OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
VICKI S. MCCONNELL, STATE GEOLOGIST

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Mined Land Reclamation Awards announced by the Oregon Department of Geology and Mineral Industries

Portland, Oregon: Each year the Mineral Land Regulation and Reclamation program of the Oregon Department of Geology and Mineral Industries, with an independent panel of experts, selects specific mine sites and operators to receive awards for outstanding reclamation, mine operation, and fish habitat protection. This year's awards, based on an operator's performance during the 2012 calendar year, were presented at the Oregon Concrete and Aggregate Producers Association (OCAPA) Annual Meeting, June 28, 2013, at Eagle Crest Resort in Redmond, Oregon.

"These awards recognize owners and operators who go beyond the basic requirements of rules and regulations," said Ben Mundie, DOGAMI reclamationist and MLR awards program coordinator. "These companies and individuals show a deep commitment to the environment and to the communities where they are based."

Mined Land Reclamation Award winners are:

- **2012 Outstanding Operator Award** — River Bend Sand and Gravel / CPM Development Corporation, Dalton Quarry, Salem
- **2012 Outstanding Reclamation Award** — Knife River Materials – Roseburg Operations, Smith Bar, Roseburg
- **2012 Outstanding Reclamation / Agency Award** — BLM Roseburg District, Lee Creek, Roseburg
- **2012 Reclamationist of the Year Award** —Ed McGill / River Bend Sand and Gravel, Salem
- **2012 Oregon Plan Award** — Copeland Sand and Gravel, Inc., Hyde Bar, Grants Pass
- **2012 Special Recognition Award** — Robert Hogensen / Green and White Rock Products, Corvallis

The Mineral Land Regulation and Reclamation program at DOGAMI serves as a steward of the state's mineral production, while encouraging best practices within the industry. MLRR's goals include environmental protection, conservation, effective site reclamation, and operational guidance regarding other engineering and technical issues. Contact Gary Lynch, Assistant Director of Regulation, MLRR, at (541) 967-2053 for more information.

The following pages describe the award winners and include photographs of the sites.

***DOGAMI's mission** is to provide earth science information and regulation to make Oregon safe and prosperous.*

Media contact:
Carol DuVernois
carol.duvernois@state.or.us

800 NE Oregon St., #28, Ste. 965
Portland, OR 97232
Phone: (971) 673-1555
Fax: (971) 673-1562
www.OregonGeology.org

Mineral Land Regulation and Reclamation Program
229 Broadalbin St. SW
Albany, OR 97321
Phone: (541) 967-2039
Fax: (541) 967-2075
info@mlrr.oregongeology.com
Gary W. Lynch,
Assistant Director

Coastal Field Office
313 SW 2nd, Ste. D
Newport, OR 97365
Phone: (541) 574-6642
Fax: (541) 265-5241
Jonathan C. Allan,
Coastal Team Leader

Eastern Oregon Field Office
Baker County Courthouse
1995 3rd St., Ste. 130
Baker City, OR 978149
Phone: (541) 523-3133
Fax: (541) 523-5992
Jason D. McClaughry,
Field Geologist

Nature of the Northwest Information Center
800 NE Oregon St., Ste. 965
Portland, Oregon 97232
(971) 673-2331
Email: info@naturenw.org
Web: www.NatureNW.org
Donald J. Haines, Manager

2012 Outstanding Operator — River Bend Sand and Gravel / CPM Development Corporation Dalton Quarry, Polk County

Contact: Ed McGill, P.O Box 12095, Salem, OR 97309, 503-363-9281

This award recognizes operations that have done an excellent job of mine development and/or operations on a daily basis. Outstanding operations can lead to outstanding reclamation.

DOGAMI nominated the Dalton Quarry as an outstanding operation for the success of controlling storm water in a sensitive environment.

