



# Comments on the Marshdale Natural Gas Power Generation Facility Project, Ref. No. 90111

February 9, 2026

## Executive Summary

Sierra Club Canada Foundation submits these comments to the Impact Assessment Agency of Canada (IAAC) regarding the proposed Marshdale Natural Gas Power Generation Facility in Nova Scotia. These comments are directed specifically to IAAC's screening role under the Impact Assessment Act (IAA).

The question before IAAC at this stage is narrow but consequential: does the existing environmental assessment record provide a defensible basis to conclude that a comprehensive federal impact assessment is not required? Based on the Environmental Assessment Registration Document (EARD) and associated materials, Sierra Club Canada Foundation submits that it does not.

Across multiple issue areas within federal jurisdiction, the EA record exhibits a consistent and material pattern: potential adverse effects are systematically understated, not because evidence demonstrates they are insignificant, but because key analytical steps are deferred, scoped narrowly, or based on assumptions that are not defined, enforceable, or tested within the EA record itself. This pattern recurs across climate change, project need, alternatives, human health and air pollution, water and groundwater, wetlands and terrestrial habitat, species at risk and migratory birds, fish and fish habitat, and cumulative effects.

## Climate Change and Greenhouse Gas Emissions

The assessment claims the project aligns with climate goals, but it doesn't specify how often the facility will run or what its long-term emissions might be. There are no enforceable limits or detailed analysis of worst-case scenarios. Without this information, it's impossible to know if the project's climate impact is being underestimated. IAAC therefore cannot confidently rule out the need for a full federal impact assessment.

## Project Need and Alternatives

The assessment claims that new dispatchable power generation is necessary and presents the project as a solution to broader energy planning goals. But it doesn't offer any concrete numbers or details to show exactly why this facility, at this size and schedule, is

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needed. Instead of laying out its own analysis, the EIA leans on outside planning documents—like Integrated Resource Plans—without actually including the supporting data or reasoning. This leaves important questions unanswered about whether the project is truly justified.

Similarly, alternatives are acknowledged but not assessed through transparent, comparative analysis. Non-gas alternatives — including storage, demand-side measures, and system-level solutions — are referenced but not evaluated using consistent metrics or scenarios. This approach prevents IAAC from determining whether the Project's effects are avoidable or whether non-fossil fuel alternatives could meet the same objectives. In the absence of a defensible need and alternatives analysis within the EA record, screening out is not justified.

### **Human Health and Air Pollution**

Human health effects are assessed primarily through compliance-based air dispersion modelling. Regulatory compliance is treated as a proxy for safety, without a project-specific assessment of population exposure, cumulative pollutant loading, episodic emissions, or vulnerability. In particular, fine particulate matter (PM<sub>2.5</sub>) is modelled for compliance but not evaluated for health effects below regulatory thresholds or under worst-case operating conditions.

This approach understates potential adverse effects on human health, especially where emissions may be intermittent, climate-amplified, or coincident with other pollution sources. IAAC therefore lacks sufficient information to conclude that human health effects within federal jurisdiction are insignificant at the screening stage.

### **Water, Wetlands, and Ecological Systems**

Across water resources, wetlands, and terrestrial and aquatic habitats, the EA record relies on compartmentalized and area-based assessment rather than integrated, function-based analysis. Groundwater and surface water interactions are assessed without climate-informed stress testing or watershed-scale context. Wetland impacts are characterized primarily by mapped area and mitigation intent, without evaluation of ecological function, connectivity, or cumulative loss in a region already subject to historic depletion.

Similarly, fish and fish habitat — including Atlantic salmon and cold-water systems — are addressed through fragmented analysis of water quality, hydrology, and habitat alteration, without an integrated assessment of system integrity or population-level vulnerability. This fragmentation masks potential adverse effects protected under federal law and prevents IAAC from assessing whether ecological impacts may be more significant, persistent, or less reversible than presented.

### **Species at Risk, Migratory Birds, and Cumulative Effects**

The EA record relies heavily on presence/absence surveys, proximity-based screening, and project footprint boundaries to assess effects on species at risk and migratory birds.

Functional habitat loss, landscape context, and cumulative pressures are not assessed at a scale commensurate with species ecology.

More broadly, effects are considered in valued component (VC) silos rather than through an integrated, system-level analysis, without evaluating how climate change, emissions, habitat alteration, and hydrologic change may interact over time and across the region. This approach systematically understates cumulative and regional effects and is insufficient to support screening out.

### **Deferral to Future Permitting**

Across multiple issue areas, the EA record defers critical analysis – including mitigation effectiveness, compensation design, operational limits, and climate sensitivity – to future permitting and approvals. While future regulatory processes play an important role, deferral at the screening stage is not neutral. Where key uncertainties remain unresolved, deferral functions to understate risk rather than to demonstrate that effects are well understood and insignificant.

