Midas Gold fish tunnel was carefully planned

Having led the design of Midas Gold's proposed temporary fish tunnel, we are writing to set the record straight on the nature of the tunnel design and add some important perspective missing in a letter published in the Star News in December 2019.

The fish passage design we have presented is the culmination of seven years of study, evaluation of successful best practices across the Pacific Northwest by leading engineers and biologists and a thousand or so pages of documents and scientific modeling. In fact, it just received first place recognition in the 2019 Engineering Excellence Awards Competition held by ACEC of Idaho.

Our goal in investing in fish passage around the Yellow Pine pit is to enable Chinook salmon, steelhead and bull trout to access miles of spawning habitat before mineral processing and metal production commence at the Stibnite Gold Project.

The fishway is a temporary solution until the Yellow Pine pit is mined and then backfilled, at which point the East Fork of the South Fork of the Salmon River can be restored to flow and pass fishnaturally for the first time in over 80 years.

To evaluate the design, it is important to honestly put in context the risks of the status quo.

Today and for more than 80 years, adult salmon and bull trout are unable to access miles of spawning habitat because the steep cascade upstream of the existing Yellow Pine pit acts as a barrier. Every few years, excess adult salmon from Idaho Fish and Game's South Fork Salmon River facility are hauled upstream of the Yellow Pine pit to spawn, but their progeny cannot naturally return to their natal spawning grounds.

Today, those juveniles hatched above the Yellow Pine pit must start their journey to the Pacific by first surviving the rocky cascade into the Yellow Pine pit. Then, they must survive the predatory bull trout waiting in the pit lake before they have any chance of making it down the Salmon River to the Pacific.

The proposed tunnel and stream habitat enhancements upstream offer the benefits of earlier natural upstream migration to spawning areas and eventually a net increase in total juvenile Chinook salmon numbers headed down the South Fork Salmon River every spring for the next decade and beyond, without the need for hatchery support.

The design and operations plan for our fish passage system explicitly addresses most of the article's criticisms, from water velocity, to the dangers of juvenile passage, to incidental mortality during salvage. Many of these documents have been in existence and in agency hands for over a year. We are always willing to answer questions on these topics and others to anyone who wants to sit down and talk.

Midas Gold is not proffering an untested and risky plan. It is important to acknowledge that every individual component of the tunnel has been proven over years of fish passage work in the Pacific Northwest and elsewhere. Fishways of similar length and design have been designed, built and are operating successfully elsewhere. Only the particular combination of elements and specific application are novel – and in fact have been "tested" as well as is possible at the present design level, through state-of-the-art modeling incorporating site-specific data.

Regarding water velocity, the proposed fishway was specifically designed to meet relevant passage criteria established by the National Marine Fisheries Service. In key cases (for Chinook salmon and steelhead) water velocity is well below design thresholds, with maximum velocities (through the weir notches; velocity is much lower in the resting pools) kept to about 6.5 feet per second in the fishway throughout the fish migration period – only around half of the sustained speed of the strong-swimming Chinook and steelhead, and roughly the burst speed of the weaker-swimming bull trout.

Control of water velocity in the fishway would be accomplished by a combination of fishway weirs and splitting the flow at a control weir located at the tunnel headworks, directing 80% of river flows above 25 cfs down the 9-foot wide accessway. This limits the flow range in the 5-foot wide fishway – precisely the feature the recent letter incorrectly states the design lacks. Far from being an "untried, untested, and unproven" culvert, such a configuration is a standard approach to fishway design.

The expected hydraulic performance of our design is demonstrated by state-of-the-art 3-D computational fluid dynamics modeling over the full range of relevant river flows – from Chinook salmon/bull trout summer/fall low flows through steelhead spring high flows. Total tunnel capacity exceeds the 500-year flood.

Of course, Midas Gold agrees that fish may not use the tunnel – not because we don't believe they can and will pass, but because nobody can make a guarantee that they will, or in what numbers, at any level of design. If success had to be guaranteed in advance, no innovation would be possible – including former innovations that are now successful standard practices – and Idaho's salmon runs would be worse off than they are now. This is why we also propose adaptive management measures, including trap and haul if necessary, but even that is an improvement over what happens today as the juveniles would still descend the tunnel, likely with lower mortality than occurs with juveniles falling over the existing boulder cascade.

We welcome informed criticism of all elements of our plan, and suggestions for improvement. To encourage informed feedback, during the past two years we have presented additional details of the present design in a variety of venues, both in public and in regulatory agency consultations, and Midas Gold has offered everyone the ability to interact with our staff during various office hours, tours, and open houses. It is unfortunate that some critics do not take advantage of these opportunities.

By investing in fish passage, alongside other planned enhancement and restoration work included in the Stibnite Gold Project, the tunnel opens far more opportunity for Idaho's salmon population than it eliminates.

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