

**Mineral Land Regulation and Reclamation Program,
2004 Mined Land Reclamation Awards**

2004 Reclamation Awards

Portland, Oregon: Turning a quarry into the single largest development undertaken in Beaverton in the last 10 years highlights the 2005 Reclamation Awards presented by the Mineral Land Regulation and Reclamation Program (MLRR) of the Oregon Department of Geology and Mineral Industries (DOGAMI). Another highlight is this year's Oregon Plan award winner, who worked with the McKenzie River Watershed Council to create an artificial alcove and turtle nesting area along a channel of the Willamette River in Lane County.

Each year the MLRR office, with an independent panel of experts, selects specific mine sites and operators to receive awards for outstanding reclamation, mine operation and salmon protection (The Oregon Plan Award). The awards, based on an operator's performance during the previous year, were presented at the Oregon Concrete and Aggregate Producers Association (OCAPA) annual conference in June, 2005.

"We consider these awards important recognition to those owners and operators that go beyond the basic requirements of rules and regulations," said Vicki S. McConnell, State Geologist. "By using innovative ideas and responsible techniques of reclamation they are working to improve the environment and be good neighbors."

"The companies we recognize with these annual awards really show a deep commitment to the environment and the communities where they are based," notes Gary Lynch, Assistant Director of Regulation for DOGAMI's MLRR office. "It's also an encouragement to others in the mining industry to follow suit."

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**Oregon Plan Award - Delta Sand &
Gravel Company, Lane County**

**Contact: Alan & Lee Babb or George
Staples - 541-688-2233.**

**Also contact: McKenzie Watershed
Council - Megan Finnessy 541-687-
9076.**

**For more information on the
Confluence Island Alcove, contact
George Staples - 541-688-2233**

Background:

Delta Sand & Gravel working with the McKenzie River Watershed Council created an artificial alcove along a channel of the Willamette River in Lane County.

Alcoves, those fingers of water that parallel the river and that connect with the river at their downstream end, offer special benefits to fish. During higher flows alcoves provide the fish refuge from fast moving water in the main channel. The organisms that live on alcove substrates provide a rich supply of food to fish, especially in early spring when the main channel is relatively unproductive. And, alcoves are favored breeding and rearing areas for many fishes.

Over the last 150 years many Willamette Valley alcoves were obliterated as the rivers were channelized to allow boat navigation and contain local flooding of adjacent fields and towns. In addition, upstream reservoirs now mute the big floods that once scoured the edges of the main channel and created new alcoves.

Can constructed alcoves substitute for the lost natural alcoves? An alcove excavated last summer along the Willamette River just upstream of the McKenzie River confluence is providing an opportunity to find out. The Confluence Island alcove was created on land owned by Delta Sand and Gravel and was funded by the Oregon Watershed Enhancement Board. The alcove is 963 feet long, 45 feet wide, and 3 to 5 feet deep in the summer. The excavation required over 300 dump truck loads.

Boat-mounted electro-fishing gear provides a way to sample the fish community without killing them. So far, sampling has occurred in September, 2003, several weeks after the alcove was completed, and in May 2004. Late summer and spring sampling will continue for several more years.

Even within weeks of its completion, fish used the alcove in large numbers. The fish community was dominated by native pioneer species such as redbone shiner, northern pikeminnow, and largescale sucker (Table 1), which took advantage of a surge in small aquatic insects and algae that were fueled by the clean gravel substrate, released nutrients, and clear water. Eight native fish species were present, along with the non-native largemouth bass.

By spring 2004, the fish community had become increasingly complex and diverse. Sampling in May, 2004, indicated that juvenile chinook salmon made up 15% of the fish community and the number of native species had increased to 13. The only species found in the main channel of the Willamette River that were missing from the alcove were mountain whitefish, mountain sucker, rainbow trout, and white sturgeon. None of these fishes typically use natural alcoves.