Background

The 105-acre Dalton quarry area was first permitted by DOGAMI in 1994. A basalt ridge directly above the valley floor, with vertical relief of 300 feet, is the area zoned for mining. The quarry site is situated on 555 acres of timber ground. The land has been in the family for 51 years and is now being managed by the third generation of family members. The site is situated in the foothills of the Coast Range near a Class I stream, Rickreall Creek.

Dalton quarry mines a 300-ft basalt ridge.

Rickreall Creek is a public drinking water supply for the City of Dallas and runs through the property south of the DOGAMI permit boundary. Two intermittent stream drainages are within the permit area as well. The remainder of the property outside of the mineral zone is used for timber production and agriculture.

The City of Dallas expressed concerns regarding storm water discharge to Rickreall Creek, so the need for a comprehensive storm water control system was established early on. At various times, joint site visits with Polk County Soil and Water Conservation District, Oregon Departments of Fish and Wildlife and Environmental Quality, and DOGAMI were completed. Agency recommendations were followed in the development of the site.

Vegetated runoff control berms on the haul road.

The closest residence in this forest zone is located 1,000 feet away and is one of five that are in this viewshed. They are located at distances of 1,000 to 3,000 feet from the extraction area boundary. Visual and sound impacts were lessened by the retention of large numbers of 30- to 40-year-old Douglas firs and maples, the planting of Douglas firs and hybrid poplars, the preservation of natural earth barriers, and the construction of noise berms.

Development at the Dalton quarry included stripping and stockpiling 60,000 cubic yards of overburden, constructing a network of interior access roads, and constructing a storm water control system.

The approach to storm water control was dispersion of water in numerous locations to minimize the amount requiring treatment and the amount discharged. Highlights of the plan include:

- vegetated runoff control berms on the haul road
- diversion to two intermittent drainages and construction of settling ponds
- placement of berms on mine exploration roads to trap runoff

Settling ponds minimize the amount of storm water that requires treatment.

and sediment
- construction of a subdrain on quarry floor
- utilization of vegetation filter strips and the riparian areas for discharge of storm water
- runoff control berms above the highwall

The success of the storm water management efforts have been documented over the past two decades. Storm water discharges from the Dalton quarry have never exceeded state standards, and no complaints have been received from the City of Dallas or from adjacent landowners.

Vegetation filter strips and riparian areas control the amount of storm water discharged.

2012 Outstanding Reclamation Award — Knife River Materials – Roseburg Operations Smith Bar, Douglas County

Contact: Rudy Butler, rudy.butler@kniferiver.com, PO Box 1427, Roseburg, OR 97470, 541-679-6744

This award recognizes operations that go beyond the minimum requirements of the DOGAMI-approved reclamation plan or that use innovative techniques to achieve successful reclamation.

DOGAMI nominated Tri-City (Tri-City was incorporated into Knife River Corporation holdings in 2000) for the outstanding reclamation award based on the company's long history of concurrent reclamation practiced during active mining and for the excellent wildlife habitat that has been created in an area that was of marginal value prior to mining.

Background

The Smith Bar site is located two miles southeast of Riddle adjacent to Cow Creek. DOGAMI issued a grant of limited exemption to Tri-City in 1974 for approximately 25 acres. In 1980 the mine area was expanded under a DOGAMI operating permit.

When this site was permitted in 1980, it was common practice to isolate mine excavations from the floodplain and to maintain that isolation through final reclamation. It was not until the late 1990s that DOGAMI required proposed mine operations to be a part of the active floodplain.

Concurrent reclamation has been practiced at the Smith Bar site since the early 1980s, where mined out areas were sloped and vegetated. Post-mine land use has always been wildlife habitat. DOGAMI inspection reports over the decades describe planting of willows and grasses as well as areas that naturally revegetated. A 1994 DOGAMI report stated that 25 acres were then recognized as reclaimed to wildlife habitat. Irregular slopes and shorelines as well as small islands within the pond excavations provided excellent wildlife habitat.

