



# THE GEOLOGICAL NEWSLETTER

"NEWS OF THE GEOLOGICAL SOCIETY OF THE OREGON COUNTRY"

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JANUARY 2009

## The Geological Society of the Oregon Country

P.O. Box 907, Portland, OR 97207

[www.gsoc.org](http://www.gsoc.org)

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VISITORS WELCOME AT ALL MEETING

## CALENDAR

### JANUARY ACTIVITIES

Friday evening talk, January 9, 2009, at 8 p.m., in Room S17, Cramer Hall, 1721 SW Broadway Ave. (between Montgomery and Mill Sts.), Portland State University: Justin Klure, principal partner with Pacific Energy Ventures, LLC, will speak on **“Wave Energy Projects in Oregon—The Wave of the Future?”** Justin's consulting firm focuses on project development and technology transfer, utility integration, strategic management, and governmental affairs. Justin has spent the last four years positioning Oregon as a leader in the development of wave energy. He was founding member of the nation's first public-private entity to advance wave energy, the Oregon Wave Energy Trust, and served as its Director for the first year of operation. He now works directly with industry and academia.

Join GSOC members at Hot Lips Pizza, 1909 SW 6th Ave., at 6:30 p.m. before the lecture for an informal dinner and conversation.

Wednesday evening seminar, January 14, 2009, at 8 p.m., Room 69, Cramer Hall, Portland State University:

**“Surfing the Geology Web,”** seminar led by GSOC member Tara Schoffstall. Geology is always in the news. Did you know that much of it can be seen in real time on the web? Learn how to find information, such as online seismograms, volcanocams, and tsunami models—plus much, much more! All ages welcome. (Note: This seminar was originally scheduled for December but cancelled at that time because of the weather.)

### FUTURE ACTIVITIES

Friday evening talk, February 13, 2009, at 8 p.m. in Room S17, Cramer Hall. Mark Ferns, Oregon Department of Geology and Mineral Industries (DOGAMI) geologist, Eastern Oregon Section Leader, will discuss **“The Crooked River Caldera”**. For more information about this newly discovered central Oregon volcanic feature, refer to the fall 2006 issue of Oregon Geology at the DOGAMI web site (<http://www.oregongeology.com/sub/quarpub/OrGeo.htm>).

**Free parking** is available at Portland State University Friday nights after 5 p.m. in Parking Structure 2 on Broadway Ave. directly across from Cramer Hall and on level one of Parking Structure 1, bounded by Broadway and 6<sup>th</sup> Aves. and Harrison and Hall Sts. Check the

GSOC web page ([www.gsoc.org](http://www.gsoc.org)) for updates to the calendar, or call Beverly Vogt at 503/292-6939.

## **GSOC SOCIETY DUES PAYMENT SCHEDULE CHANGES**

GSOC members, the society has some bad news and some good news for you about the annual membership dues:

Here's the **bad news**:

The Geological Society announces its first increase in annual membership dues since 1996. The new dues schedule will be the following:

Junior/Student memberships..... \$15 (up from \$10)  
Individual memberships..... \$25 (up from \$20)  
Family memberships..... \$35 (up from \$30)

Here's the **good news**:

These changes to the dues schedule will take effect on February 1, 2009. So, if the society receives your dues payment before that date, you **get your 2009 membership for the old rate**, so don't delay! If you joined the society in fall of 2008, your dues payment includes year 2009 dues, so don't worry!

## **IN MEMORIAM -**

GSOC members mourn one GSOC guest speaker and one long-time member

### **Terry Norman Toedtemeier: 1947-2008**

GSOC members were shocked and saddened by the sudden death of Terry Toedtemeier, curator of photography at the Portland Art Museum and the October 2008 speaker at the society. Toedtemeier collapsed and died after giving a lecture in Hood River on December 10.

Toedtemeier's passions included geology and photography, and his career melded the two to the benefit of society in Portland and the Northwest. After obtaining a degree in earth science at Oregon State University, he helped to establish the Blue Sky Gallery in 1975 with several other artists. In 1980 he began teaching photography at the Pacific

Northwest College of Art. He was photography curator at the Portland Art Museum for more than 20 years while maintaining his own career in photography. In 2007 he was awarded the American Masters Initiative, a challenge grant in support of the Northwest Photography Series by the Oregon Arts Commission and the National Endowment for the Arts.