### **Screening Implication**

Under the *Impact Assessment Act*, IAAC's role at the screening stage is not to resolve uncertainty in favour of the proponent, but to determine whether the information available is sufficient to rule out the need for a comprehensive federal impact assessment. Where potential effects within federal jurisdiction may be greater, more persistent, or more cumulative than presented – and where the EA record does not conservatively bound those effects – screening out is not defensible.

Taken together, the deficiencies identified in this submission demonstrate that the Marshdale Project has the potential to result in adverse effects within federal jurisdiction that are not adequately characterized in the current EA record. In these circumstances, Sierra Club Canada Foundation respectfully submits that a comprehensive federal impact assessment is warranted to ensure that potential effects are assessed at the appropriate scale, with full consideration of alternatives, cumulative effects, and climate context.

### **Detailed Comments**

#### **1. Purpose of These Comments and IAAC's Screening Role**

These comments are submitted to the Impact Assessment Agency of Canada (IAAC) in response to the proposed Marshdale Natural Gas Power Generation Facility and the associated Environmental Assessment Registration Document (EARD).

These comments address IAAC's screening responsibility under the *Impact Assessment Act* (IAA) and ask: does the IAAC has a basis to recommend against conducting a comprehensive federal impact assessment?

Sierra Club Canada Foundation submits that, based on the information currently before IAAC, the answer to that question is no.

Across multiple issue areas – including climate change, project need, alternatives, human health, water resources, wetlands, species at risk, migratory birds, salmon, and cumulative effects – the EA record relies on assumptions, high-level policy references, and deferred analysis that systematically understate the scale, duration, and interaction of potential effects within federal jurisdiction.

Where the EA record understates potential impacts rather than bounding them conservatively, IAAC does not have a defensible basis to screen the Project out. In those circumstances, the *Impact Assessment Act* framework favours escalation to a comprehensive federal impact assessment.

## **2. Project Overview and the Screening Assumptions IAAC Is Being Asked to Accept**

The Marshdale Project is described as an approximately 300 MW simple-cycle natural gas-fired generating facility, with the ability to operate on light fuel oil, proposed for a greenfield site in Nova Scotia. The proponent states that the facility will operate for a minimum of 30 years, extending well beyond Canada’s 2050 net-zero target.

Throughout the EARD, IAAC is asked to accept several core screening assumptions, including that the Project will operate primarily as a low-utilization, fast-acting resource; that its greenhouse gas emissions will be limited or offset through changes elsewhere in the electricity system; that alternatives have been adequately considered through external planning processes; that air quality and human health impacts will be minor and compliant with standards; that water, wetland, and ecological impacts are localized and readily mitigated; that cumulative effects can be addressed through scoping rather than integrated analysis; and that remaining uncertainty can be addressed through future permitting and approvals.

For IAAC’s purposes, the issue is not whether these assumptions are plausible in theory. The issue is whether the EA record provides sufficient, project-specific, enforceable information for IAAC to rely on them in deciding that a comprehensive federal impact assessment is unnecessary. As discussed below, it does not.

## **3. Climate Change and Greenhouse Gas Emissions**

### **(Screening Deficiency: Systematic Understatement of Long-Term Emissions)**

#### **3.1 What the EA Record Asks IAAC to Accept**

The EARD asserts that the Marshdale Project is compatible with Nova Scotia’s climate objectives and with Canada’s broader emissions-reduction commitments. It suggests that emissions associated with the Project will be mitigated or displaced through reduced operation of other fossil-fuel facilities as renewable generation increases. The EARD further implies that the Project’s role as a fast-acting resource will limit its utilization and, by extension, its emissions profile over time. (EARD, project rationale and climate policy context at pp. 6–9; greenhouse gas emissions overview and conclusions at pp. 60–67).

### 3.2 What the EA Record Does Not Provide

For IAAC's screening determination, the EA record does not provide sufficient information to assess whether these assumptions result in an understatement of climate impacts. (EARD, greenhouse gas emissions discussion and assumptions at pp. 60–67).

In particular, the EARD does not provide IAAC with information that would allow it to assess: (EARD provides high-level emissions estimates but does not define an operating profile or displacement mechanism; see pp. 60–67). It omits:

- a clear operating profile showing expected annual hours of operation under different system conditions;
- analysis of how utilization may change under extreme weather events, supply disruptions, or delays in renewable build-out;
- binding, enforceable commitments demonstrating that emissions from Marshdale will be displaced by reductions elsewhere;
- cumulative emissions analysis if Marshdale operates concurrently with other proposed or existing gas-fired generation; and,
- an evaluation of how a 30-year fossil-fuel asset aligns with federal climate obligations over its full operating life.

