

# SKAGIT GEMS

Official Publication of the Skagit Rock and Gem Club  
Serving Skagit County WA Since 1961

September 2020  
Volume 60, Issue 7

## Membership Dues

We realize that we are not holding meetings right now so please pay dues as you are able. Everyone will still receive the newsletter as usual. The club's year runs from September to August. Payment can be sent Dave Britten or the PO Box, info on pg 5. Dues are: \$15.00/ yr for adults \$7.50/yr age 16 and younger

## September Birthstone:

### Sapphire

The sapphire is a relative of July's birthstone, the ruby. Like ruby, it is a form of the mineral corundum, a normally drab gray mineral. Red corundum is called ruby, while all other gem quality forms of corundum are called sapphires.



Typically, sapphires appear as blue stones, ranging from very pale blue to deep indigo, due to the presence of small amounts of titanium and iron within the crystal structure. The most valued shade of blue is the medium-deep cornflower blue. Sapphires also occur in other natural colors and tints – colorless, gray, yellow, pale pink, orange, green, violet and brown – called fancy sapphires. These different colors are caused by different kinds of impurities within the crystal. For example, yellow sapphires get their color from ferric iron, and colorless gems have no contaminants.

The biggest source of sapphires world-wide is Australia, especially New South Wales and Queensland. Found in alluvial deposits of weathered basalt, Australian sapphires typically are blue stones with a dark and inky appearance. Kashmir, in India, used to be a well-known source of the cornflower-blue stones. In the United States, a major source is the Yogo Gulch Mine in Montana that mostly yields small stones for industrial use.

The word sapphire has its roots in several ancient languages: the Arabic safir, the Latin sapphirus (meaning blue), and the Greek word sappheiros for the island of Sappherine in the Arabian Sea where sapphires were found in ancient Grecian times. Ancient Persians called sapphire the “Celestial Stone.” It was the gem of Apollo, Greek God of prophecy, and was worn by worshipers visiting his shrine in Delphi to seek his help. It was used by ancient Etruscans as far back as the 7th century B.C. *Earthsky.org*

# The science is clear: Pebble Mine would destroy ecology, economy of Bristol Bay

By Sally Jewell and Norm Van Vactor, Special to The Times

August 9, 2020 Seattle Times

Between Seattle and Bristol Bay, a critical connection crosses 1,700 ocean miles. Though relatively distant as the crow flies, these two coastal locales are pivotal to one another, linked by a world-class sustainable fishing industry that supplies half of the planet's sockeye salmon.

The pristine Alaskan headwaters that spawn these salmon are central to the health of this industry and many Indigenous communities whose culture has been tied to salmon since time immemorial. But this vital salmon run is in danger. The next six months may be our last, best chance to save Bristol Bay.

To understand their true value, we must look to the landscape that produces and sustains Bristol Bay's salmon. The region's ecologically intact watersheds boast wild rivers, vast lakes, tundra, forests and wetlands. But the federal government is fast-tracking a mining project that will put the headwaters of two pristine rivers, the Nushagak and Kvichak rivers, at direct and irreparable risk. Some places on Earth are too special to develop, no matter the interest — this is one of them.

Late last month, the Army Corps of Engineers released its Final Environmental Impact Statement for the development of Pebble Mine, paving the way for federal permits. The Corps' statement, however, is the result of a failed and scientifically inadequate process. The statement has gaps in crucial science, and it offers no legitimate basis for a decision about Bristol Bay's future.

We have both spent time flying above Bristol Bay: One of us as a fisherman-pilot, and another as U.S. Secretary of the Interior, overseeing Alaska's diverse and stunning public lands. From the skies, the interconnectedness of this vast landscape is unmistakable. The richness of the ecosystem — from bear families to caribou herds, to the fish and the countless shades of green surrounding them — is simply extraordinary.

Bristol Bay's nature also provides broad economic value. Globally, its salmon alone support a \$1.5 billion sustainable fishing industry, and the industry supports 12,500 jobs across the U.S. These wild salmon runs are a perfect example of a gift that keeps on giving. Bristol Bay shows us in powerful ways that economy can align with ecology. We can protect a vital engine for jobs and steward wild rivers. We can sustain a globally important fishing industry in harmony with thriving Indigenous cultures and homelands.



Sockeye salmon swarming the waters near Bristol Bay, Alaska.  
(BB Armstrong / Courtesy The Nature Conservancy)

Pebble Mine puts all of this in direct peril. This mine would be one of the world's largest, extracting tons of gold, copper and molybdenum ore. It is devastating to imagine the damage. Development will not only harm miles of wetlands and rivers, but long-term safety is dubious at best.

