

Tenas (Telkwa) Coal Mine – Fish & Water Key Issues

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1. Negative impacts to steelhead are highly likely

The proposed Tenas Coal mine area contains creeks that provide very important spawning and rearing habitat for steelhead, and produce a large portion of the steelhead captured on the Telkwa River. Past studies suggest they may also be important contributors to the overall Skeena steelhead population. The mine will degrade these habitats, primarily by releasing high levels of heavy metals and selenium into the water. **These changes to water quality are likely to cause mortality or health effects to steelhead eggs and juveniles, thereby reducing steelhead survival.** Because of the importance of these creeks for steelhead production, these effects could cause **noticeable and permanent impacts to the local Telkwa steelhead population, and may also cause noticeable impacts to the overall Skeena steelhead population** (which is especially concerning given Skeena steelhead had a record low return in 2021, suggesting the population may already be under stress). Impacts to steelhead could be even worse than characterized above, as TCL have not fully assessed impacts to some key spawning sites.

The mine company, Telkwa Coal Limited (TCL) plans to create new fish habitat to replace a portion of the habitat their mine will damage and destroy; however, these types of **“habitat offsetting” plans are known to have a high rate of failure, and should not be relied on to prevent losses to steelhead.** Recently, an EA certificate was denied for the Morrison mine due to that mine’s risks to locally important sockeye salmon; a similar decision may be necessary in the case of Tenas Coal to protect steelhead.

2. Water quality impacts could damage aquatic life until at least the year 2100

Water surrounding the mine, including Telkwa River, is currently of adequate quality to support aquatic life; however, the system is already showing evidence of stress from natural and human development influences, and further stressors should be avoided. Despite this, the Tenas Coal mine will release water containing high levels of sediment, selenium, heavy metals, and explosive residues into smaller creeks that drain to the lower Telkwa River. **Under the best-case scenario in these creeks, mining activities will elevate contaminants such as selenium, cadmium, nitrite, and sulphate well over current concentrations, and over BC’s guidelines for protecting aquatic life.** In the likely event that everything at the mine does *not* go exactly as planned, copper, zinc, and other metals are also expected to increase over BC guidelines. **Of greatest concern is that these changes to water quality will harm fish in the area, such as steelhead, bull trout, and coho salmon.** Selenium, while essential at very low levels, is known to cause organ malfunction, reproductive failure, and physical deformities in fish once it becomes elevated in the environment; this has already occurred in BC’s Elk Valley due to coal mining. Heavy metals like cadmium, copper, and zinc can harm fish by decreasing growth, affecting essential organ function, and impairing reproduction. The mine may slightly elevate

contaminant concentrations in the Telkwa River, but it is more likely that impacts to the Telkwa will be seen from impaired aquatic life (e.g., fish and invertebrates) migrating into it from mine-affected tributaries. The most damaging changes to water quality will occur in the decades following mine closure, and **it is unclear whether TCL will still be monitoring the site and surrounding area when these impacts peak (they are only planning 25 years of post-closure monitoring). Additionally, some water quality impacts from the mine will continue past at least the year 2100, and it is very possible they will last much longer than that.**

TCL has no plans to use water treatment or other mitigation tools that could reduce the mine's water pollution either during operations or after closure; in fact, **TCL is requesting special permission to raise selenium levels in receiving creeks by 4 to at least 17 times over the provincial guideline for protecting aquatic life.** This approach does not comply with provincial guidance codes or international best practice, and raises concern that TCL is not adequately prioritizing environmental protection. Additionally, there are a number of factors TCL has not appropriately planned for which could make water quality worse than predicted, such as extreme precipitation events, accumulation of contaminants in sediment and aquatic plants and invertebrates, mine release of more toxic forms of selenium, coal dust fall, and failure of the mine's seepage protection. Because water quality impacts will be worst after mine closure, appropriate mitigations may be impossible to implement unless these factors are considered now, during project planning and permitting.