The chinook salmon numbers in May were of special interest because we have rarely come across such a high density in the Willamette River. Previous sampling efforts in the spring indicate that natural alcoves typically have chinook salmon densities between 0.2 and 0.4 fish per 100 feet of bank sampled. The constructed alcove at Confluence Island had a value of 0.8. Main channel densities are typically 0.1 chinook salmon per 100 feet of bank sampled. Another constructed alcove, this one located upstream of Corvallis, had a value of 0.5 when sampled in the spring.

The constructed alcove at Confluence Island appears to be unusually productive and supports a diverse fish community. Also, it is favored habitat for chinook salmon in the spring. Further monitoring will determine how this fish productivity and physical features of the alcove change over time.

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**Outstanding Small Operator - Jefco
Enterprises, Lakeview, OR
Contact: Jim Frierhood - 541-947-
3485**

Background:

The site is located northeast of the junction of State Route 140 and Highway 395 five miles north of Lakeview. The site is accessed via the access road from Highway 395 at milepost 137.8.

A Grant of Limited Exemption was issued for this existing upland quarry in 1986. Expansion of the quarry in 1999 required a full operating permit from DOGAMI.

Early DOGAMI inspection reports note a clean and well maintained operation.

The southern processing area and older excavation are in excellent working order and could be considered in the future for an outstanding operator award. This area has a perimeter berm and is sloped such that all storm water enters into a pond and is kept on site.

Overburden has been stripped and stockpiled in a perimeter berm around the active excavation that is well vegetated with sagebrush and native grasses. This berm visually screens the site from Highway 395. The quarry floor is surrounded by highwalls on three sides. The western highwall is approximately 40 feet in height with a single bench and is sloped at 1.5:1.

The highwalls have been reduced somewhat by placing material along the base of the slopes. This is a very effective way of reducing the highwall heights on this site, especially along the northern property line which is within the exempt area and is not covered by the reclamation plan.

Jefco has practiced concurrent reclamation at this site from the beginning even though it was not required. Importing clean construction fill to backfill the exempt area has dramatically reduced the excavated slope angles.

Stormwater control measures implemented from the beginning have protected adjacent natural resources. Use of natural topography has helped screen the active operation from public viewing areas.

Even when it was not required Jefco Enterprises practiced concurrent reclamation as mining continued to maintain safe and stable slopes within the quarry, and has updated stormwater control measures to protect surface waters as the site expanded.

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**Outstanding Operator - Parker
Northwest Paving (PNP) / Canby Sand
& Gravel Company, Clackamas
County. Contact: Bill Christner - 503-
656-0663**

Background:

Parker Northwest Paving (PNP) has owned and operated the Canby Sand & Gravel site since 1978. This property is located 1 mile south of Canby adjacent to the Molalla River. Currently 300 acres are part of the DOGAMI permit boundary which is bisected by the river.

In the early 1990's PNP realized that the protection of river channel integrity was an escalating issue with various natural resource agencies and groups. Based on that assessment, PNP voluntarily proceeded to research, design, obtain land use permits, and construct an environmentally sound on-site material conveyance system, that ultimately benefits all concerned.

PNP invested \$900,000 in a 5,500 lineal foot conveyor system to move pit run material from the excavation pits to the processing area. The highlight of this system is a free span structure and enclosed conveyor system that crosses the Molalla River, eliminating the need for a temporary bridge.

The Molalla River drains a 350 square mile basin. The largest recorded flood event was 12/22/64 with a peak discharge of 43,600 cubic feet per second (cfs). The high water events of 1972 and 1974 peaked at 36,200 and 31,200 respectively. The February 1996 flood inundated the PNP operation and was estimated at greater than 32,000 cfs; the USGS gaging station in Canby closed in 1978. A 10 year flood at Canby is estimated at 26,800 cfs, 50-year 37,400 cfs, and a 100-year event is 42,800. The proposed expansion area provided valuable conveyance of floodwaters during these high water events through an existing high water chute.