Instead, the EA record relies on assumptions about future system behaviour and policy alignment that are not supported by project-specific modelling or enforceable constraints. (EARD, reliance on planning context and future system evolution rather than enforceable project constraints at pp. 60–67).

### 3.3 Why This Results in Understatement of Federal Climate Impacts

In the absence of a defined operating profile and enforceable displacement mechanisms, the EA record biases emissions estimates downward. It assumes limited operation and effective displacement without demonstrating either. (EARD, absence of binding operational limits or displacement commitments within the emissions analysis at pp. 60–67).

This matters for IAAC's screening role because greenhouse gas emissions are a core area of federal jurisdiction, and because the scale, persistence, and timing of emissions directly influence the significance of climate-related effects under the *Impact Assessment Act*. (EARD, greenhouse gas emissions framed in relation to policy objectives rather than worst-case or cumulative outcomes at pp. 60–67).

Because there is no legitimate commitment or mechanism proposed to reduce emissions from other power plants and / or sectors in conjunction with approving this project, the project will threaten Canada's federal emissions reduction commitments under the UNFCCC and national legislation. The absence of enforceable displacement measures undermines the integrity of national emissions inventories and compliance with Canada's 2030 targets and Clean Electricity Regulations.

Where emissions could reasonably be higher, more persistent, or more cumulative than presented, the EA record does not bound impacts conservatively – it minimizes them. (EARD, emissions estimates presented without sensitivity analysis or cumulative context at pp. 60–67).

### **3.4 Implication for IAAC’s Screening Recommendation**

The absence of clear, enforceable, and project-specific information on how frequently the Marshdale facility will operate, under what conditions, and for how long means that the EA record systematically understates the Project’s potential greenhouse gas impacts. (EARD, greenhouse gas emissions analysis and conclusions at pp. 60–67).

In these circumstances, IAAC does not have a defensible basis to screen the Project out, and a comprehensive federal impact assessment is warranted. (EARD, climate and GHG assessment sections at pp. 60–67).

## **4. Need for the Project**

(Screening Deficiency: Insufficient Information to Assess Whether Federal Effects Are Avoidable)

### **4.1 What the EA Record Asks IAAC to Accept**

The Environmental Assessment Registration Document (EARD) asserts that the Marshdale Project is required to address electricity system reliability, support electrification and load growth, facilitate coal phase-out, and provide fast-acting dispatchable capacity to complement variable renewable generation.

The EARD further implies that the scale and configuration of the Project – a 300 MW dual-fuel, simple-cycle combustion facility – appropriately reflect this need and that this scale of new generation is necessary to maintain system reliability.

IAAC is therefore being asked to accept that the asserted need is both well-defined and appropriately matched to the Project as proposed.

### **4.2 What the EA Record Does Not Provide**

For IAAC’s screening determination, the EA record does not provide sufficient information to assess whether the asserted need necessitates a project of this scale and type, or whether the same objectives could be met through means that would avoid or reduce potential effects within federal jurisdiction.

In particular, the EARD does not provide IAAC with:

- a clear definition of the specific reliability problem the Project is intended to solve, including the conditions under which it arises and the consequences of non-intervention;

- quantified information on the magnitude, timing, and duration of any capacity shortfall;
- an explanation of why the asserted need requires a single 300 MW facility rather than smaller, modular, or portfolio-based resources; an expected operating profile linking the asserted need to actual hours of operation and emissions; and,
- an assessment of whether the asserted need is short-term, transitional, or persistent over the Project's stated 30-year operating life.

Instead, the EA record relies on generalized references to provincial planning documents and policy objectives without incorporating the relevant analytical detail into the EA record itself.

### **4.3 Why This Results in Understatement of Federal Effects**

The absence of a clearly articulated and quantified need matters for IAAC's screening role because need directly shapes the scale, duration, and interaction of potential effects within federal jurisdiction.

Without understanding how often the facility will operate, under what conditions it will be dispatched, and whether alternative means could satisfy the same objectives, IAAC cannot assess whether climate, air quality, water, ecological, and cumulative effects are being presented conservatively.

Where need is defined broadly and qualitatively, and where utilization assumptions are left implicit, the EA record defaults toward lower-impact scenarios without demonstrating that those scenarios are realistic or enforceable. This results in systematic understatement of potential federal effects.

### **4.4 Implication for IAAC's Screening Recommendation**

Because the EA record does not provide sufficient information to link the asserted system need to the Project's scale, configuration, and operating profile, IAAC lacks a defensible basis to conclude that the Project's potential federal effects are unavoidable or proportionate.

Where uncertainty about need results in understatement of effects, the Impact Assessment Act framework favours escalation to a comprehensive federal impact assessment, not screening.