3. Impacts of disasters/extreme events could be severe, and have not been properly planned for

The plans proposed for the Tenas Coal mine are deficient for addressing extreme events that could have significant impacts to the local and regional environment, mine workers, and population of Telkwa. These events include containment pond breaches at one or more of the Management Ponds (tailings facilities), liner failure at Management Ponds, flooding and associated spills at the rail loadout facility, or other extreme events associated with climate change such as unusually wet or dry years, heat waves, floods, or fires.

The Management Pond waste storage facilities at the mine site (four total) are held back by earthen dams up to 30 m tall. **In a worst-case dam failure scenario, TCL estimates up to 200 mine workers and local residents could be affected, including the potential for lives lost; acid-generating waste, contaminated water, explosives, and other hazardous chemicals could also be mobilized into the Telkwa and Bulkley Rivers,** the environmental impacts of which TCL does not fully consider in its risk evaluations. Despite these significant risks, **TCL has chosen not to design its waste facilities to withstand the most extreme weather events (e.g., the probable maximum flood),** and has not provided details on the mine's Emergency Preparedness Plan for review with its EA application, which undermines public trust and suggests disaster planning is not being adequately prioritized.

Some other limitations related to planning for disasters and accidents include that:

- Management Ponds will have liners to limit seepage release to the environment; however, it will be extremely difficult to locate and repair liner failures if they occur, and **TCL has not provided a realistic contingency plan (i.e., a plan B) for preventing contaminated seepage if the liners do not function as planned.**

- The rail loadout is situated within the floodplain of the Bulkley River, yet flood hazard maps were not included in the mine's EA application and the potential for ice jam flooding has not been considered.

4. Existing and future cumulative effects are underestimated

The area surrounding the proposed mine site has previously undergone several anthropogenic impacts, including those from mining, logging, agriculture, and urban development activities. Some of these impacts have been from prior activities at the Tenas Coal mine itself, such as drilling and bulk sampling. These activities have worsened water quality and damaged and/or removed fish habitat in the mine area. While TCL acknowledges these past activities have occurred, they do not really consider them in the mine's impact assessment. Instead, **TCL treats current degraded conditions in the mine-affected area as a natural baseline.**

In terms of assessing for future cumulative effects, the mine's EA application only considers impacts of the mine that TCL deems "significant" (which are only the larger impacts leftover after their proposed mitigations). This means that **neither the mine's impacts if mitigation measures do not perform perfectly, nor the combined effect of smaller changes to the environment caused by the mine itself and other industrial development in the region, are considered at all in predicting cumulative effects.** While this approach is standard for industry and government, it is not sufficient to adequately safeguard environmental and cultural values, and this is already evidenced by fish population declines being observed across the region. Additionally, climate change and the potential for cascading effects related to climate is not considered. As a result, **the cumulative effects assessment likely underestimates the potential environmental impacts associated with the project and other surrounding industrial development.**

5. Additional impacts to fish have been inadequately assessed

There are a number of possible negative impacts to fish that are not adequately discussed in the Tenas Coal mine's EA application. Bull trout, a provincially blue-listed species, were historically observed to spawn and reside in the mine area; however, **TCL did not sample key bull trout sites, so the full range of the mine's impacts to this species are unknown.** Similarly, the banks of the Bulkley River near the mine's rail loadout are known to provide chinook salmon spawning and rearing habitat, as well as rearing habitat for other salmon species. **The mine will release contaminated wastewater discharges directly to this area of the Bulkley, yet TCL has not assessed how that discharge will affect chinook or other salmon.** Closer to the mine site, it is predicted that the mine will reduce baseflows to nearby creeks, which could result in reduced habitat connectivity and impaired overwintering habitat, possibly resulting in winter fish kills, for fish species such as steelhead and Dolly Varden; these impacts are not addressed. Lastly, contaminated water gathering at the confluence of mine-affected tributaries with the Telkwa River could affect fish and other aquatic life in the Telkwa River in ways TCL has not investigated. Overall, **TCL's EA application presents an incomplete, and likely overly optimistic, view of how much the Tenas Coal mine will impair fish habitat and health.**