

Active Alerts

The National Weather Service has issued a Winter Weather Advisory for Juneau from 9 p.m. tonight to noon Tuesday for 3-5 inches of snow.
(<https://www.wunderground.com/US/AK/025.html>)



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By Sonia Nagorski (/sonia-nagorski)

For Juneau Empire

Sustainability and Transboundary Rivers

As a geologist considering issues of sustainability, I tend to ponder timescales that go far beyond that of a human lifetime. For example, many of Earth's mineral and energy resources took tens to hundreds of millions of years to form. In contrast, our human species has walked the Earth in the last 150 years. In the last 150 years, our human species has walked the Earth's surface in order to grow

economic benefit and comfortable standards of living. Humans are now a major geologic force, moving more sediment than all the world's rivers, eroding soils a hundred times faster than they are being replenished, tinkering with the delicate chemistry of atmosphere, and causing mass extinctions.

So when I think about sustainability, I consider the speed at which we are altering the Earth, bending it to serve our uses within the cosmic instant of our lifetime on our 4.5 billion year old planet. How do we reconcile our pace of biologic and geologic change with ensuring a prosperous planet for future generations? After all, astrobiologists have deduced that the Earth has at least another 1.75 billion years of being able to sustain liquid water and life. This home planet of ours is all that millions of future

generations of Earthlings have to work with, which begs the question, are we leaving it in good shape for even the next few?

One component of human-caused, long-lasting land disturbance comes from heavy metal mining. According to the EPA, the metal mining industry is the largest single source of toxic pollution (41 percent of releases) to watersheds in the US, polluting more river miles than any other industry. Mining also irreversibly alters the land by inverting mountains, creating massive stocks of unstable waste, and displacing habitat. Still, like many states, Alaska gains considerable revenue from metal mining, and we all benefit from the industry as it enables our computers, cellphones, scientific instrumentation, and medical devices, to name just a few. To satiate our species' growing appetite for mineral resources in a sustainable manner, I believe that we need to evaluate which places are best suited for mining and enforce stringent regulations to ensure our future prosperity.

To the east of Juneau, massive, open pit mining projects are being developed on the Canadian sides of the Unuk, Stikine and Taku Rivers. These projects, located in rugged, earthquake-prone areas pose serious threats to the ecological integrity of these transboundary rivers chiefly because of their reliance on earthen tailings dams with heights ranging from 460-790 feet. The largest of these structures would be taller than the nation's highest water su waste from entering our understand that no eart

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The threats to the Unuk, Stikine and Taku Rivers are acute in both the short term and long term, and permits and development are progressing rapidly. Just last month, Canadian laws were amended to allow the dumping of mine tailings directly into fish-bearing streams. As southeast Alaskans, we live at a pivotal time, when we have the chance to speak up about the long-term fate of these rivers. From a sustainability standpoint, I believe we should strenuously advocate for the protection of the abundant salmon returns that will provide for countless generations to come.

On an individual level, each of us can consider sustainability with regard to purchasing products with precious metals. Our personal choices can lead to improved recycling capabilities and reduced demand for these resources. For example, a majority of gold, a primary target metal in the transboundary and Pebble projects, goes to jewelry. Thus by making choices about what we wear and how often we replace our phones we can influence the forces that drive the development of these mines. Ultimately, by perpetuating culturally imposed value of metals and gems as symbols of status, love and beauty, our society makes choices that can be incompatible with sustainable ecosystems, and in some cases, human rights.

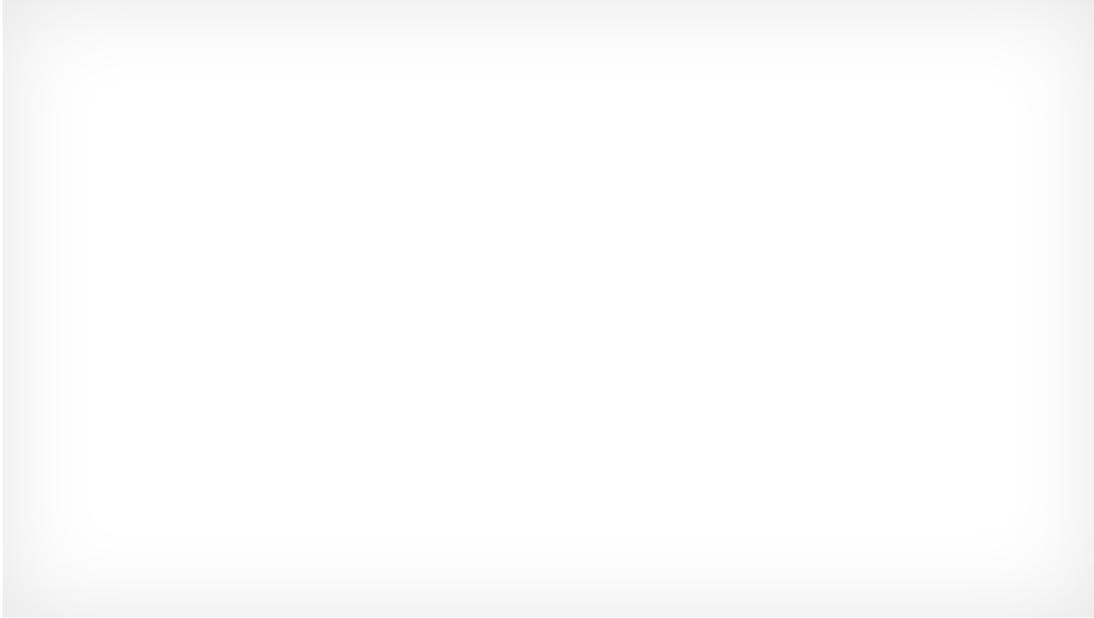
Today is the three year anniversary of the Mount Polley disaster, when an 18-year old earthen tailings dam failed for no apparent reason and released millions of cubic yards of waste into the Fraser River as salmon were coming in to spawn. That dam has the same basic design as the much larger structures being developed in the transboundary region today. As we make decisions in our world today, I hope that we can take into consideration factors beyond the cultural constructs and market demands in this tiny cosmic instant in which we live.

The views expressed here do not necessarily represent the views of the University of Alaska Southeast.

• **“Sustainable Alaska” is month. It’s written by U sustainability. The view**

University of Alaska Southeast. Dr. Sonia Nagorski is an assistant professor of geology at the University of Alaska Southeast and lives in Juneau. She is a member of the University of Alaska Southeast Sustainability Committee.

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