Response to IR1.4b, *supra* note 109, PDF 10-11 of 19.

¹²⁹ *Ibid.*, IR1.4c, PDF 11 of 19.

¹³⁰ *Ibid.*, IR1.4c, PDF 11-12 of 19.

¹³¹ *Ibid.*, IR1.4f, PDF 12 of 19.

¹³² ECCC Response to BCN/NC IR1.4c, *supra* note 95, PDF 17 of 36.

¹³³ BCN/NC Information Request to Trans Mountain (“BCN/NC IR... to TM”) (Filing ID [A6Q2E2](#)), IR1.3, PDF 5 of 16.

95. This Panel is under a statutory duty to identify the adverse effects of the Project on *SARA*-listed wildlife species and their critical habitat and, if the Project is carried out, ensure that measures are taken to avoid or lessen those effects and to monitor them.¹³⁴ The deficiencies in the information provided by Trans Mountain in respect of potential impacts on bird species at risk deprive the Panel of the necessary information to discharge its duties under the *SARA*. Moreover, the deficiencies in the evidentiary record also deprive the Panel of the necessary information to properly consider environmental effects from the Project under s. 19(1)(a) of the *CEAA, 2012*, and to provide the Governor in Council with a legally adequate report upon which the Governor in Council can base its final determinations regarding this Project. The gaps in the evidentiary record mean that there are crucial scientific uncertainties that remain regarding the potential impacts of this Project on species at risk.
96. Species at risk, by their very nature, are at an elevated risk of serious or irreversible harm. Adverse effects on these species have the potential to cripple their populations. Due to the threat of serious harm posed by the Project and the presence of scientific uncertainty regarding the potential impacts of the Project on these species, the Panel must conduct the assessment of environmental effects on these species under s. 19(1)(a) of the *CEAA, 2012* and carry out its duties under s. 79(2) of the *SARA* in a manner consistent with the precautionary principle. We submit that the application of the precautionary principle here requires the following:
- a. the Panel should require Trans Mountain to provide additional information to reduce or address the remaining scientific uncertainty regarding potential environmental effects on bird species at risk, and should consider requesting additional time from the Governor in Council to complete this Reconsideration;
 - b. the Panel should decline to make any findings about potential environmental effects (including adversity, significance, and likelihood) on bird species at risk except where the Panel can be satisfied that the preponderance of the evidence justifies a particular finding, in which case the Panel should provide cogent and intelligible articulation of its reasons capable of review by the Governor in Council and a reviewing court as the case may be;
 - c. where the Panel cannot make a finding about potential environmental effects on bird species at risk due to scientific uncertainty in the evidentiary record, the Panel must provide cogent and intelligible articulation of the nature and degree of the scientific uncertainty capable of allowing the Governor in Council to meaningfully determine whether the Project ought to be approved in light of the uncertainty;
 - d. if sufficient scientific uncertainty relating to potential environmental effects on bird species at risk remains, the Panel should err on the side of caution and favour a recommendation that this Project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances in respect of bird species at risk.

¹³⁴ *SARA*, *supra* note 68, s. 79(2).

C. Deficiencies in assessing cumulative impacts from chronic oiling

97. In the original hearing, BC Nature and Nature Canada submitted that Trans Mountain had failed to provide sufficient information on the potential impacts of chronic oiling on marine bird species and populations. We argued that Trans Mountain failed to identify chronic oiling as an existing disturbance on marine birds and marine bird habitat, or as a Project-related effect in itself.¹³⁵ Since the original hearing, new studies provide further evidence of adverse effects of chronic oiling on marine birds. We submit that Trans Mountain has failed to incorporate the new information into its assessments, without which the Panel cannot properly conduct an assessment of cumulative impacts from chronic oiling.
98. New evidence has arisen since the original hearing related to the effects of chronic oiling:
- a. ECCC has agreed that “chronic oil pollution in general is a significant threat to marine birds”¹³⁶ and that “[o]iling related to small-volume discharges in the marine environment can and does adversely affect marine birds”.¹³⁷
 - b. The updated Management Plan for the Black-footed Albatross states that there is a medium risk of chronic oil pollution wherever there is marine shipping.¹³⁸
 - c. While external oiling of feathers from sheens may not lead to immediate lethal effects, “added stressors, such as cold weather, can result in external oiling from sheens having significant impact on seabird metabolic rate and can be ultimately lethal.”¹³⁹
 - d. As discussed by ECCC, chronic oiling can impact marine birds in a variety of ways:
 - i. Many classes of hydrocarbons found in oily discharges can act as carcinogens or mutagens;
 - ii. Chronic oiling can impede the flight energetics of migratory birds;
 - iii. Chronic oiling can have indirect effects due to changes in prey availability, predator abundance, or other cascading effects that occur upon disruption of complex food webs.¹⁴⁰
 - e. It has been demonstrated that “risks associated with chronic oil pollution on the BC coastal waters are particularly high along the marine shipping route in Haro Strait, Boundary Pass, and southern Strait of Georgia” and that “many significant ecological and protected areas (e.g. Important Bird Areas, National Wildlife Areas, Migratory Bird Sanctuaries) within these straits are subject to even greater chronic oil risks.”¹⁴¹ ECCC opined that “any substantial increase in chronic oiling would contribute

¹³⁵ BCN/NC Original Argument, *supra* note 85 at paras. 71-72, PDF 21-22 of 33.