An extensive hydraulic plan was compiled to provide: fish passage out of the excavated ponds for fish that are entrained in the overflow channel during high water events; providing a stable overflow channel on the upstream end to allow the passage of flood flows;

armoring the overflow spillway to reduce the potential of the Molalla River permanently avulsing into the overflow channel; and providing a seasonal backwater condition to provide for seasonal flushing of the ponds that increase habitat diversity.

By extending the existing conveyor system there will be no change in the current material handling plan, all excavated materials from the expansion area will be conveyed to the facilities area.

The mine pits will be mined wet with a minimum 100 foot undisturbed setback from the 2-year high water line of the river. Final reclamation will be to off-channel ponds, wetlands, and wildlife habitat. The off-channel ponds will be hydraulically connected to the river via engineered ingress and egress structures.

At the end of mining, PNP will construct an ingress spillway to allow flood flows to be conveyed across the floodplain via the constructed wetlands and ponds. This spillway and the proposed mine and reclamation plan will provide flood relief to the surrounding area. The ingress and egress structures and fish ladders will serve to reconnect the original floodplain to the Molalla River.

By taking a multi-discipline approach to the development of the Operating and Reclamation Plan for this proposed expansion, Parker Northwest Paving provides a model for mining within an active floodplain.

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**Outstanding Reclamation - Progress Quarries LLC/ Morse Brothers Inc, Beaverton, OR.
Contact: Sen. Frank Morse - 503-968-1708**

Background:

The Progress Quarry is located in south Beaverton adjacent to Scholl's Ferry Road. Two separate quarries were operating in this area since the 1950's. In 1974 Progress Quarries, Inc. working with Washington County came to an agreement that would allow expansion of the quarry operation, incorporate both excavations into one, and perform reclamation activities on 30 acres that were exempt from required reclamation. The total area affected by mining is 83 acres within a 110 acre parcel.

Morse Brothers (MBI) obtained this site in 1987 and inherited significant reclamation liability. MBI immediately began benching activities along the highwall for slope stability and worker protection. MBI also began an aggressive backfill program, utilizing imported clean construction fill. Visual and noise berms were constructed and vegetated to screen this site from the quickly growing community.

To facilitate proper sloping along property lines that had been mined up to by past operators, MBI purchased an adjacent 10 acre parcel of which 6 acres were mined. An adequate setback was maintained so the required 1_:1 slopes could be constructed.

In 1994 MBI accepted 800,000 cubic yards of material fill from the Hillsboro Light Rail Project. This material was used as engineered backfill to bring the surface of the quarry floor up above the ground water level. This action compacted the quarry floor and sealed off the contact between ponded water in the quarry and the ground water aquifer.

Mining was completed in 1995. The walls of the quarry were reduced by the floor backfilling as well as by ripping back the slopes to a 1_:1 slope or flatter. Stored overburden was used as a final cover and revegetated.

Progress Quarry is the single largest development undertaken in Beaverton in the last 10 years. Final design consists of 736 residential units and a 20-acre commercial core surrounding a 12-acre lake. Summer Creek has been restored through the quarry area with riparian plantings completed. The creek area becomes a linear park for residents long the south end of the project.

A Lakeview Plaza adjacent to the commercial core is a pocket park allowing access via a series of walkways and stairs to a landscaped dock area at the lake level.

Progress Quarries LLC and Morse Brothers, Inc. are being recognized for the long term efforts to turn this originally exempt quarry into a vibrant Town Center where commercial needs are within walking distance to residents.

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**Outstanding Planning - Joe Bernert Towing (JBT) / Wilsonville
Concrete Products, LLC, Wilsonville, OR. Contact: George Adams -
503-682-2527**

Background:

Joe Bernert Towing (JBT) of Wilsonville, operates nurseries and barge and riverboat ventures. In their first attempt to enter the aggregate mining business JBT submitted a Post Acknowledgement Comprehensive Plan Amendment to Yamhill County and an Operating and Reclamation Plan to DOGAMI.

In December 2004, the county commissioners approved the county permit 3-0. Commissioners agreed that the JBT application was one of the most comprehensive plans submitted to the county. Even Grand Island residents who opposed the proposal admitted JBT had bent over backwards to ensure his mine operation would be as neighbor-friendly as possible.