The mine will destroy salmon habitat in Bristol Bay watersheds, with impacts far exceeding the scientific thresholds set by the Environmental Protection Agency in 2014. Threats rise exponentially over the long-term, as the mine's developers plan to store and treat toxic wastewater in perpetuity through unproven, highly complex systems and technologies.

Further, the impact statement does not account for damage due to a failure in the mine's dam to hold this toxic waste. It is standard industry practice to assess a potential dam failure, yet the Army Corps did not evaluate this critical scenario. Science shows that a small dam breach would deposit toxins in 155 miles of salmon habitat, and a large breach could send toxins 200 river miles out to the bay. Bristol Bay's headwaters rest in the shadow of active volcanos like Mount Iliamna, and this area is known to be one of the country's most seismically active. With toxic waters stored forever, a catastrophe is inevitable. And even without drastic events, water always finds its way down. Every day across our country, hundreds of thousands of abandoned mines leach millions of gallons of toxic water into streams, rivers, lakes and ecosystems, rendering them incapable of supporting life. The companies that mined them are long-since gone.

In 2014, the Environmental Protection Agency rightfully halted Pebble Mine's development. In 2019, Congress stated that sound science must dictate the resurrected review process. Based on the Final Environmental Impact Statement, the science is clearly not there. We strongly urge the EPA to veto the Clean Water Act permit for Pebble Mine, and we call on Congress to demand the same.

Sally Jewell was Secretary of the Department of the Interior under President Obama from 2013-17. She previously served as president and CEO of REI, after a career in banking and engineering.

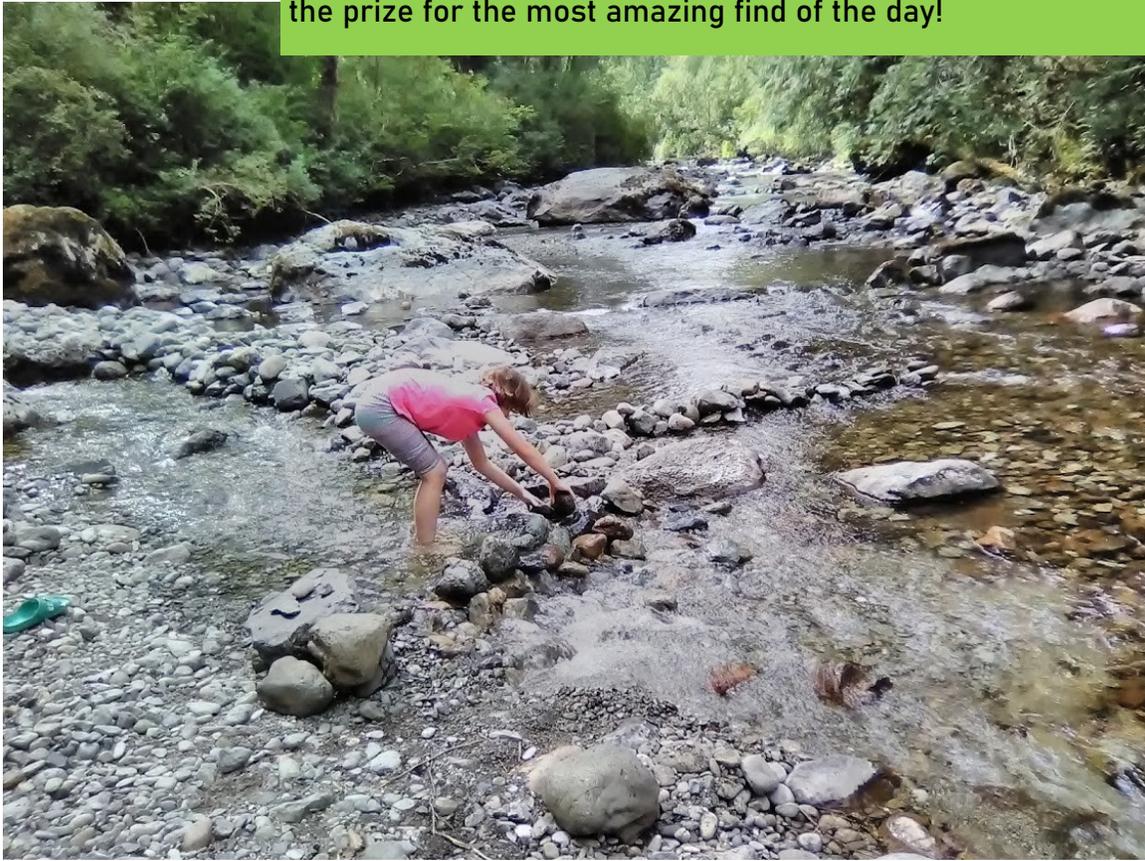
Norm Van Vactor is a Bristol Bay resident, member of The Nature Conservancy's board of trustees in Alaska, and CEO of the Bristol Bay Economic Development Corporation. He also is a 40-year participant in Alaska's fishing industry.