¹³⁶ ECCC Resp. to BCN/NC Motion to Compel IR1.1a, *supra* note 96, PDF 2-3 of 40.

¹³⁷ ECCC Response to BCN/NC IR1.1a, *supra* note 95, PDF 2-3 of 36.

¹³⁸ Harfenist Report, *supra* note 14 at para. 15, PDF 5 of 26.

¹³⁹ ECCC Response to BCN/NC IR1.1c, *supra* note 95, PDF 3-5 of 36.

¹⁴⁰ ECCC Response to BCN/NC IR1.1e, *supra* note 95, PDF 6-8 of 36.

¹⁴¹ *Ibid.*

cumulatively to the already widespread and pervasive adverse impacts of chronic oiling to marine birds in these ecologically significant and sensitive areas.”¹⁴²

- f. Despite the foregoing, there is some scientific uncertainty regarding the magnitude and extent of impacts of oil sheens on marine birds due at least in part to a lack of standardized monitoring.¹⁴³
99. Trans Mountain has failed to adequately consider this new information and its entire assessment of effects of chronic oiling on marine birds in both the original hearing and this Reconsideration is limited to a response to an IR by BC Nature and Nature Canada in the original hearing. Trans Mountain relied on that earlier response in its response to an IR in this Reconsideration for an assessment of potential impacts on marine birds from chronic oiling, even in light of new scientific studies showing adverse impacts of even low levels of oil exposure.¹⁴⁴
100. BC Nature and Nature Canada submit that Trans Mountain’s earlier response from the original hearing did not actually provide an assessment of impacts from chronic oiling, and instead focused on the likelihood of such impacts from releases of oil concentrations above the regulated limit of 15mg/L.¹⁴⁵ With respect to the *Vessel Pollution and Dangerous Chemicals Regulations* made under the *Canada Shipping Act, 2001*, Trans Mountain stated:
- The basic premise behind this regulation and concentration level is that releases <15 mg/L do not produce a sufficiently thick layer of oil and sheen to affect seabirds. It follows that as long as operators of vessels and the Westridge Marine Terminal follow these regulations, that no adverse effect on marine birds is anticipated. Releases above this limit would be the result of accidents or malfunctions.¹⁴⁶
101. However, new evidence by Morandin and O’Hara (2016), introduced into the record by ECCC, finds that “Hydrocarbon discharges into the ocean, both regulated and accidental, occur from offshore drilling and production operations, and can result in oil sheen ($\leq 3 \mu\text{m}$ thick) and slick ($> 3 \mu\text{m}$ thick) formation, potentially harming marine birds.”¹⁴⁷ We therefore submit that this study is directly applicable to Project-related marine transportation on the basis of the real potential for adverse impacts on marine birds, and Trans Mountain’s assertion that it is not¹⁴⁸ is not tenable.
102. Despite this evidence of potential harm to marine birds from allowable discharges, and without providing any justification, Trans Mountain states that “the statements in this study regarding adverse effects of chronic oiling on marine birds... do not change Trans

¹⁴² *Ibid.*

¹⁴³ ECCC Response to BCN/NC IR1.1c, *supra* note 95, PDF 3-5 of 36.

¹⁴⁴ TM Response to BCN/NC IR1.7b, *supra* note 17, PDF 18 of 31.

¹⁴⁵ Trans Mountain Response to BCN/NC IR1.9 (OH-001-2014 Hearing) (Filing ID [A3Y2C5](#)), PDF 36-42.

¹⁴⁶ *Ibid.*

¹⁴⁷ Morandin, L.A., O’Hara, P. 2015. Offshore oil and gas, and operational sheen occurrence: is there potential harm to marine birds? *Environmental Review* 24:1-34, cited in ECCC Response to BCN/NC IR1.1, *supra* note 95, PDF 8 of 36.

¹⁴⁸ TM Supp. Resp. to BCN/NC IR1.5a, *supra* note 18, PDF 2 of 3.

Mountain's assessment of effects of chronic oiling on marine birds."¹⁴⁹ BC Nature and Nature Canada submit that the new evidence is in direct contrast to the bare assertions of Trans Mountain and this Panel should give Trans Mountain's assertion and submissions no weight.

