## **Enclosure 1: Federal Authority Advice Record**

## Response due by September 13, 2023

**Great Bear Gold Project Agency File:** 85832

All comments should be submitted via the <u>Submit a Comment</u> feature available on the Project's Canadian Impact Assessment Registry page<sup>1</sup>. Letters and forms can be uploaded using this feature. If you have any difficulties submitting this way, please contact the Agency at *GreatBear@iaac-aeic.gc.ca*.

Department/Agency	Fisheries and Oceans Canada (DFO)		
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1. (a) Is it probable that your department or agency may be required to exercise a power or perform a duty or function related to the Great Bear Gold Project (the Project) to enable it to proceed?

If yes, specify the Act of Parliament and that power, duty or function.

Fisheries and Oceans Canada (DFO) has legislative and regulatory responsibilities under the *Fisheries Act* and the *Species at Risk Act*.

Based on the initial project description, a paragraphs 34.4(2)(b) and 35(2)(b) *Fisheries Act* Authorization is likely to be required because the project has the potential to cause the death of fish and/or the harmful alteration, disruption, or destruction of fish habitat, which is prohibited unless authorized.

DFO also reviews projects for effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk* 

<sup>&</sup>lt;sup>1</sup> https://iaac-aeic.gc.ca/050/evaluations/proj/85832

Act, respectively. Based on the initial project description, the Project area is not within the distribution or critical habitat of any listed aquatic species at risk. As currently proposed, it is unlikely that the Species At Risk Act will apply to this Project.

(b) Please describe any Indigenous or public consultation that will be undertaken in relation to the excise of that power, duty or function, including when it would take place.

If DFO makes a determination that a *Fisheries Act* Authorization and/or SARA permit is required, the Duty to Consult may be triggered if the decision has the potential to adversely impact potential or established Indigenous or Treaty rights. The Minister must consider any adverse effects that the decision may have on the rights of Indigenous peoples of Canada recognized and affirmed by section 35 of the Constitution Act, 1982. If the Agency determines that an IA is required, consultation during the IA may be relied upon for components of DFO's regulatory process dependent on the detail available during the IA. Consultation would continue through the *Fisheries Act* Authorization process. The timeline for Indigenous consultation begins when all components of the Authorization application have been received and are sufficient from a technical and policy perspective. However, DFO encourages proponents to engage Indigenous communities and incorporate their views and perspectives prior to submitting an application. DFO is available to participate in these early discussions.

The precise nature of consultation activities is dictated by developing a shared understanding with each respective community, and determining a mutual path forward. Feedback from Indigenous groups drives how impacts may be addressed, within the bounds of DFO's mandate.

DFO does not engage the public on a project-by project basis when considering a decision under paragraphs 34.4(2)(b) and 35(2)(b) of the *Fisheries Act*, nor under section 73 of SARA.

Is your department or agency in possession of specialist or expert information or knowledge that may be relevant to the conduct of an impact assessment of the Project?

Specify the specialist or expert information or knowledge.

Yes, DFO's specialist or expert information or knowledge is linked to its legislative and regulatory responsibilities under the *Fisheries Act* and *Species at Risk Act*. DFO possesses specialist or expert information or knowledge of fish and fish habitat, including aquatic species at risk, and expert knowledge on the assessment of impacts to fish and fish habitat, including impacts of flow changes on fish and fish habitat. This includes but is not limited to assessing the adequacy of sampling that has been conducted to describe the baseline environment and making comparisons to post-impact outcomes, and whether the avoidance, mitigation, and offsetting measures proposed by the proponent are appropriate and adequate.

3. Has your department or agency considered the Project; exercised a power or performed a duty or function under any Act of Parliament in relation to the Project; or taken any course of action that would allow the Project to proceed in whole or in part?

Specify.

No.

4. Has your department or agency had previous contact or involvement with the Proponent or other party in relation to the Project? (for example: an enquiry about methodology, guidance, or data; introduction to the Project)

Provide an overview of the information or advice exchanged.

No.

5. Does your department or agency have advice for the Proponent on whether and how they can provide information as part of the impact assessment process to streamline any permits, approvals or authorizations that may be required for the Project by your department or agency?

Specify as appropriate.

Yes.

Engagement with potentially impacted Indigenous communities regarding potential offsetting and compensation ideas should happen early and often throughout the impact assessment process prior to the submission of a *Fisheries Act* Authorization application.