How did that Jordan Creek rock wind up here?

Hmmm....

Pilchuck Creek, August 2nd. New members, Geoff and his daughter Madison, joined Dave, Wes and Debbie. Wes won the prize for the most amazing find of the day!





## VISITORS ARE ALWAYS WELCOME!

Meetings are on the **FIRST** Saturday of the month (except for Jan, July and Dec) at 10:00 am at the Mount Vernon Community (Senior) Center  
1401 Cleveland St. Mount Vernon WA 98273

- The purpose of this non-profit earth society shall be to stimulate interest in the study of geology, lapidary, and the collection of geological specimens
- We are a member of the Northwest Federation of Mineralogical Societies and the Washington State Mineral Council. We are affiliated with the American Federation of Mineralogical Societies.
- Dues are \$15.00 per year for adults and \$7.50 for those under age 16
- Visit our website: [skagitrockandgem.com](http://skagitrockandgem.com)
- Email: [skagitrockandgem@gmail.com](mailto:skagitrockandgem@gmail.com)
- Mailing address: PO BOX 244 Mt. Vernon 98273

### 2020 Officers

President	• Wes Frank 360-757-6276
Vice President	• Greg Hochmuht 360-223-5453
Treasurer	• David Britten 360-755-0741
Secretary	• Linda Keltz 360-424-6525
Fed. Director	• Virgil Keltz 360-424-6525
Bulletin Editor	• Debbie Frank 360-853-6883
Past President	• Eric Self 360-840-8342

### Committees

Annual Show Chair-Eric Self  
Facilities/Field Trips- Dave Britten  
Greeter-Linda Keltz  
Scholarship-Noni Avery & Linda Keltz  
Publicity-Frank Isca  
Stamps-Virgil Keltz  
Sunshine- Noni Avery  
Swap-Vandenburgs





Skagit Rock and Gem Club  
 Debbie Frank, Editor  
 20379 Aliston Ln.  
 Burlington WA 98233

## Mineral Council Field Trips

09/12-13	POW	Red Top/Teaway	Teaway @ Middle Fork Campground 8am	Geodes, Agate, Jasper & Jade	Dig & Hard Rock
09/19	N O A	Little Naches	Hwy 410 & FR 19 10am	T-Eggs, WA Lily pad & Fossil	Dig & lite hard rk
10/24	MSVL	Money Creek Sky- komish	Money Ck Campground 9am	Picture Jasper	Dig & R. Bar pick
11/21	DARR	Blanchard Hill	I-5 Exit 240 Gas Mart 9am	WA Dalmation stone & Chert	Hard rock tools

Many trips need Discover Pass, Trailhead Pass & Forest Pass. Ask when you inquire about trip

**ALWAYS contact host for updated info a week before trip !!!**

<b>HOST</b>	<b>CLUB</b>	<b>CONTACT INFO</b>
MSVL = Marysville Rock Club	Ed Lehman	wsmced@hotmail.com h# (425) 334-6282 c# (425) 760-2786
DARR = Darrington Rock Club	“ “ “	“ “ “ :
SPOK = Spokane Rock Rollers	Mike Shaw	mikeshawmoose@yahoo.com (509) 251-1574 or (509) 244-8542
N O A = Tony Johnson	(253) 863-9238	
PVGM = Dennis Bachchelor	(360) 870-8741	
POW = All Rockhounds Pow Wow	Larry Vess	vessel3755@gmail.com or (253)473-3908

Keep updated on <http://www.mineralcouncil.zoho.com> Land management changes, and roads close regularly. There is a area on web page with tool category in pictures and names of tools.

Always have proper cloths and gear for conditions. Be prepared with safety, first aid, food and drink.

A week before trips I (Ed Lehman) will have a pdf file with map and info for that trip I can send you on request. I will do the same for trip host.

Try to be at the meeting site 30 minutes before trip time for details and instructions with a full tank of gas.

Use code of ethics, keep our lands open to rockhounding.