## **5. Alternatives**

(Screening Deficiency: IAAC Cannot Assess Whether Federal Effects Could Be Avoided or Reduced)

### **5.1 What the EA Record Asks IAAC to Accept**

The EARD acknowledges that alternatives to the Project exist, including renewable generation, energy storage, demand-side management, and interprovincial imports. It asserts that these alternatives have been considered through provincial planning processes and found insufficient to meet the system's fast-acting reliability needs.

IAAC is therefore being asked to accept that reasonable alternatives have been adequately considered and that the Project, as proposed, represents the most appropriate means of meeting the asserted objectives.

## **5.2 What the EA Record Does Not Provide**

For IAAC's screening role, the EA record does not provide sufficient information to evaluate these claims.

In particular, the EARD does not provide IAAC with:

- a comparative assessment of alternatives using consistent metrics, including greenhouse gas emissions, air quality, water use, land disturbance, and cumulative effects;
- modelling outputs showing how non-combustion alternatives or portfolios of alternatives would perform relative to the Project;
- an explanation of how performance requirements such as "fast-acting" capability were defined or tested against non-fossil options;
- a sensitivity analysis addressing uncertainty in storage costs, demand response potential, import availability, or transmission constraints;
- an evaluation of whether alternatives could meet the asserted need over shorter timeframes or with lower long-term federal impacts.

Instead, the EA record relies on conclusory statements that alternatives were considered elsewhere, without incorporating that analysis into the EA record.

## **5.3 Why This Results in Understatement of Federal Effects**

Alternatives analysis is central to IAAC's screening function because it is the primary means by which the Agency can assess whether potential adverse effects within federal jurisdiction are avoidable.

Where alternatives are dismissed without transparent, comparative analysis, the EA record implicitly assumes that the Project's effects are necessary rather than contingent. This assumption biases the record toward acceptance of higher-impact options by default.

In the absence of a transparent alternatives analysis, the EA record systematically understates the degree to which greenhouse gas emissions, air quality impacts, water use, habitat disturbance, and cumulative effects could be avoided or reduced.

## **5.4 Reliance on Off-Record Planning Processes**

The EARD repeatedly relies on Integrated Resource Plans and other planning documents that are not incorporated into the EA record. As a result, IAAC is being asked to accept conclusions without access to the underlying assumptions, scenarios, or sensitivity analysis.

For screening purposes, this reliance on off-record analysis prevents IAAC from independently assessing whether the Project's effects have been minimized.

### **5.5 Implication for IAAC's Screening Recommendation**

Because the EA record does not provide IAAC with sufficient information to assess whether reasonable alternatives could avoid or reduce adverse effects within federal jurisdiction, the Project cannot be screened out on the basis that its impacts are unavoidable.

Where the absence of alternatives analysis results in understatement of avoidable effects, a comprehensive federal impact assessment is warranted.

## **6. Human Health and Air Pollution**

(Screening Deficiency: Reliance on Compliance-Based Modelling Masks Potential Health Effects)

### **6.1 What the EA Record Asks IAAC to Accept**

The Environmental Assessment Registration Document (EARD) concludes that air quality effects associated with the Marshdale Project will be minor and compliant with applicable standards. It asserts that emissions will be managed through standard controls and that predicted concentrations of criteria air contaminants, including fine particulate matter (PM<sub>2.5</sub>), will not result in significant adverse effects on human health.

IAAC is therefore being asked to accept that compliance with regulatory thresholds is an adequate proxy for protection of public health, and that potential exposure to PM<sub>2.5</sub> and other pollutants will be limited in frequency, duration, and magnitude.

### **6.2 What the EA Record Does Not Provide**

For IAAC's screening determination, the EA record does not provide sufficient information to assess whether potential human health effects are being understated.

In particular, the EARD does not provide IAAC with:

- a project-specific human health impact assessment;
- a characterization of baseline PM<sub>2.5</sub> exposure in nearby communities, including existing cumulative sources;
- an assessment of exposure during peak operating periods, start-up events, or extreme weather conditions;

- analysis of cumulative exposure where Marshdale operates concurrently with other combustion sources; and,
- an evaluation of impacts on vulnerable populations, including children, older adults, and individuals with pre-existing respiratory or cardiovascular conditions.

Instead, the EA record relies primarily on modelled concentrations under assumed operating conditions and on regulatory compliance as a surrogate for health protection.

### **6.3 Why This Results in Understatement of Federal Health Effects**

Fine particulate matter (PM<sub>2.5</sub>) is widely recognized as a pollutant for which no safe threshold exists. Health effects occur at concentrations below regulatory standards, particularly where exposures are chronic or cumulative.

Where the EA record assumes limited utilization without enforceable constraints, relies on averaged concentrations rather than peak or episodic exposure, and does not assess cumulative exposure from multiple sources, it systematically biases health impact characterization downward.