The proponent is encouraged to present multiple options and concepts for offsetting and compensation following DFO's 'Policy for Applying Measures to Offset Adverse Effects on Fish and Fish Habitat Under the Fisheries Act'

The Proponent should also review and follow all technical guidance documents listed within Table 1 below when preparing information as part of the impact assessment process:

Common Topic	DFO Guidance
Assessing potential impacts to fish and fish habitat	Projects near water (dfo-mpo.gc.ca)
Assessing impacts of changes to flows on fish and fish habitat	DFO. 2013. Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2013/017
Blasting guidelines in or near fish habitat	Cott and Hanna. 2005. Monitoring Explosive-based Winter Seismic Exploration in Waterbodies, NWT 2000- 2002. Pages 473-490. In: Proceedings of the Offshore Oil and Gas Environmental Effects Monitoring Workshop: Approaches and Technologies. Battelle Press. Columbus. 601 p + index.

6. Does your department or agency have additional information or knowledge not specified, above, including information on the geographic, environmental, economic or social context of the project? (e.g. location of protected or sensitive areas, previous history between local communities and Proponent or similar projects, local or regional social or economic concerns)?

Specify as appropriate.

DFO has ongoing regulatory oversight associated with a culvert replacement on a tributary to Dixie Creek (DFO File No. 23-HCAA-00453); however, additional context for the broader site is not available.

7. What are the <u>key issues</u> likely to be relevant to the public interest decision, based on the mandate and area(s) of expertise of your department, and which should be addressed in an impact assessment of the Project, should the Agency determine that one is required?

For each key issue:

- Describe the effect or the nature of the issue, including any relevant context;
- Provide the rationale and/or evidence for why it is a key issue;
- Identify briefly solutions to the issue, including any information or studies that should be required in the Tailored Impact Statement Guidelines, potential mitigation measures, and/or regulatory requirements relevant to the issue;
- Provide a concise, plain-language summary of the issue for inclusion in the Summary of Issues.

The information provided will be used by the Agency to determine if and an impact assessment is required and where appropriate to develop project-specific draft Tailored Impact Statement Guidelines that focus on the key issues likely to be relevant to the public interest decision.

Please use *Table 1: Key Issues to inform decision-making* to respond to this question.

See Table 1

- 8. Where possible, identify any clarifications or additional information the Proponent could include in the Detailed Project Description or in the response to the Summary of Issues that would:
  - give confidence that an issue or effect could be addressed and managed;
  - inform the decision as to whether an impact assessment is required; or
  - aid in tailoring the Impact Statement Guidelines if an impact assessment is required.

These clarifications and additional information will be included as specific questions in the Summary of Issues provided to the Proponent.

Please use *Table 2: Clarification or additional information the Proponent could include in the Detailed Project Description or in the response to Summary of Issues* to respond to this question.

See Table 2

Melanie Campbell
Name of Departmental / Agency
Responder

## Fish and Fish Habitat Biologist Title of Responder September 13, 2023

Date

## Table 1: Key Issues to inform decision-making

The Agency asks that federal authorities align expert advice to comment on whether potential project effects<sup>2</sup> in areas of federal jurisdiction have been accurately<sup>3</sup> characterized and adequate<sup>4</sup> mitigation to minimize those effects have been presented by the proponent. The Agency requires that advice consider the context and setting of the Project, and the regulatory mechanisms that may be in place to oversee effects in areas of federal jurisdiction. In identifying key issues relevant to the public interest decision, federal authorities should be mindful of the Project's context (size, scope, location), Indigenous knowledge and perspectives, and public concerns. Key issues that may be relevant to the public interest decision include:

- effects that in areas of federal jurisdiction and that may be significant, based on federal experts' knowledge and experience with past projects;
- effects that may impact Indigenous peoples and their rights, based on Indigenous knowledge and perspectives or experience with past projects;
- effects on key species or habitats (e.g. at risk, important to Indigenous communities, commercial importance, provide important ecosystem function);
- issues or effects that may result from novel project activities, components or technology;
- effects with large uncertainties, including in the effectiveness of mitigation measures;
- transboundary effects where mitigation measures are limited;
- positive effects, including where project may support other governmental priorities, including reconciliation with Indigenous peoples; and
- key concerns raised by Indigenous or local communities.

Effects that are anticipated to be minor or which can be managed using well understood mitigation measures, existing guidance, and/or other regulatory processes may have simplified information requirements or may be removed entirely. Measured advice from federal authorities on key issues and solutions —and on the scope and detail of any required information and studies — will enable the Agency to focus assessments on issues that are important to participants and to decision-makers.