Toedtemeier's work for the Portland Art Museum included a variety of temporary photography exhibitions as well as a permanent collection of photography. His magnum opus is the show that is currently on display at the museum until January 11 entitled "Wild Beauty: Photographs of the Columbia River Gorge 1867-1957". He also co-produced a book of the same title about the works being displayed in the show.

Toedtemeier's own photographic work has been exhibited throughout the United States. His photos of Oregon and Hawaiian basalt were characterized by an expression of movement in the water coursing through the scenes and in the rock which had flowed to and crystallized at that location. Toedtemeier told his October GSOC audience that his next project was to be a book documenting the journey of Columbia River Basalt from "scorpions and sagebrush down to starfish and anemones". Perhaps some future natural history visionary can complete his dream.

### **Robert Ernest Richmond: 1913-2008**

GSOC fellow Bob Richmond died November 29, 2008 at the age of 95. Bob was a local Portland boy who attended Fernwood Grade School and graduated from Grant High School. Bob served as a block warden during World War II, watching for Japanese planes after the attack on Pearl Harbor. He worked for ESCO and retired as a mechanical engineer after 44 years of employment.

Bob was known to many long-time GSOC members because he was very active in the society in the 1980's and 1990's, after joining in 1978. According to past President Rosemary Kenney, Richmond went on all of the field trips, was very active in the Speaker's Bureau, and was the official photographer at GSOC events such as the annual

banquet. Bob loved anything to do with the outdoor life.

## **OREGON AGGREGATE MINE PERMITTING: WORKING TOWARDS ECONOMIC AND ECOLOGIC HARMONY**

Synopsis of the December 12, 2008 lecture by Ben Mundie, Reclamationist, Oregon Department of Geology and Mineral Industries (DOGAMI) Mineral Land Regulation and Reclamation Program

Our society uses a lot of gravel. We use gravel when we pave roads and sidewalks; we use gravel for building foundations; we use gravel in all concrete structures. Concrete is one part cement (baked limestone), two parts sand (very fine gravel), and 3 parts gravel. At last month's GSOC lecture, Ben Mundie discussed gravel, or aggregate as it is known in industry, and its mining past and future along the rivers of Oregon. According to a former DOGAMI analyst, Oregon's projected use of gravel will increase from 50 million tons in 2000 to 62 million tons in 2050. The use of gravel will probably surge in the near future as economic projects on the rebuilding of infrastructure are to be one of the priorities of the incoming national administration. Although not all gravel comes from riverine sources, Mundie made the case for successful river gravel mining that does not degrade the environment.

Back in the Bad Old Days, pre-1972, when mining was allowed with an "anything goes" attitude, gravel was dredged directly from rivers in Oregon. Some of these old mining operations still exist, as they were "grandfathered in" when permitting for new mines became a requirement. In the early decades of gravel permitting, mines were considered as separate entities with piecemeal permitting, and mines were separated from the rivers using dikes. Deep pits were allowed to be excavated for the extraction of the gravel.

This all changed after the big floods in the winter of 1996-1997. Rivers in Oregon just didn't respect the levees and pits that had been constructed and excavated by the mining operations. Gravel mine

pits were breached along the Clackamas, Molalla, Willamette, Santiam, Umpqua, and Rogue Rivers. In some cases, the rivers changed course directly through the mine pits, destroying expensive equipment and structures. Abandoned channels and flooded pits captured and stranded endangered species of fish. The flooding of deep pits created erosional cascades called headcutting which propagated upstream for thousands of feet. Mundie showed slides of a flooded mine on the Clackamas River that lost about \$1.5 million in damages during the 1996 flood, which does not include the cleanup that was done.

To avoid these "pitfalls", mine permitting changed in the state of Oregon to a more systematic approach, recognizing the tendency for rivers to change their course. Mines are now planned with designed entrance and exit channels should the river rise high enough to flood the mine. Excavations below the depth of the river bed are not allowed in pits that could flood. Instead of killing endangered fish species, mines are planned to provide new habitat for fish after the mining is completed. Also mine exit channels must be deep enough to allow fish to leave before the dry season should the pit be flooded. Mine equipment must not be stored in areas of potential flooding. These guidelines were established in a bi-partisan agreement in a Flood Task Force made up of local, state, and federal agencies.