This matters for IAAC's screening role because human health effects are explicitly relevant under the Impact Assessment Act, and understated exposure directly affects IAAC's ability to assess the likelihood and significance of adverse effects within federal jurisdiction.

### **6.4 Implication for IAAC's Screening Recommendation**

The absence of a project-specific human health impact assessment, combined with reliance on modelling assumptions that minimize exposure, means that the EA record understates potential human health impacts associated with PM<sub>2.5</sub> and other air contaminants.

Where health risks may be greater, more persistent, or more cumulative than presented, IAAC does not have a defensible basis to screen the Project out. In these circumstances, a comprehensive federal impact assessment is warranted.

## **7. Water and Groundwater**

(Screening Deficiency: Understatement of Climate-Amplified Hydrologic Effects)

### **7.1 What the EA Record Asks IAAC to Accept**

The EARD assesses surface water and groundwater effects as localized and manageable. It concludes that water withdrawals, stormwater management, and potential interactions with nearby watercourses will not result in significant adverse effects following standard mitigation and future permitting. (EARD, groundwater and surface water baseline and effects discussion at pp. 117–145; stormwater management and watercourse interaction discussion within this section at pp. 130–145).

IAAC is therefore being asked to accept that groundwater withdrawals will not affect availability or connected surface waters, that baseflow contributions to nearby streams will not be meaningfully altered, and that climate change will not materially affect water availability or hydrologic interactions. (EARD, conclusions re withdrawals, connectivity and effects management at pp. 133–145).

## **7.2 What the EA Record Does Not Provide**

For IAAC’s screening purposes, the EA record does not provide sufficient information to assess whether water-related effects are being understated. (EARD, hydrogeology, groundwater use and hydrology discussion at pp. 117–145).

In particular, the EARD does not provide IAAC with: (EARD provides baseline hydrogeology and water features but limited climate-stress testing and watershed-scale connectivity analysis; see pp. 117–145, particularly pp. 133–145).

- a climate-informed assessment of groundwater availability over the Project’s operating life;
- an analysis of groundwater–surface water connectivity under low-flow or drought conditions;
- an evaluation of cumulative water withdrawals within the watershed; and,
- an assessment of how climate change may amplify hydrologic stress or variability; quantified analysis of baseflow contributions to downstream aquatic systems.

Instead, the EA record treats water resources largely as static systems assessed under present-day conditions. (EARD, present-condition framing of hydrology and groundwater discussion at pp. 117–145).

## **7.3 Why This Results in Understatement of Federal Water-Related Effects**

Climate change is expected to alter precipitation patterns, increase the frequency of droughts, and intensify hydrologic variability. In this context, assessments that rely on current conditions risk understating future impacts. (EARD acknowledges climate context but does not provide climate-informed hydrologic stress testing in groundwater/withdrawal analysis; see pp. 117–145).

Where groundwater withdrawals are assessed without stress-testing under climate scenarios, evaluating cumulative demand, or accounting for hydrologic connectivity, the EA record minimizes the likelihood and magnitude of downstream effects, including effects on fish habitat and aquatic ecosystems within federal jurisdiction. (EARD, groundwater withdrawal and effects discussion at pp. 133–145).

## **7.4 Deferral to Future Permitting**

The EARD repeatedly defers detailed water-related analysis to future permitting processes. For IAAC, this deferral is not neutral. (EARD, permitting/approvals and monitoring commitments for water resources at pp. 140–145).

If key uncertainties about water availability, connectivity, and climate amplification are unresolved at the screening stage, IAAC is being asked to assume that future processes will manage risks that have not yet been characterized.

### **7.5 Implication for IAAC's Screening Recommendation**

The absence of climate-informed, watershed-scale water analysis means that the EA record understates potential water-related impacts that could interact with fish habitat and aquatic ecosystems under federal jurisdiction. (EARD, groundwater/surface water analysis and conclusions at pp. 117–145).

Where hydrologic effects may be greater under future climate conditions than presented, IAAC does not have a defensible basis to screen the Project out. A comprehensive federal impact assessment is warranted. (EARD, discussion of water resources effects management and commitments at pp. 133–145).

## **8. Wetlands and Terrestrial Habitat**

(Screening Deficiency: Area-Based Assessment Understates Functional and Landscape-Scale Loss)

The EA record characterizes wetland and terrestrial habitat impacts primarily by area and mitigation intent, without evaluating ecological function, landscape context, or cumulative loss in a region already subject to historic wetland depletion. The absence of functional assessment, connectivity analysis, and demonstrated compensation equivalency results in an understatement of ecological effects. This prevents IAAC from determining whether residual impacts to wetlands and associated habitat may be more significant, persistent, or less reversible than presented, warranting a comprehensive federal impact assessment.