Outreach to the neighbors started many months before an application was made and seriously considered their input. Throughout the hearing process the Bernerts met repeatedly with concerned neighbors, and incorporated their best ideas into the plan. Even when some neighbors decided to formally oppose the request the Bernerts did not turn from their good neighbor policy. Instead of tearing down the neighbors arguments in the hearing process the Bernerts continued to meet with those neighbors in opposition and tried to address their concerns. This neighborhood involvement is required to extend beyond the approval. The Bernerts proposed the following condition which was placed on their approval.

Community Involvement. At least three times annually during the first two years following the issuance of Yamhill County's permit to allow surface mining on the site, the operator shall convene a meeting with interested neighbors, and shall discuss the status of the project and invite comments. The operator shall keep notes of the meetings and make the notes available to the neighbors and the Planning Director, as requested. At the end of the two year period, the frequency of the meetings may be reduced, as the operator and the neighbors desire, except that for the life of the mine the operator shall meet at least once every two years with the neighbors to discuss the status of operations of the site and conditions in the vicinity.

The operators also requested that the local jurisdiction to impose conditions limiting the speed on their own haul roads, replacing automatic back-up beepers with "smart" beepers, limiting hours of operation, hooding security lights and limiting dates of operation to avoid holidays or special events.

They designed their plan so they would do wet mining in blocks that have no connection to any other water body during mining. This eliminated the need to dewater the site and minimized groundwater impacts to the site and in the neighboring area. They requested a condition to be placed on their approval to prohibit dewatering.

Finally, the Bernerts are proposing to construct an equestrian/hiking path for the local residents.

Resource Use

The Bernerts identified 40 acres of the site that contained Agricultural Class I soils and decided to protect that area for future farming. When the topsoil is replaced they are planning on mixing in soil additives to improve the soil quality.

The Bernerts plan on actively farming the site both during and after the mining. They plan on raising native nursery stock on-site to restore this site and to sell plants for other restoration projects.

Reclamation of the site will preserve areas of farmland, and will create reclaimed wetlands and open water habitat. Undisturbed riparian and forested buffers, and wetlands will be protected. The goal is to re-establish a riparian area to the status that was found in this area before settlement began.

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**Good Neighbor Award - Liberty Rock
Products, Inc., Weber Quarry, Sweet
Home, OR - Contact Cal Emmert - 541-
367-3274**

Background:

The Weber Quarry is located 2 miles north of Sweet Home on the crest of Marks Ridge. It is reported mining began at this site in the 1930s. Based on aerial photography approximately nine acres are eligible for exempt status. ODOT was issued a Grant of Limited Exemption for this site in 1974. A full Operating Permit was issued in 1981.

Mr. Emmert assumed this permit through a transfer in 1992 and has maintained it since.

Gabriel Creek bisects the property with mine operations on both sides of the creek. Setbacks from the creek and preserving the existing vegetation has protected water quality.

Soils and overburden have been salvaged and stockpiled on-site for final reclamation. Excavated slopes are kept at the required slope or flatter.

In 1996 neighbors became concerned about the potential impacts from blasting at the quarry to their properties. Of major concern were impacts to existing water wells.

The drilling and blasting contractor submitted detailed blasting plans that were sent to all concerned parties. Well logs and production data was compiled for the three closest wells. A geophysical consultant was hired to monitor production blasts on and off-site.

All monitoring results were released to the neighbors. The monitoring report indicated blasting at the Weber Quarry did not exceed industry accepted standards and does not pose a risk to the adjacent properties. Mr. Emmert has opened his operation to review by all parties to insure any and all concerns are addressed.

A unique deposit of alluvial gravels sandwiched between basalt flows has drawn the attention of local geology professors. The Weber Quarry has been opened up to geology field trips.

Mr. Emmert is being recognized for his efforts to meet and exceed the state requirements in operating a rock quarry, working with adjacent property owners to address their concerns, and allowing geology field trips to view a distinctive geologic feature.