Comment ID	Valued Component or Factor to Consider	Description of Key Issue (Context and Rationale)	Solutions	Plain language summary for inclusion in Summary of Issues
Please identify comments by organization and comment number. e.g.: IAAC-01	Identify valued component(s) or factor to consider—within the mandate of your department or agency—to which the effect or issue applies.	Provide a brief description of the issue and rationale for being a key issue.  Include, where relevant,:  • the pathway of effects;  • social, economic or environmental context which are relevant to it being a key issue;  • key uncertainties that should be addressed in the impact assessment;  • Indigenous or public concerns or perspective;  • potential for differential effects among diverse subgroups;  • scientific evidence or traditional knowledge, including from past project experience, which supports inclusion as a key issue.	<ul> <li>Where applicable, briefly identify solutions to address the potential issue or effects including</li> <li>Information or studies required to describe and characterize the effect, should an impact assessment be required; including any guidance for data collection and/or analysis or existing data sources to inform the assessment;</li> <li>Any powers, duties or functions that your department or agency has that may mitigate, manage, or set conditions related to the effect;</li> <li>Guidance or policies for mitigating effects or any standard and well-understood mitigation measures that would address the effect, including follow-up monitoring activities; and/or</li> <li>Commitments the Proponent could make to respond to the issue.</li> <li>Where available, please refer to existing text in the TISG template.</li> </ul>	For issues to be included in the Summary of Issues, provide a concise, plain language synopsis of the key issue and any questions or directions for the Proponent.
DFO-01	Fish and Fish Habitat	General - the potential for the project to cause the harmful alteration, disruption, or destruction of fish habitat:  The initial project description provides enough information to indicate that there will be potential adverse effects on fish and fish habitat from the Project that will require further review from Fisheries and Oceans Canada. As expected in	DFO suggests that the proponent should take the following steps to inform a full understanding of the Project's potential effects on fish and fish habitat:     Use of a Pathways of Effects approach to determine potential effects	Impacts to fish and fish habitat during construction, operation, and closure of the project are yet to be fully understood. There is potential for the harmful alteration, disruption, or destruction of fish and fish habitat based on the Project footprint. Specifics of the locations, potential impacts, and the application of mitigation will

<sup>&</sup>lt;sup>2</sup> Effects in this context means effects in areas of federal jurisdiction as defined in section 2 of the Impact Assessment Act.

<sup>&</sup>lt;sup>3</sup> For effects in areas of federal jurisdiction, "accurately" means whether the proponent made sufficient effort to clearly (supported by baseline or studies undertaken) characterized the effect (including magnitude, geographic extent, duration, frequency, reversibility, context, etc.).

For effects in areas of federal jurisdiction, "adequately" means, in relation to project design and/or selection of mitigation measures, whether the proponent has identified reasonable measures to manage and minimize effects in the context of the Project (including, if applicable, follow-up monitoring, and adaptive management).

the initial project description phase, the exact magnitude, nature, and ability to mitigate direct and indirect impacts is not fully understood. The proponent states that potential effects include: alteration, disruption and destruction of fish habitat, change to natural surface water flow pattern, and surface water quality alteration. Without additional information on fish and fish habitat at each impacted waterbody, and the type of works proposed, DFO will be unable to understand potential effects on fish and fish habitat; and if these effects can be effectively mitigated.

The project is likely to result in the harmful alteration and/or destruction of fish habitat as a result of the project footprint, potentially resulting in direct and indirect (i.e., flow changes), negative impacts to fish and fish habitat.

DFO has standard mitigation measures posted on its projects near water website: <a href="https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html">https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html</a>. Additional analysis typically leads to the generation of site-specific measures in addition to standard measures. DFO encourages the proponent to explicitly consider the mitigation hierarchy, avoid and mitigate to the extent possible prior to considering the need to offset.

DFO's offsetting requirement allows for mitigation of remaining residual effects on fish and fish habitat; generation of adequate offsetting plans can be challenging and is proponent driven.

- Policy for applying measures to offset adverse effects on fish and fish habitat under the Fisheries Act. <a href="https://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/policies-politiques-eng.html">https://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/policies-politiques-eng.html</a>.
- Equivalency metrics for the determination of offset requirements for the Fisheries Protection Program https://publications.gc.ca/site/eng/9.819522/publication.html

The proponent's analysis of potential effects and the pathways leading to residual effects should explicitly identify the requirement for offsetting and the monitoring program the proponent will undertake to verify offsetting success using scientifically defensible methods.

The proponent has begun identifying potential project components, such as surface water management, however, this is not an exhaustive list and the proponent needs to identify all potential project components that may affect fish and fish habitat as a starting point for identifying potential effects.