During the 1996 flood event in western Oregon, Cow Creek inundated the Smith Bar site and eroded portions of the dike that isolated the mine operation from the floodplain. The dike was repaired, and by 2000 the dike had revegetated to the point where the area of erosion was no longer apparent.

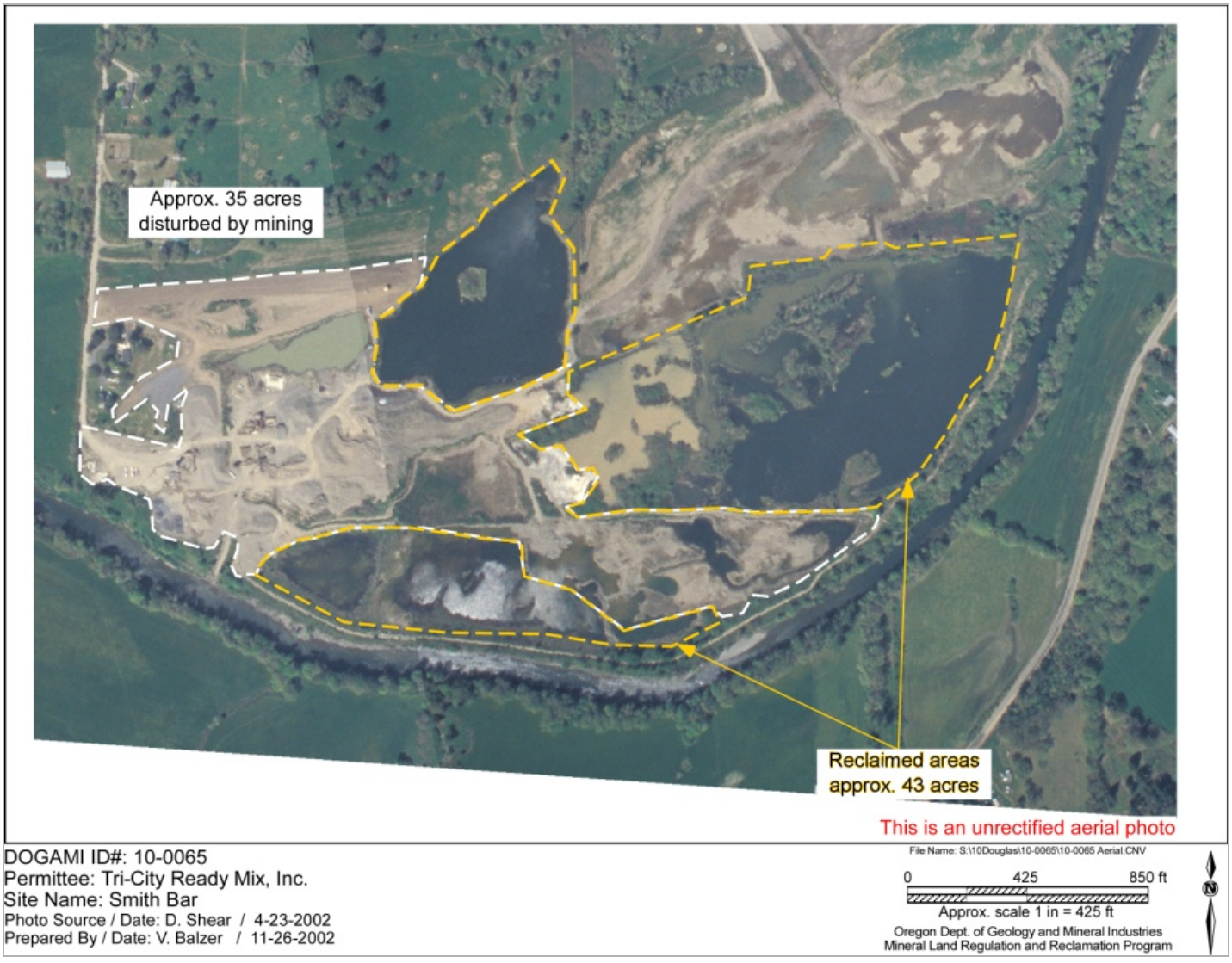
Gentle in water slopes provide safety and wetland plant habitat.