103. Therefore, Trans Mountain's assertion in its argument-in-chief that cumulative effects "were thoroughly considered in OH-001-2014, and no new or updated evidence has been filed to cast doubt on the conclusions or adequacy of that assessment"¹⁵⁰ is likewise untenable and this Panel should give those assertions and submissions no weight.
104. In its response to BC Nature and Nature Canada's IR1.1a, ECCC submits that "in general there has been a considerable reduction in chronic oiling events from tanker traffic in recent years due to regulation and monitoring".¹⁵¹ However, even if it were true that chronic oiling events from tanker traffic have decreased, the cumulative effects of chronic oiling from this Project in conjunction with other sources of chronic oiling could still cause significant adverse environmental effects on marine birds. We submit that Trans Mountain has not provided sufficient information for the Panel to consider this issue and conduct a proper assessment of chronic oiling impacts.
105. Due to the threat of serious harm posed by chronic oiling and the presence of scientific uncertainty regarding the ecological impacts of chronic oiling, the Panel must conduct the assessment of "any cumulative effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out" under s. 19(1)(a) of the *CEAA, 2012* in a manner consistent with the precautionary principle. We submit that the application of the precautionary principle here requires the following:
 - a. the Panel should require Trans Mountain to provide additional information to reduce or address the remaining scientific uncertainty regarding the ecological impacts of chronic oiling, and should consider requesting additional time from the Governor in Council to complete this Reconsideration;
 - b. the Panel should decline to make any findings about the ecological consequences of chronic oiling except where the Panel can be satisfied that the preponderance of the evidence justifies a particular finding, in which case the Panel should provide cogent and intelligible articulation of its reasons capable of review by the Governor in Council and a reviewing court as the case may be;
 - c. where the Panel cannot make a finding about the ecological consequences of chronic oiling due to scientific uncertainty in the evidentiary record, the Panel must provide cogent and intelligible articulation of the nature and degree of the scientific uncertainty capable of allowing the Governor in Council to meaningfully determine whether the Project ought to be approved in light of the uncertainty;

¹⁴⁹ *Ibid.*

¹⁵⁰ TM Argument-in-Chief, *supra* note 8, PDF 32 of 33.

¹⁵¹ ECCC Response to BCN/NC IR1.1a, *supra* note 95, PDF 3 of 36.

- d. if sufficient scientific uncertainty relating to the ecological consequences of chronic oiling remains, the Panel should err on the side of caution and favour a recommendation that this Project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances due to the potential impacts on marine birds from chronic oiling.

D. Deficiencies in assessing impacts on marine birds from routine operations

106. Trans Mountain has failed to provide sufficient information regarding the Project’s impacts on marine birds associated with routine operations of Project-related marine transportation for the Panel to properly discharge its duties under the *CEAA, 2012*.

107. Project-related marine transportation may adversely affect marine birds due to collision or sensory disturbance. As ECCC notes in its direct evidence:

Attraction to lights at night or in poor visibility conditions during the day may result in collision with lit structures or their support structures, or with other migratory birds. Disoriented migratory birds are prone to circling light sources and may deplete their energy reserves and either die of exhaustion or be forced to land where they are at risk of depredation.¹⁵²

108. In its direct evidence, Trans Mountain argues that there can be no “meaningful” measures to mitigate impacts associated with mortality risk and sensory disturbance on marine birds from project-related marine transportation unless they are implemented industry-wide.¹⁵³ For example, Trans Mountain states, without any sources or justification:

- a. “Trans Mountain believes that any mitigation or monitoring programs to address this issue [sensory disturbance and mortality risk] would need to be government-led and applied industry-wide (i.e., not to a single project) to be meaningful”;¹⁵⁴
- b. “On the assumption that vessels are present in the marine environment, there is no
- c. mitigation that could avoid mortality risk”;¹⁵⁵
- d. “Controlling the timing of transit through areas where collision risk may be heightened because of the presence of higher densities of birds may be a potential mitigation option. ..., this mitigation would need to be universally adopted across all shipping for it to be effective”;¹⁵⁶
- e. “On the assumption that vessels are present and active in the marine environment, there is no known mitigation that could be implemented to lessen or avoid adverse effects of sensory disturbance”;¹⁵⁷ and,
- f. “... there may be no mitigation that can be feasibly or economically implemented to mitigate adverse effects of marine transportation on marine birds....”.¹⁵⁸

¹⁵² ECCC Opening Statement and Evidence, *supra* note 94, PDF 136 of 242.

¹⁵³ Trans Mountain – Direct Evidence (Filing ID [A6J6F4](#)) (“TM Direct Evidence”), PDF 55-56 of 73.

¹⁵⁴ *Ibid.*, PDF 55 of 73.

¹⁵⁵ *Ibid.*

¹⁵⁶ *Ibid.*

¹⁵⁷ *Ibid.*, PDF 56 of 73.