The proponent has not fully characterized the effect of each project component on fish and fish habitat, rather they have provided a preliminary outline of effects based on project phase (construction, operation, closure). It is not possible for DFO to assess the adequacy of mitigation measures until an exhaustive list of potential effects has been identified by the proponent, and therefore, it is not possible for DFO to assess the residual effects of the project that require offsetting.

The proponent has not addressed additional uncertainties related to impacts to fish and fish habitat, including:

- Site specific impacts at each impacted waterbody, including quantification (e.g. area estimate) of affected habitat associated with the works.
- Inclusion of traditional knowledge related to fish and fish habitat (where available)
- Potential for the Project to contribute to cumulative effects to fish and fish habitat

- Identify whether additional site-specific avoidance and mitigation measures can be implemented utilizing the standard measures to avoid and mitigate impacts to fish and fish habitat. DFO emphasizes the importance of the mitigation hierarchy and the need to avoid and mitigate to the extent possible prior to considering the need to offset. DFO encourages the proponent to explicitly consider this approach in their planning processes
- identify all residual effects on fish and fish habitat, through a detailed accounting of potential effects and proposed mitigation measures; and
- develop an offsetting plan, if required. The proponent's analysis of potential effects and the pathways leading to residual effects should explicitly identify the requirement for offsetting.
- 2) If a Fisheries Act Authorization is required, conditions to mitigate and manage effects to fish and fish habitat would be included in the authorization. They would also require monitoring of project impacts and effectiveness of mitigation. These conditions would be legally binding.

To further understand impacts of the project on fish and fish habitat the proponent should undertake the following, as per the TISG template:

- 3) Prepare a list of all waterbodies and watercourses (permanent and intermittent) that may be directly or indirectly affected by the project and provide:
  - type of water body or watercourse;
  - size and depths of the waterbody or watercourse
  - streamflow types and characteristics;
  - substrate type, vegetation and anthropogenic barriers to fish;
  - description of any proposed water work;
  - for each crossing, describe the anticipated method of crossing (trenched or trenchless).
- 4) Provide a more detailed map of waterbodies/courses that will be directly impacted by the project footprint. Distinguish waterbodies/courses resulting in a harmful alteration, disruption, or destruction of fish habitat (section 35 of the Fisheries Act) versus waterbodies/courses impacted by the deposition of deleterious substances such as tailings and waste rock (section 36 or the Fisheries Act).
- 5) Select an appropriate study design with the ability to detect changes in fish and fish habitat throughout the duration of the Project (e.g., baseline data collection, monitoring).
- Provide a list of fish species likely to be present in each watercourse, including aquatic species at risk, and provide the location and description of suitable or potential habitat for these species (residence and critical habitat) in or near the project study area
  - Characterize the fish-bearing status of a watercourse (e.g., occupancy), in particular in habitat suspected of being fishless, using sufficient lines of evidence.
- 7) Provide a habitat use or suitability evaluation for fish present and habitat function (e.g. spawning, nursery, growth, prey, invertebrate population, food availability, foraging, migration, cover habitat, thermal and overwintering habitat, etc.) and sensitive times for these activities
- Describe the extent of riparian disturbances associated with construction.
- 9) Consider cumulative effects
- 10) Develop site specific mitigation measures that detail the conditions on which crossings of watercourses and riparian areas would be restored and maintained after construction of the project.
- 11) Following the development of site specific mitigation measures, evaluate any residual impacts to fish and fish habitat.
- 12) Identify and describe the data sources used, including information on data collection (e.g. gear and catch methods, location of sampling stations, date of catches, date of surveys, species surveyed, size and

need to be provided to determine if residual effects may occur that would result in prohibited effects under the *Fisheries Act* that would require authorization.

life cycle stage, catch per unit effort). It is recommended that the information be presented in the form of tables  13) Provide a summary of existing studies and research on potential effects of noise and vibrations on potentially affected aquatic species, including behavioural impacts in a freshwater environment
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Please insert additional rows as necessary

Table 2. Clarifications or additional information the Proponent could include in the Detailed Project Description or in the response to Summary of Issues