### **8.1 What the EA Record Asks IAAC to Accept**

The Environmental Assessment Registration Document (EARD) identifies wetlands and terrestrial habitats within and adjacent to the Project Area and concludes that impacts will be localized, manageable, and capable of mitigation or compensation. It treats wetland effects largely in terms of mapped area and proposes future compensation to address residual loss.

IAAC is therefore being asked to accept that:

- wetland loss is limited and not functionally significant;
- remaining wetlands are replaceable through compensation;
- terrestrial habitat effects are minor and confined to the Project footprint; and,
- broader landscape context does not materially affect significance.

### **8.2 What the EA Record Does Not Provide**

For IAAC's screening determination, the EA record does not provide sufficient information to assess whether wetland and habitat impacts are being understated.

In particular, the EARD does not provide IAAC with:

- a functional assessment of affected wetlands, including roles in groundwater recharge, baseflow maintenance, flood attenuation, and water quality regulation;
- an analysis of wetland connectivity at the watershed or sub-watershed scale;
- information on historic wetland loss in the region and its relevance to residual ecological capacity;
- identification of proposed compensation locations or demonstration of functional equivalency; and,
- an assessment of time lags between wetland loss and any restored function.

Instead, wetland impacts are characterized primarily by area and mitigation intent, without sufficient evaluation of ecological function or cumulative loss.

### **8.3 Why This Results in Understatement of Federal Ecological Effects**

In landscapes where historic wetland loss has already reduced ecological resilience, remaining wetlands often play disproportionately important functional roles.

Assessments that focus narrowly on area lost, without accounting for function or landscape context, tend to understate ecological effects.

This matters for IAAC's screening role because wetlands:

- mediate surface water and groundwater interactions;
- support downstream aquatic ecosystems;
- influence habitat availability for federally protected species; and
- contribute to climate resilience.

Where wetland compensation is proposed but not specified or evaluated, IAAC is being asked to assume future success without evidence that equivalent functions will be restored.

### **8.4 Implication for IAAC's Screening Recommendation**

The absence of functional wetland assessment and reliance on undefined future compensation means that the EA record understates the ecological significance of wetland loss and habitat alteration.

Where wetland and habitat effects may be greater, more persistent, or less reversible than presented, IAAC does not have a defensible basis to screen the Project out. In these circumstances, a comprehensive federal impact assessment is warranted to evaluate functional loss, connectivity, and cumulative landscape effects.

## **9. Species at Risk and Migratory Birds**

(Screening Deficiency: Understatement of Functional Habitat and Cumulative Pressure)

### **9.1 What the EA Record Asks IAAC to Accept**

The EARD identifies species listed under the Species at Risk Act (SARA) and migratory birds protected under the Migratory Birds Convention Act (MBCA) that may occur within the broader Project Area. It concludes that effects will be limited, mitigable, and not significant. (EARD, species at risk and migratory birds baseline surveys and screening at pp. 210–238; migratory birds discussion at pp. 240–255).

IAAC is therefore being asked to accept that:

- species presence is limited or incidental;
- habitat loss does not affect population viability;
- disturbance effects are temporary and localized; and
- cumulative pressures on already stressed species are negligible.

(EARD, effects characterization and significance conclusions for wildlife and birds at pp. 228–238, 245–255).

### **9.2 What the EA Record Does Not Provide**

For screening purposes, the EA record does not provide sufficient information to assess whether effects on species at risk and migratory birds are being understated. (EARD, methodology for species screening and effects assessment at pp. 210–238).

In particular, the EARD does not provide IAAC with:

- functional habitat assessments for listed species beyond presence/absence determinations;
- an analysis of indirect effects, including habitat fragmentation, hydrologic change, and disturbance;
- an evaluation of seasonal use of habitats by migratory birds;
- an assessment of cumulative habitat loss across the region; and,
- consideration of climate-amplified stressors interacting with Project effects.

(EARD relies on presence/absence surveys and distance-based screening; see pp. 214–220, 226–232; limited indirect/cumulative effects analysis at pp. 233–238).

Instead, the assessment relies heavily on screening by distance, survey timing, and footprint. (EARD, emphasis on footprint-based and survey-based screening at pp. 214–232).

### **9.3 Why This Results in Understatement of Federal Wildlife Effects**

For species at risk and migratory birds, effects are often driven not by direct mortality alone, but by loss of functional habitat, disruption of ecological processes, cumulative disturbance, and reduced resilience under climate change. (EARD does not assess functional habitat loss or population-level effects; see pp. 226–238, 245–255).

Where assessments focus narrowly on site-specific presence and immediate effects, they tend to understate impacts on populations already subject to multiple stressors.