Of course all this planning requires technical expertise and monetary investments. Mines applying for a permit must first survey the area and provide base-line floodplain data. Hydraulic modeling of the mine is another requirement. Aerial photography of the site is used to help determine the history of the river channel's course. Topographic and man-made constraints are accounted for in the design. Mines must be revegetated with native species.

Mundie showed the GSOC audience examples of successful gravel mines adjacent to rivers in Oregon. One project is located on the Rogue River near Table Rock. Previous piecemeal permits had allowed a string of unrelated pits along the same stretch of the river. In early 1997 the Rogue River

experienced a 600% increase in volume which created massive erosion between the river and the mine pits, and would eventually endanger some very valuable property. With some creative planning and community involvement, this disaster was averted and wildlife habitat increased. A couple of projects along the Willamette River in and near Eugene demonstrated the value of mine operators and communities committed to the improvement of the environment to the construction of wildlife habitat in mined areas. And finally, Mundie showed a project along the Applegate River which has run its course. It was designed with river entrance and exit channels that protected the nearby abutment of a bridge as well as allowing for eventual capture of the mine by the river. The project was flooded and performed as designed, and in fact produced spectacular fishing grounds in the former mine pits.

Because of the successful planning and execution of riverside gravel mines in Oregon since the 1996-1997 floods, Mundie is hopeful for the future of gravel mining in our state. With a bit of planning we can have mines that improve the ecology as well as the economy of Oregon.

## BOARD MEETING NOTES

December 13, 2008

GSOC members present included Janet Rasmussen, Carol Hasenberg, Beverly Vogt, Richard Bartels, Jan Kem, Larry Purchase, Tara Schoffstall, Doug Rasmussen, Rosemary Kenney, John Newhouse, Clay Kelleher, and Anne O'Neill.

The Treasurer explained in his report that the GSOC account balance has dropped due to higher printing costs and speaker costs. The Board voted to raise GSOC yearly membership fees by \$5/category, effective February 1, 2009, because we want to be able to continue being able to pay for speakers. The board also voted to raise the Newsletter subscription rates for libraries and institutions.

Carol Hasenberg reported low attendance for the last two December meetings. Several ways of

publicizing the meetings were discussed, and it was agreed to keep track of attendance at the meetings.

The banquet committee discussed plans for the upcoming annual banquet. The banquet date will be March 8, 2009 at the Monarch Hotel near the Clackamas Town Center. The cost should be based on a minimum of 50 people attending.

Fossil Fest, will be February 14th and 15th. Arrangements for the GSOC display table and board meeting time were discussed.

Upcoming field trips were discussed. May and June trip possibilities were discussed. July will be the President's field trip through the western Cascades and central Oregon, and Janet suggested a trip to the Chloride Mine and a hike along Elkhorn Ridge for August or early September.

Next meeting will be 5:15 p.m., Friday, February 13, 2009, at a place that is yet to be determined.

Beverly Vogt, Secretary

### NOMINATING COMMITTEE RESULTS

The following slate of officers has been selected by this year's nominating committee:

**President** ..... **Carol Hasenberg**  
**Vice President**.....**Larry Purchase**  
**Secretary** ..... **Beverly Vogt**  
**Treasurer** ..... **Richard Bartels**  
**Director, 3 years**.....**Anne O'Neill**  
**Director, 2 years**..... **Dave Olcott**  
**Director, 1 year**.....**Jan Kem**

Nominations will be closed for this year's slate of officers after the January meeting of the society. The slate of officers will be voted on and approved at the February monthly meeting.

The Nominating Committee members are Jan Kem, chair, Larry Purchase and Carol Hasenberg. Our thanks to the selected members and members of the Nominating Committee!

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compiled by Carol Hasenberg

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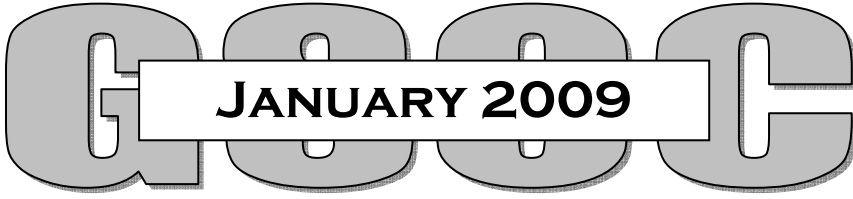
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**GSOC MINI-CALENDAR**

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