¹⁵⁸ *Ibid.*

109. BC Nature and Nature Canada submit that this Panel should not accept this attempt by Trans Mountain to avoid responsibility and give no weight to these baseless assertions that mitigation measures to address mortality risk and sensory disturbance must be government-led and implemented industry-wide. As Anne Harfenist addresses in her direct evidence, any action that could result in decreased mortality in species at risk or species with declining populations, including marine bird species found within the Marine RSA, are likely to help to conserve those species.¹⁵⁹
110. In fact, ECCC notes in its direct evidence examples of mitigation measures that could be imposed to mitigate mortality risk:

The following beneficial management practices can help minimize the risk of migratory bird mortality due to human-induced light (please note that navigational lighting has not been considered here):

- The minimum amount of aircraft warning and obstruction avoidance lighting should be used on tall structures. Warning lights should flash, and should completely turn off between flashes.
- The fewest number of site-illuminating lights possible should be used in the project area (while still conforming to Occupational Health and Safety standards).
- Only strobe lights should be used at night (excluding general site illumination), at the lowest intensity and fewest number of flashes per minute allowable by Transport Canada.
- Lighting for the safety of the employees should be shielded to shine down and used only where it is needed.
- LED lights should be used instead of incandescent lights, where possible. LED light fixtures are less prone to light trespass (i.e. are better at directing light where it needs to be, and do not bleed light into the surrounding area). This property reduces the incidence of migratory bird attraction.
- The use of lights should be reduced during inclement/foggy weather, where possible.

In order to fully understand the impacts of light attraction and migratory birds, ECCC encourages the Proponent to monitor the attraction of migratory birds to illumination, using the results and/or mitigation procedures generated by ongoing research in Canada and elsewhere in the world...¹⁶⁰

111. Further, the Federal Court of Appeal in *Tsleil-Waututh* found that, even though Trans Mountain did not own or operate the vessels calling at the Westridge Marine Terminal, Trans Mountain nevertheless had the ability to control and direct vessel operations through, among other things, the Tanker Acceptance Standard.¹⁶¹

¹⁵⁹ Harfenist Report, *supra* note 14 at para. 49, PDF 14 of 26.

¹⁶⁰ ECCC Opening Statement and Evidence, *supra* note 94, PDF 136 of 242.

¹⁶¹ *Tsleil-Waututh*, *supra* note 4 at paras. 405-406.

112. Therefore, the Panel should be cautious in giving weight to Trans Mountain’s assertion that mitigation measures to address mortality risk and sensory disturbance must be government-led and industry-wide. Any measures that may reduce risk to marine birds are likely to protect these species and Trans Mountain has the means to control whether tankers calling at the Westridge Marine Terminal are equipped with these measures. At the very least, the Panel should recognize that there is a level of scientific uncertainty associated with the efficacy of mitigation measures to address mortality risk and sensory disturbance.
113. The failure by Trans Mountain to provide information to this Panel on mitigation measures to address mortality risk and sensory disturbance and how these measures may mitigate potential environmental effects on marine birds deprives the Panel of the ability to properly discharge its statutory duties. The Panel is under a duty to consider “mitigation measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the designated project” under the *CEAA, 2012*.¹⁶² This is a duty independent of the Panel’s duty to make a recommendation as to whether the Project is likely to cause significant adverse environmental effects. Even if it is the Panel’s recommendation that the Project is not likely to cause significant adverse environmental effects associated with mortality risk and sensory disturbance, the Panel must still provide the Governor in Council with adequate information regarding mitigation measures. The reason for this is that the Governor in Council does not have to agree with the Panel and the Governor in Council is the ultimate decision-maker under the *CEAA, 2012*. Therefore, the Panel is under a legal duty to provide sufficient information so that the Governor in Council may determine whether the Project is likely to cause significant adverse environmental effects after taking into account mitigation measures that are technically and economically feasible.
114. The *SARA* imposes an additional legal duty on the Panel to identify and consider mitigation measures associated with mortality risk and sensory disturbance. Since marine bird species that may be adversely affected by mortality risk and sensory disturbance includes those that are listed in the Schedule to the *SARA*, s. 79(2) of the *SARA* requires this Panel to identify such adverse effects on listed species and their critical habitat and ensure that measures are taken to avoid or lessen those effects and to monitor them.
115. Species at risk, by their very nature, are generally more vulnerable to adverse impacts than other wildlife species. Mortality risk and sensory disturbance pose an elevated risk of serious or irreversible harm where they may adversely impact *SARA*-listed species. Due to this threat of serious harm and the presence of scientific uncertainty regarding the potential impacts of the Project on these species, the lack of full scientific certainty over the efficacy and appropriateness of mitigation measures should not be used as a reason for postponing such measures. Moreover, the Panel must therefore conduct the assessment of environmental effects associated with mortality risk and sensory disturbance under s. 19(1)(a) of the *CEAA, 2012* and carry out its duties under s. 79(2) of the *SARA* in a manner consistent with the precautionary principle. We submit that the application of the precautionary principle here requires the following:

¹⁶² *CEAA, 2012*, *supra* note 41, s. 19(1)(d).