Comment ID	Relevant section of the Initial Project Description	Description of Issue, Concern or Uncertainty	Clarification or additional information	Plain language summary for inclusion in Summary of Issues
Please	If the comment is related to	Provide a description of the issue, concern or uncertainty the	Provide recommended clarification or	For issues to be included in the Summary of Issues,
identify	a specific section of the	Proponent could address in their detailed project description	additional information to be included in the	provide a concise, plain language synopsis of the issue and
comments by	Initial Project Description,	that would give confidence that the issue will be addressed	Detailed Project Description to address the	of the question or direction for the Proponent.
organization	please provide a reference.	and managed, or which could aid in tailoring the Guidelines	issue, concern or uncertainty, for example	
and comment			Clarifications to project description (e.g.	
number.	You may also choose to		components, activities, locations or	
	copy the relevant text here.		alternatives);	
e.g.: IAAC-01			Project design changes that could avoid	
			effects;	
			Evidence that could be presented to	
			demonstrate there is no effect pathway or	
			that effects will be negligible;	
			Evidence that standard mitigations will	
			address potential effects;	

			•	Commitments the Proponent could make	
				to respond to the issue, including the	
				implementation of federal operational	
				policies or guidance documents.	
DFO-01	PDF Page 71, Table E.2	The proponent has not addressed the lethal and sub lethal effects from		requests the following information be provided:	To support the proponent in assessing potential effects to fish and fish
2.00.	. 2 ago, . as.s 2.2	blasting or the direct destruction of aquatic and riparian habitat.		The changes associated with the major systems	habitat, DFO requests more information on avoidance and mitigation
				were broadly summarized in the context of open pit	measures, identification of potential residual effects and potential
				development but all potential pathways were not	offsetting requirements. There are very obvious residual effects that will
				described (e.g. effects from blasting).	persist based on the information provided. However, there is uncertainty
				Provide a summary of existing studies and	associated with other potential pathways that exist (e.g. flow changes).
				research on potential effects of noise and	DFO cannot provide further advice until sufficient information is
				vibrations on potentially affected aquatic species, including behavioural impacts in a freshwater	available to assess the potential effects and provide an analysis of any gaps in the proponent's assessment.
				environment.	gaps in the proportent's assessment.
				Mitigation and monitoring measures were not	
				explicitly addressed, site and effect specific	
				measures will need to be implemented.	
				Mitigation and monitoring for the effects of blasting	
				were not identified. Effects of blasting can often be	
				mitigated by developing a blasting plan with the	
				use of appropriate setback distances and charge sizes. Studies undertaken by DFO since the	
				release of the "Guidelines for the Use of Explosives	
				In or Near Canadian Fisheries Waters" (1998),	
				suggest that the 100 kPa guideline presented may	
				not be adequate to protect fish from damaging	
				overpressures. As such, DFO recommends using a	
				more appropriate overpressure of 50 kPa to protect	
				fish (Cotts & Hanna, 2005).	
				Residual effects are likely, but the extent and	
				sources are not completely understood because the proponent needs to undertake a full analysis.	
				Offsetting will be required for all residual effects	
				associated with the harmful alteration, disruption	
				and or destruction of fish habitat, and death of fish.	
DFO-02	PDF Page 48, C.6.5 Aquatic	The proponent states that the Chukuni River supports Lake Whitefish that	+	Provide sufficient baseline information on the	In order to determine if residual effects resulting from the proposed
	Environment	migrate upstream from Pakwash Lake to spawn each fall. The extent of		full extent of seasonal migrations of Lake	project will impact spawning Lake Whitefish populations, sufficient
		these annual migrations is not fully described in context of the proposed		Whitefish populations within the Chukuni River	baseline information on seasonal migration patterns is necessary.
		project footprint and whether potential residual effects (i.e. flow reductions)		watershed.	
		may impact spawning fish.		2. Determine if the proposed mine footprint will	
				have any residual effects that may impact Lake	
DFO-03	PDF Page 72, Table E.2	The proponent states that a 'diversion of Dixie Creek is not proposed at this		Whitefish populations migrating to spawn.  1. Provide a description of the other mitigation	If a diversion of Dixie Creek has previously been considered and is
DI 0-03	I DI Taye 12, Table E.2	time but could be required pending effectiveness of other mitigation		measures that could mitigate the need for the	mentioned in the IPD as a contingency option based on the success of
		measures'. More detail on the other mitigation measures and how a decision		diversion of Dixie Creek, and how their	currently proposed mitigation, the proponent should provide the specific
		to divert Dixie Creek based on the efficacy of other mitigation measures		effectiveness will be measured.	criteria and the framework for this decision making process including any
		should be included.		2. Provide the relationship between the efficacy of	additional residual effects resulting from the potential diversion of Dixie
				proposed mitigation measures and how these	Creek.
				influence the decision to divert Dixie Creek.	
				3. Provide the conceptual plans for the diversion	
				of Dixie Creek if mitigation effectiveness conditions are not met.	
	 additional rows as necessary	I	L	conditions are not met.	

Please insert additional rows as necessary.