Reclamation of excavation ponds included sloping the pond banks and seeding and planting vegetation.

In 2000, Tri-City was incorporated into the Knife River Corporation holdings in Oregon. By 2005, excavation activities were winding down, with the site primarily used for processing of aggregate and asphalt. Reclamation of the excavation ponds continued with sloping of the pond banks and seeding and planting of vegetation.

Reclamation was completed in 2011, and the DOGAMI operating permit was closed in early 2012.

Reclaimed land provides wildlife habitat.



The Smith Bar site disturbed about 35 acres of land, but Tri-City / Knife River activities reclaimed more than that for wildlife habitat — about 43 acres.

2012 Outstanding Reclamation / Agency Award — Bureau of Land Management, Roseburg District
Lee Creek, Douglas County

Contact: Steve Lydick, 777 NW Garden Valley Blvd., Roseburg, OR 97471, 541-464-3211

This award recognizes reclamation by a government agency, which is considered separately from private operations because of the resources available to agencies not available to private operators.

DOGAMI nominated the BLM – Roseburg Office for the outstanding reclamation award by a government agency for their determined effort to restore a riparian area to its pre-mine condition.

Background

In 1994, it was brought to the attention of the U.S. Bureau of Land Management (BLM) and DOGAMI that a placer mine operation along Lee Creek, 10 miles northwest of Myrtle Creek, was operating without proper authorization from either agency. BLM subsequently issued a notice of noncompliance. Through their attorney, the mine claimants, Dale and Julie Daugherty, filed an appeal but failed to obtain a stay. They continued to operate on a limited basis.

Illegal retention ponds required a water right and proper authorization.

A complaint of muddy water by a downstream landowner prompted another site visit by BLM, DOGAMI, and Department of Environmental Quality (DEQ) personnel. A site survey established that the site was in excess of the acreage allowed under the DOGAMI rules for a grant of total exemption: less than one acre and less than 5,000 cubic yards of excavation in any 12-month period.

From this site visit, DOGAMI issued a notice of violation and then a suspension order. DEQ also issued a notice of violation of the clean water rules.

Illegal creek crossings were a significant contribution to sediment.

Over the course of the following years the Daughtery's attorney filed formal complaints against the BLM geologist at the time. The case went to trial in U.S. District Court, which ruled in favor of the BLM and required the Daughertys to cease mining and reclaim the site. The Daughertys performed some reclamation but failed to adequately stabilize the site and remove all mine related debris and equipment.

The BLM went back to court in 1997 and obtained a default judgment against the Daughertys in the amount of $2,958 to pay for costs associated with completing required reclamation. The BLM was able to sell much of the scrap metal, and then completed site stabilization and revegetation.

The Department of Justice closed the case in 2001, and DOGAMI closed its file in 2012.

Final reclamation restored an area adjacent to an historic site.

2012 Reclamationist of the Year Award — Ed McGill, River Bend Sand and Gravel, Marion and Polk Counties

Contact: Ed McGill, PO Box 12095, Salem, OR 97309, 503-363-9281

This award recognizes an individual from the mining industry who provides an enthusiasm and creativity in producing outstanding operation and reclamation.

DOGAMI recognized Ed McGill for continuing efforts that go beyond the requirements set by law to protect natural resources and improve the local community around his sites.

Background

Valley Concrete and Gravel Company has operated in the Mid-Willamette Valley since the 1940s. In 2008, CPM Development Corp. purchased Valley Concrete. Ed started with Valley in 1987 as a crusher manager. In 1995 he became general manager for the firm. Currently, Ed McGill is responsible for seven separate sites permitted by DOGAMI in Marion and Polk Counties:

(left) Ed McGill; (right) Concurrent reclamation at an active mine operation.