- a. the Panel should require Trans Mountain to provide additional information to reduce or address the remaining scientific uncertainty regarding the efficacy or appropriateness of mitigation measures to address mortality risk and sensory disturbance on marine birds, including the extent to which such measures may mitigate the significance of adverse environmental effects, and should consider requesting additional time from the Governor in Council to complete this Reconsideration;
- b. the Panel should decline to make any findings about potential environmental effects associated with mortality risk and sensory disturbance (including adversity, significance, and likelihood) on bird species, particularly *SARA*-listed bird species, except where the Panel can be satisfied that the preponderance of the evidence justifies a particular finding, in which case the Panel should provide cogent and intelligible articulation of its reasons capable of review by the Governor in Council and a reviewing court as the case may be;
- c. where the Panel cannot make a finding about potential environmental effects associated with mortality risk and sensory disturbance due to scientific uncertainty in the evidentiary record regarding the efficacy or appropriateness of mitigation measures, the Panel must provide cogent and intelligible articulation of the nature and degree of the scientific uncertainty capable of allowing the Governor in Council to meaningfully determine whether the Project ought to be approved in light of the uncertainty;
- d. if sufficient scientific uncertainty relating to mortality risk and sensory disturbance on marine birds remains, the Panel should err on the side of caution and favour a recommendation that this Project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances associated with mortality risk and sensory disturbance on marine birds.

E. Deficiencies in assessing alternative means

116. The *CEAA, 2012* requires this Panel to undertake a robust assessment of alternative means of carrying out the Project. This duty is confirmed in the Panel’s Hearing Order for this Reconsideration, in which the following is identified as part of the List of Issues: “Alternative means of carrying out Project-related marine shipping that are technically and economically feasible, and the environmental effects of such alternative means”.¹⁶³
117. As mentioned above, BC Nature and Nature Canada filed as part of their direct evidence in this Reconsideration a report by EnSys that was prepared under the direction and control of Martin R. Tallett (“EnSys Report”).¹⁶⁴
118. EnSys is an independent consulting firm that specializes in the North American and global “downstream” oil industry, with particular expertise in crude oil flows, refining activity, and oil markets. It is regularly retained by the US Department of Energy on such issues, and, beginning in 2011, has undertaken a series of studies of the Keystone XL pipeline project for it and other private clients. It maintains detailed data on refinery capacities, projects and

¹⁶³ Hearing Order (Filing ID [A61718](#)).

¹⁶⁴ EnSys Report, *supra* note 15.

closures, refinery process technologies, fuel blends, and crude oil. Since 1988, it has been retained to prepare expert evidence by industry and US federal agencies, ranging from ExxonMobil to the Commodity Futures Trading Commission.¹⁶⁵

119. In this report, EnSys assesses the effects of reconfiguring the Project on oil tanker traffic – measured by the number of trips taken by tankers originating from the Western Canadian Sedimentary Basin and Alaskan/non-US tanker imports and exports – in the Salish Sea under three scenarios:
 - a. Scenario 1: The Project as proposed by Trans Mountain (*i.e.*, all incremental shipments (590,000 barrels per day) are sent to the Westridge Marine Terminal);
 - b. Scenario 2: The Project is redesigned so that all incremental shipments (590,000 barrels per day) are delivered to Puget Sound and Chery Point refineries via the Puget Sound Pipeline (which is part of the existing Trans Mountain Pipeline System), which process what they are capable of and the balance is exported via Cherry Point; and,
 - c. Scenario 3: The Project is scaled down by building the new proposed Trans Mountain Expansion pipeline and phasing out the existing Trans Mountain pipeline (*i.e.*, so that there is a net incremental increase of only 290,000 barrels per day). Shipments to Westridge Marine Terminal are limited to those required to meet existing demands (Parkland refinery and other products shipped for local consumption), with remaining products delivered to Puget Sound and Cherry Point via the Puget Sound Pipeline (which is part of the existing Trans Mountain Pipeline System), which process what they are capable of and the balance is exported via Cherry Point.¹⁶⁶
120. The key findings in the EnSys Report can be summarized as follows:
 - a. Scenario 1 (*i.e.*, the Project as proposed by Trans Mountain) would result in 514 tanker movements in the Salish Sea;
 - b. Scenario 2 would decrease the number of tanker movements in the Salish Sea by between 116 and 338 relative to Scenario 1; and,
 - c. Scenario 3 would decrease the number of tanker movements by between 472 and 514 relative to Scenario 1, and by 87-129 relative to baseline conditions (*i.e.*, without the Project as proposed by TM).¹⁶⁷
121. In other words, EnSys has concluded that redesigning the Project has the potential to eliminate tanker traffic associated with the Project in such a way that a net decrease of 87-129 tanker movements from the total tanker traffic in the Salish Sea would be achieved.
122. Of the scenarios analyzed by EnSys, redesigning the Project is the only way to lessen, and (in one of the scenarios) to completely avoid, potential significant adverse environmental effects of Project-related marine shipping, including effects on marine birds and on Southern resident killer whales and Indigenous uses of them. Reducing Project-related marine

¹⁶⁵ *Ibid.*, PDF 14-16 of 79.

¹⁶⁶ *Ibid.*, PDF 9-11 of 79.

