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Submission
Mining Loreto item for Loreto LIFE News publication
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Can Water to protect us from Mining?

Anyone who has ever seen a mine, or a mining town, knows that mining presents a gut-wrenching environmental, societal, and (locally) economic challenge. For today, let's just examine one such challenge. Water.

Mined ore is washed with water mixed into a slurry of cyanide, arsenic, and other acids and caustics in order to separate what we want (gold, copper etc.) from what we don't. And, the valuable stuff is hauled away for sale while the wastes are left in the community. As we all know, water is scarce in Baja California Sur, and once it is used to wash ore it is contaminated. And, the water generally remains unusable.

This contaminated water is a threat to surface and ground water if it spills, seeps or leaches from holding tanks (earthen dams or metal tanks). Even if the liquids from the mix are left to evaporate, the dry remainder (known as tailings) can be a threat if desert pulse rainfall events carry it to contaminate fresh water, or the bio-diverse Sea of Cortez. Sadly, this is especially true for abandoned mines that are forgotten and no longer monitored. Holding tanks sadly have a high failure rate due to earthquakes, caustic acids and rust damage – this is what happened to the Buenavista Mine in August 2014.

"This is the worst natural disaster provoked by the mining industry in the history of modern Mexico" – Environment Minister Juan José Guerra Abud

And, because we are focusing on water, we will only mention in passing that the dry waste can be blown by wind, spreading dust filled with arsenic and other toxins.

It is the effects on biodiversity, local water sources, and downstream marine systems that are most concerning for Baja California Sur. Because there is barely enough water to meet needs for existing agriculture, human settlements, tourism, livestock, and other economic activities, adding water use to wash ore, and risk contaminating the waters of BCS threatens its health and economic future.

In Mexico, both the water and the minerals being mined belong to the people of Mexico in common. Hence by even suggesting mining in a water scarce location, we are pitting two valuable, publicly-owned resources against each other.

Mexico's Mining Law of 1992 asserts that mining and exploration are in the public interest, and contribute to the public benefit. Therefore, mineral exploitation takes precedence over other land use. Meanwhile, Mexico has a long and well-established law and tradition that water is to be managed in the public interest. Thus, in Mexico there is direct federal control over water via the 1992 National Water Law and National Water Commission (CONAGUA). A 2004 revision of the National Water Law, created thirteen decentralized consultative bodies, or basin councils that incorporate civil society interests. CONAGUA is required to "manage and preserve national water resources, with the participation of the society, to reach a sustainable use of the resource."

So if water must be used sustainably, should this include (a) washing ore; and (b) putting Loreto's water at risk from contamination? Does water have legal priority over minerals when both are publicly "owned" and are both to be used in the public interest? The recommendation is that local level regulations must be changed to address the actual environmental damages from mining and include provisions for remediation/restoration. Thus, in Loreto, we have seen the passage of a POEL (Programa de Ordenamiento Ecológico Local, or Local Ecological Ordinance Program), which creates a framework for environmental management. None of this prevents mining, nor does the municipality have the authority to do so. But it does encourage restoration, preservation, conservation and sustainable use. This has been designed to include three constraints to mining:

- Dumping mining wastes in protected areas, riverbeds, and streams is prohibited
- Extracting material from dunes or beaches is prohibited
- Areas affected by exploitation must be restored

In other words, Loreto recognized the vulnerability of water accessibility and food security for its people and its economy and prioritized those needs. Thus, Loreto's regulations regarding land and water use indirectly limit the infrastructure of mining development, so as to make mining as prohibitively expensive and challenging as possible – because mining itself cannot be regulated by the municipality.

Federal level legislation ranks mining as a public benefit above all other land uses, and yet ... Loreto's forward thinking put water ahead of minerals. Will it all work? We are about to find out.