- The Tipton pit is located in Marion County just upstream from the Independence Bridge. Mining began here in 1964, and material was last removed in 1995. Protection of riparian vegetation is critical at this floodplain site. Today there is no evidence this site has been mined.
- Mining began at the Krauger pit, at Buena Vista, in 1963. Interim reclamation now provides wildlife habitat. Mining will be complete at the Krauger site within the next several years. However, reclamation is in full swing.
- The Ellendale quarry is an upland site outside obtained by Valley in 1994. The previous operator had operational problems with this quarry. Under Ed's supervision the problems have been rectified, and a comprehensive storm water control system has been completed.
- The Bailey pit, also located outside Dallas, is an upland quarry with production records going back to 1945. The last active mining at this quarry was in 1994.
- The Bethel Heights quarry is located several miles west of West Salem. This site was obtained by Valley this past year. The site is in full production, with little opportunity for interim reclamation to begin yet. Mined out areas will be returned to timber production.
- The Dick quarry was obtained by Valley in 1993. This upland quarry outside Dallas was first permitted in 1983. Since 1993, native species trees have been transplanted to improve screening.
- The Hayden Lake site east of Rickreall is in the permitting process.

Wildlife habitat at an active mine operation.

Voluntary reclamation within the Willamette River floodplain.

Since Ed became general manager, Valley Concrete and Gravel has obtained three existing sites from previous operators. The physical conditions at these sites have been dramatically improved by reducing storm water runoff impacts, by improving visual and noise screening from adjacent property owners, and by interim reclamation of mined out areas.

2012 Oregon Plan Award — Copeland Sand and Gravel, Inc.
Hyde Bar, Josephine County
Contact: Bob Copeland, 695 SE J Street, Grants Pass, OR 97526, 541-476-4441

This award recognizes operations that voluntarily create or enhance salmonid habitat within a permitted area or that volunteer equipment for offsite use.

DOGAMI nominated Copeland Sand and Gravel for the Oregon Plan Award for their commitment to insure this project met all expectations.

Background

The Hyde Bar site is located within the 100-year floodplain in low-lying areas that are frequently inundated by the Applegate River six miles east of Murphy. Elevations range from 1,110 feet at the upstream end to 1,096 feet at the downstream end—a difference of only 14 feet. The land is vegetated primarily with native riparian species typically found along the river. They include black cottonwood, Oregon ash, white alder, big leaf maple, and several species of willows. Non-native plants are primarily Himalayan blackberry with scattered clumps of poison hemlock and *Ailanthus glandulosa* (tree of heaven). The Applegate River provides habitat for Coho and Chinook salmon, steelhead, cutthroat trout, and other fish species. Bald eagle, red tailed hawk, great blue heron, and osprey are found in the local area.

Photo points were established to help monitoring efforts over many years.

According to notes in the DOGAMI file, mining began in the mid 1970s under a permit issued by the Department of State Lands (DSL) and was conducted by Copeland Sand and Gravel. In 1992, during joint inspections with DSL, it was determined that the Hyde Bar site and the upstream Noble Bar site should be regulated by DOGAMI as upland sites rather than by DSL as submersible lands. Copeland Sand and Gravel registered the site as a Total Exemption site, that is, exempt from DOGAMI statutes. This meant that excavation for offsite removal was required by statute to be less than the threshold which required a DOGAMI operating permit: less than 5,000 yards excavated and less than one acre of disturbance within a 12-month period, for a maximum of 5 acres of disturbance.

Strict boundaries were defined for excavation.

This area was also an area of concern for the Applegate Watershed Council. Council members attended all public hearings on this project and attended onsite meetings with state agencies with Copeland's permission.

Copeland Sand and Gravel obtained a DOGAMI operating permit in 2009, to allow expansion of the mine operation. The application process included compilation of hydraulic computer models for this site to determine flood frequency, water velocities, and flood water heights. The DOGAMI permit was conditioned to insure mining did not create any offsite impacts to the river system during or after mining.