¹⁶⁷ *Ibid.*, PDF 9 of 79.

shipping would also avoid or lessen the significant adverse environmental and cumulative effects of oil spills, chronic oiling, and routine marine traffic.

123. Trans Mountain does not challenge any of the expert evidence contained in the EnSys report save this comment in its reply evidence:

In the course of Project development, Trans Mountain considered numerous alternatives to expanding the WMT. Trans Mountain presented its consideration of alternatives and reasons why such alternatives, including an expansion of the Trans Mountain Puget system, were removed from further assessment, in response to NEB IR No. 2.044(a) in the original proceeding [A3Z4T9, A3Z4V1].

None of the intervenors identified alternative means of carrying out Project-related marine shipping that were not already considered in the OH-001-2014 proceeding [A3S4X3 PDF p. 70] or in Trans Mountain's direct evidence [A6J6F4].¹⁶⁸

124. In NEB IR No. 2.044(a) referenced in the above quote, the original NEB panel had asked Trans Mountain to provide information regarding alternative marine terminal locations. In response, Trans Mountain offered reasons why various alternative locations, including terminals in Washington State, would not be feasible.¹⁶⁹ However, nowhere in that response did Trans Mountain provide any documentation, sources, or citations to support the claims that it made. Moreover, in its response, Trans Mountain dismissed the option to export the product from terminals in Washington State due to "complex regulatory issues".¹⁷⁰ At the time, the United States imposed a ban on crude oil exports, which Congress has since lifted.¹⁷¹
125. Moreover, as we discussed in Part II above, the opinion evidence that Trans Mountain tenders in its reply evidence is not proper expert opinion and the Panel must find this evidence inadmissible or give it no weight. Trans Mountain fails to properly provide any expert opinion evidence that rebuts the expert opinion provided in the EnSys Report.
126. When BC Nature and Nature Canada asked Trans Mountain to provide the sources that support its claims and to conduct an assessment of alternatives based on the evidence contained in the EnSys report and changes to the United States crude oil export ban, Trans Mountain responded simply with the following:

The issue of alternative marine terminal locations was adjudicated in the OH-001-2014 proceeding, as was acknowledged by the NEB in its Report (Filing ID A77045, p. 244):

"The Board finds that Trans Mountain has provided an adequate assessment, including consideration of technical, socio-economic and environmental effects, of technically and economically feasible alternative marine terminal locations."

¹⁶⁸ TM Reply Evidence, *supra* note 16, PDF 36 of 45.

¹⁶⁹ Trans Mountain – Response to NEB IR No. 2 (OH-001-2014 Hearing) (Filing ID [A3Z4T9](#)), PDF 179-189 of 478.

¹⁷⁰ *Ibid.*, PDF 181 of 478.

¹⁷¹ BCN/NC IR1.13 to TM, *supra* note 133, Reference vi, PDF 15 of 16.

Given that this information request is not related to any new or updated information since the OH-001-2014 proceeding, Trans Mountain will not respond further to this request.¹⁷²

127. Aside from the responses above, which we submit do not meaningfully respond to the evidence contained in the EnSys report, Trans Mountain did not test the EnSys report through IRs and does not address this report in its argument-in-chief. In the circumstances, the substantive findings of the EnSys report are uncontroverted in the evidentiary record of this Reconsideration. Moreover, Trans Mountain did not assess any of the alternative scenarios contained in the EnSys report.
128. In its argument-in-chief, Trans Mountain fails to address or rebut any of the findings in the EnSys Report. Rather, Trans Mountain unhelpfully takes the following obtuse and misleading positions:
 - a. the Board already assessed the various means of carrying out marine shipping in the original hearing, including in Washington State;¹⁷³
 - b. Trans Mountain has assessed alternative means of carrying out Project-related marine shipping in its Direct Evidence, and demonstrated that its proposal for marine shipping is the preferred alternative;¹⁷⁴ and,
 - c. no parties in this Reconsideration identified new alternative means of carrying out Project-related marine shipping that were not assessed in the original hearing.¹⁷⁵
129. Assertions (b) and (c) are inaccurate and misleading. Respecting (b), Trans Mountain's Direct Evidence could not have considered the EnSys Report because BC Nature and Nature Canada filed it after Trans Mountain filed its Direct Evidence. Respecting (c), the alternative means considered and opined on by EnSys were not considered in the original hearing.
130. More generally, there is no merit to Trans Mountain's position that matters relating to alternatives means of carrying out the Project were adequately considered and assessed by the original panel. As discussed above, the Federal Court of Appeal in *Tsleil-Waututh* held that, save for Southern resident killer whales and their use by Indigenous peoples, the report of the original panel was so deficient that it was not a proper "report" under the *CEAA, 2012*: see paras. 28-37, above.
131. To be perfectly clear: it is not the position of BC Nature and Nature Canada that any of the alternatives analyzed in the EnSys Report ought to be favoured over the current Project configuration. We are only adducing the EnSys Report to demonstrate the range of alternatives that can and must be assessed as part of this Reconsideration, and which Trans Mountain has failed to provide to the Panel. Given the possibility of drastically reducing or even eliminating Project-related marine tanker traffic in the Salish Sea, the alternatives

¹⁷² TM Response to BCN/NC IR1.13a, *supra* note 17, PDF 30 of 31.