This matters for IAAC because SARA and the MBCA engage clear federal responsibilities, and because functional habitat loss can have population-level consequences even when effects appear localized. (*Species at Risk Act* and *Migratory Birds Convention Act* context reflected in EARD baseline and effects sections at pp. 210–255).

#### **9.4 Implication for IAAC's Screening Recommendation**

The absence of functional habitat analysis and cumulative effects assessment for species at risk and migratory birds means that the EA record understates the likelihood and significance of adverse effects within federal jurisdiction. (EARD, wildlife and birds effects conclusions at pp. 233–238, 245–255).

Where uncertainty and incomplete information bias conclusions toward minimal impact, IAAC does not have a defensible basis to screen the Project out. A comprehensive federal impact assessment is warranted.

### **10. Atlantic Salmon and Cold Water Species**

(Screening Deficiency: Fragmented Aquatic Assessment Masks System-Level Fisheries Effects)

#### **10.1 What the EA Record Asks IAAC to Accept**

The Environmental Assessment Registration Document (EARD) acknowledges the presence of Atlantic salmon and other cold-water aquatic species within the broader watershed but concludes that the Project will not result in significant adverse effects on fish or fish habitat. This conclusion is based largely on the Project's distance from mapped salmon habitat and the assumption that localized mitigation measures will prevent downstream effects.

IAAC is therefore being asked to accept that:

- groundwater withdrawals and surface disturbances will not affect downstream cold-water systems;
- baseflow contributions to salmon-bearing streams will remain intact;
- Project-related effects will not interact meaningfully with climate-driven stressors; and,
- any remaining uncertainty is negligible for screening purposes.

## 10.2 What the EA Record Does Not Provide

For IAAC's screening determination, the EA record does not provide sufficient information to assess whether effects on salmon and cold-water systems are being understated.

In particular, the EARD does not provide IAAC with:

- watershed-scale analysis linking groundwater withdrawals to surface water flow and temperature;
- an assessment of baseflow dependence for downstream salmon-bearing streams;
- an analysis of how drought, low-flow conditions, or elevated temperatures may amplify Project-related stress; and,
- an evaluation of cumulative stressors affecting salmon populations within the watershed.

Instead, the assessment relies primarily on screening by proximity rather than on hydrologic and ecological connectivity.

## 10.3 Why This Results in Understatement of Federal Fisheries Effects

Atlantic salmon and other cold-water species are highly sensitive to changes in groundwater-supported baseflow and stream temperature. Even modest hydrologic alterations can have disproportionate biological consequences, particularly under warming climate conditions.

Where assessments do not evaluate watershed-scale processes, they tend to understate risks to fish habitat protected under the *Fisheries Act*.

## 10.4 Implication for IAAC's Screening Recommendation

The absence of watershed-scale, climate-informed analysis means that the EA record understates potential effects on salmon and cold-water aquatic systems.

Where fish and fish habitat effects may be greater, more persistent, or more cumulative than presented, IAAC does not have a defensible basis to screen the Project out. A comprehensive federal impact assessment is warranted.

## 11. Cumulative and Regional Effects

(Screening Deficiency: Understatement Through Piecemeal Scoping)

### 11.1 What the EA Record Asks IAAC to Accept

The EARD assesses cumulative effects within a limited spatial and temporal scope and concludes that cumulative impacts will not be significant. It treats the Project largely as an isolated undertaking, with cumulative effects considered only in relation to a narrow set of existing activities. (EARD, cumulative effects methodology and scoping discussion at pp.

38–45; cumulative VC conclusions repeated across VC chapters, e.g., air quality pp. 84–87; wetlands pp. 150–165; wildlife pp. 228–238).

IAAC is therefore being asked to accept that:

- cumulative effects are minimal;
- interactions with other proposed or foreseeable projects are limited; and,
- broader regional or system-level effects do not warrant further assessment.

(EARD, cumulative effects significance conclusions across VC sections at pp. 38–45 and within individual VC chapters).

## **11.2 What the EA Record Does Not Provide**

For IAAC’s screening role, the EA record does not provide sufficient information to assess cumulative effects at a scale commensurate with the Project’s potential impacts. (EARD, cumulative effects scoping framework at pp. 38–45).

In particular, the EARD does not provide IAAC with:

- an analysis of cumulative greenhouse gas emissions from multiple gas-fired facilities proposed in the region;
- an assessment of cumulative air quality and PM<sub>2.5</sub> exposure;
- an evaluation of cumulative water withdrawals and wetland loss;
- an integrated assessment of cumulative stress on species at risk and migratory birds; and,
- consideration of climate change as a cumulative effect amplifier.

(EARD does not integrate cumulative GHG, air quality, water, habitat, and species effects across projects; see cumulative framework pp. 38–45 and VC-specific chapters throughout).

Instead, cumulative effects are constrained by scoping choices rather than by evidence demonstrating that broader effects are unlikely. (EARD, scoping choices limiting cumulative effects to narrow spatial/temporal bounds at pp. 38–45).

## **11.3 Why This Results in Understatement of Federal Effects**

Cumulative effects are, by definition, more likely to be understated when projects are assessed in isolation. Where multiple stressors interact—climate change, habitat loss, pollution, and hydrologic alteration—the combined effect may be greater than the sum of individual components. (EARD acknowledges multiple stressors but does not integrate them analytically; see pp. 38–45 and VC chapters).

## **11.4 Implication for IAAC’s Screening Recommendation**

Because cumulative effects are scoped narrowly rather than assessed comprehensively, the EA record understates the Project's contribution to regional and system-level effects. (EARD, cumulative effects conclusions at pp. 38–45).

Where cumulative impacts may be greater than presented, IAAC does not have a defensible basis to screen the Project out. A comprehensive federal impact assessment is warranted. (EARD, cumulative effects framework and conclusions at pp. 38–45).

## **12. Deferral to Future Permitting**

(Screening Deficiency: Reliance on Unexamined Assumptions)

### **12.1 Pattern of Deferral in the EA Record**

Across multiple issue areas—including air quality, human health, water resources, wetlands, species at risk, migratory birds, and cumulative effects—the EARD defers detailed analysis to future permitting and approvals. This deferral is framed as reassurance that risks will be managed later. (EARD, repeated reliance on future permitting and monitoring commitments across VC chapters, including air quality pp. 84–87; water resources pp. 140–145; wetlands pp. 150–165; wildlife/species pp. 228–238; fisheries/aquatic pp. 304–328).

### **12.2 Why Deferral Matters at the Screening Stage**

For IAAC's screening role, deferral is not neutral. If impacts are not fully characterized, mitigation measures are not specified or tested, and uncertainty is resolved only after screening, IAAC is being asked to rely on assumptions rather than evidence. (EARD, framing of mitigation and effects management as future permitting conditions across VC chapters, see pp. 84–87, 140–145, 150–165, 228–238, 304–328).

Deferral tends to bias the EA record toward understatement, as unresolved risks are treated as manageable by default. (EARD, cumulative reliance on post-registration permitting, monitoring, and adaptive management commitments rather than upfront analysis).

### **12.3 Implication for IAAC's Screening Recommendation**

Where key uncertainties are deferred rather than examined, IAAC does not have a defensible basis to conclude that potential federal effects are insignificant or adequately understood. (EARD, deferral of unresolved risks to future approvals across multiple VC sections).

In these circumstances, escalation to a comprehensive federal impact assessment is warranted. (EARD, overall effects management approach relies on future regulatory instruments rather than comprehensive assessment).

### **13. Conclusion**

Taken together, the screening deficiencies identified in this submission do not reflect isolated gaps, but a consistent pattern in the EA record. Across issue areas, potential adverse effects are assessed using unbounded assumptions, fragmented analysis, and deferred decision-making, rather than conservative, integrated, and enforceable evaluation. Effects are considered in valued component silos rather than through a system-level lens, alternatives are acknowledged but not tested, and critical uncertainties are deferred to future permitting.

**In these circumstances, IAAC does not have a defensible basis to conclude that the Project's potential effects within federal jurisdiction are insignificant or well understood. The threshold for a comprehensive federal impact assessment is therefore met.**

**We also contend that the need for, scale, scope, impacts and cumulative impacts of this plant and a second gas-fired plant proposed for Salt Springs (Project Ref. No 90114) are inter-related and cannot be determined in isolation, and recommend that both plants be assessed jointly through a single federal impact assessment.**

### Appendix A: Key Record References (EARD)

<b>Section</b>	<b>Issue Area</b>	<b>Key EARD Pages Cited</b>
Section 3	Climate Change & GHG Emissions	pp. 6-9; 60-67
Section 4	Project Need	pp. 3-4; 20-21; 25; 73
Section 5	Alternatives	p. 25; p. 73
Section 6	Human Health & Air Pollution (PM <sub>2.5</sub> )	pp. 12; 68; 84-87
Section 7	Water & Groundwater	pp. 117-145; 130-145
Section 8	Wetlands & Terrestrial Habitat	pp. 123-129; 150-165
Section 9	Species at Risk & Migratory Birds	pp. 210-238; 240-255
Section 10	Salmon & Cold-Water Aquatic Systems	pp. 134-136; 304-328
Section 11	Cumulative & Regional Effects	pp. 38-45; VC chapters
Section 12	Deferral to Future Permitting	pp. 84-87; 140-145; 150-165; 228-238; 304-328