¹⁷³ TM Argument-in-Chief, *supra* note 8, PDF 29 of 33.

¹⁷⁴ *Ibid.*, PDF 30 of 33.

¹⁷⁵ *Ibid.*

contained in the EnSys report may significantly reduce or eliminate potential Project effects, including importantly to *SARA*-listed species such as the Southern resident killer whale or to other *SARA*-listed marine birds. Moreover, the heavy justificatory burden associated with ss. 29(1) and 31(1) of the *CEAA, 2012* cannot be properly discharged where there are alternative means such as those analyzed by EnSys that would lessen, and in some cases potentially avoid, the significant adverse environmental effects that Project-related marine shipping could cause.

132. Given the threat of serious or irreversible harm that Project-related marine transportation pose to the Southern resident killer whale and other *SARA*-listed marine species, the failure by Trans Mountain to address the alternatives contained in the EnSys report creates a crucial gap in the evidentiary record and a source of scientific uncertainty regarding the efficacy of alternative means of carrying out the Project.
133. Therefore, we submit that the Panel must conduct the assessment of alternatives in a manner consistent with the precautionary principle. We submit that the application of the precautionary principle here requires the following:
 - a. the Panel should require Trans Mountain to provide additional information to reduce or address the remaining scientific uncertainty regarding the feasibility or efficacy of alternative Project configurations, and should consider requesting additional time from the Governor in Council to complete this Reconsideration;
 - b. the Panel should decline to make any findings about the feasibility or efficacy of alternative Project configurations except where the Panel can be satisfied that the preponderance of the evidence justifies a particular finding, in which case the Panel should provide cogent and intelligible articulation of its reasons capable of review by the Governor in Council and a reviewing court as the case may be;
 - c. where the Panel cannot make a finding about the feasibility or efficacy of alternative Project configurations due to scientific uncertainty in the evidentiary record, the Panel must provide cogent and intelligible articulation of the nature and degree of the scientific uncertainty capable of allowing the Governor in Council to meaningfully determine whether the Project ought to be approved in light of the uncertainty;
 - d. if sufficient scientific uncertainty relating to the feasibility or efficacy of alternative Project configurations remains, the Panel should err on the side of caution and favour a recommendation that this Project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances.

PART V. CONCLUSION

134. In summary, BC Nature and Nature Canada submit that crucial deficiencies remain in the evidentiary record that deprive the Panel of the ability to properly discharge its legal duties under the *CEAA, 2012* and the *SARA*. The threat of serious or irreversible harm that this Project poses in conjunction with the level of scientific uncertainty that remains in the evidentiary record require this Panel to carry out its statutory duties in a manner consistent with the precautionary principle.

135. In particular, we submit that:

- a. in respect of “malfunctions or accidents”:
 - i. the Panel should require Trans Mountain to provide additional information to reduce or address the remaining scientific uncertainty regarding the ecological impacts of oil spills, and should consider requesting additional time from the Governor in Council to complete this Reconsideration;
 - ii. the Panel should decline to make any findings about the ecological consequences of oil spills except where the Panel can be satisfied that the preponderance of the evidence justifies a particular finding, in which case the Panel should provide cogent and intelligible articulation of its reasons capable of review by the Governor in Council and a reviewing court as the case may be;
 - iii. where the Panel cannot make a finding about the ecological consequences of oil spills due to scientific uncertainty in the evidentiary record, the Panel must provide cogent and intelligible articulation of the nature and degree of the scientific uncertainty capable of allowing the Governor in Council to meaningfully determine whether the Project ought to be approved in light of the uncertainty;
 - iv. if sufficient scientific uncertainty relating to the ecological consequences of oil spills remains, the Panel should err on the side of caution and favour a recommendation that this Project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances due to the potential impacts from marine oil spills;
- b. in respect of species at risk:
 - i. the Panel should require Trans Mountain to provide additional information to reduce or address the remaining scientific uncertainty regarding potential environmental effects on bird species at risk, and should consider requesting additional time from the Governor in Council to complete this Reconsideration;
 - ii. the Panel should decline to make any findings about potential environmental effects (including adversity, significance, and likelihood) on bird species at risk except where the Panel can be satisfied that the preponderance of the evidence justifies a particular finding, in which case the Panel should provide cogent and intelligible articulation of its reasons capable of review by the Governor in Council and a reviewing court as the case may be;
 - iii. where the Panel cannot make a finding about potential environmental effects on bird species at risk due to scientific uncertainty in the evidentiary record, the Panel must provide cogent and intelligible articulation of the nature and degree of the scientific uncertainty capable of allowing the Governor in Council to meaningfully determine whether the Project ought to be approved in light of the uncertainty;

- iv. if sufficient scientific uncertainty relating to potential environmental effects on bird species at risk remains, the Panel should err on the side of caution and favour a recommendation that this Project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances in respect of bird species at risk;
- c. in respect of cumulative impacts from chronic oiling:
- i. the Panel should require Trans Mountain to provide additional information to reduce or address the remaining scientific uncertainty regarding the ecological impacts of chronic oiling, and should consider requesting additional time from the Governor in Council to complete this Reconsideration;
 - ii. the Panel should decline to make any findings about the ecological consequences of chronic oiling except where the Panel can be satisfied that the preponderance of the evidence justifies a particular finding, in which case the Panel should provide cogent and intelligible articulation of its reasons capable of review by the Governor in Council and a reviewing court as the case may be;
 - iii. where the Panel cannot make a finding about the ecological consequences of chronic oiling due to scientific uncertainty in the evidentiary record, the Panel must provide cogent and intelligible articulation of the nature and degree of the scientific uncertainty capable of allowing the Governor in Council to meaningfully determine whether the Project ought to be approved in light of the uncertainty;
 - iv. if sufficient scientific uncertainty relating to the ecological consequences of chronic oiling remains, the Panel should err on the side of caution and favour a recommendation that this Project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances due to the potential impacts on marine birds from chronic oiling;
- d. in respect of impacts on marine birds from routine operations:
- i. the Panel should require Trans Mountain to provide additional information to reduce or address the remaining scientific uncertainty regarding the efficacy or appropriateness of mitigation measures to address mortality risk and sensory disturbance on marine birds, including the extent to which such measures may mitigate the significance of adverse environmental effects, and should consider requesting additional time from the Governor in Council to complete this Reconsideration;
 - ii. the Panel should decline to make any findings about potential environmental effects associated with mortality risk and sensory disturbance (including adversity, significance, and likelihood) on bird species, particularly *SARA*-listed bird species, except where the Panel can be satisfied that the preponderance of the evidence justifies a particular finding, in which case the Panel should provide

cogent and intelligible articulation of its reasons capable of review by the Governor in Council and a reviewing court as the case may be;

- iii. where the Panel cannot make a finding about potential environmental effects associated with mortality risk and sensory disturbance due to scientific uncertainty in the evidentiary record regarding the efficacy or appropriateness of mitigation measures, the Panel must provide cogent and intelligible articulation of the nature and degree of the scientific uncertainty capable of allowing the Governor in Council to meaningfully determine whether the Project ought to be approved in light of the uncertainty;
 - iv. if sufficient scientific uncertainty relating to mortality risk and sensory disturbance on marine birds remains, the Panel should err on the side of caution and favour a recommendation that this Project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances associated with mortality risk and sensory disturbance on marine birds; and,
- e. in respect of assessing alternative means of carrying out the Project:
- i. the Panel should require Trans Mountain to provide additional information to reduce or address the remaining scientific uncertainty regarding the feasibility or efficacy of alternative Project configurations, and should consider requesting additional time from the Governor in Council to complete this Reconsideration;
 - ii. the Panel should decline to make any findings about the feasibility or efficacy of alternative Project configurations except where the Panel can be satisfied that the preponderance of the evidence justifies a particular finding, in which case the Panel should provide cogent and intelligible articulation of its reasons capable of review by the Governor in Council and a reviewing court as the case may be;
 - iii. where the Panel cannot make a finding about the feasibility or efficacy of alternative Project configurations due to scientific uncertainty in the evidentiary record, the Panel must provide cogent and intelligible articulation of the nature and degree of the scientific uncertainty capable of allowing the Governor in Council to meaningfully determine whether the Project ought to be approved in light of the uncertainty;
 - iv. if sufficient scientific uncertainty relating to the feasibility or efficacy of alternative Project configurations remains, the Panel should err on the side of caution and favour a recommendation that this Project is likely to cause significant adverse environmental effects that cannot be justified in the circumstances.

136. Moreover, as a preliminary matter, BC Nature and Nature Canada submit that:

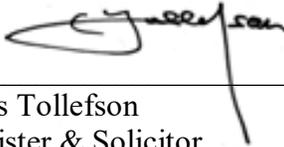
- a. this Panel must strike from the evidentiary record the documents listed in paragraph 13 above, or portions thereof containing expert opinion evidence.

- b. In the alternative, BC Nature and Nature Canada submit that this Panel must assign no weight to the expert opinion evidence given by Mr. Stoness in the documents listed in paragraph 13 above. Particularly in situations where Mr. Stoness purports to rebut expert evidence that is properly adduced by BC Nature and Nature Canada, or any other intervenor whose expert evidence raises questions about the adequacy of the Project assessment, the Panel must favour the expert evidence of the intervenor.

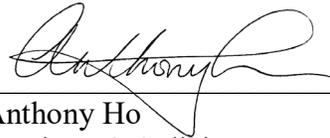
All of which are respectfully submitted 22 January 2019,

PACIFIC CENTRE FOR ENVIRONMENTAL LAW
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