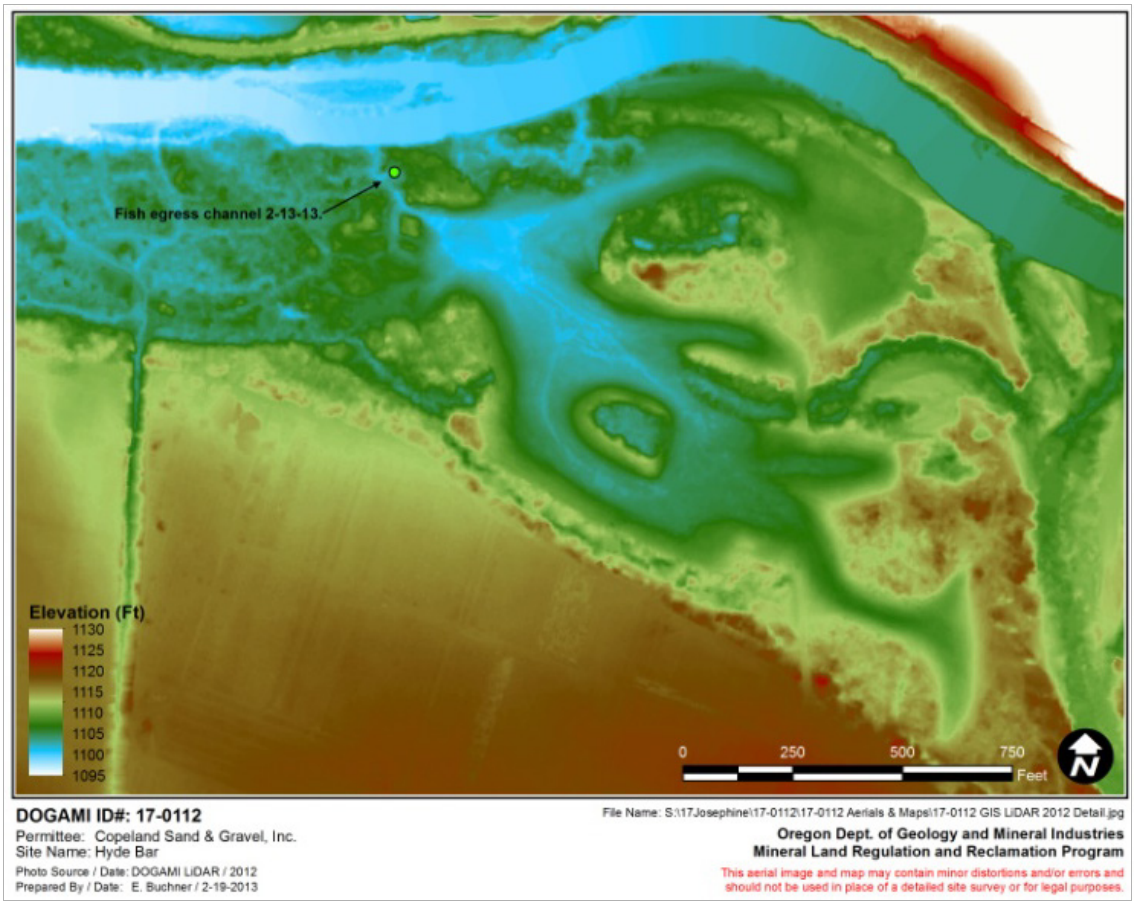
DOGAMI concluded that the site is located within the active channel migration zone of the Applegate River. However, because the proposed depth of mining was well above the channel thalweg elevation, excavation of this site, as proposed, is not likely to accelerate the rate or magnitude of channel change over the next decades. Protection of the majority of the mature riparian vegetation, the shallow excavation depth, and the very flat slope of 0.5% help maintain floodplain stability and existing flood patterns. The 0.5% slope likely approximates the overall slope of the channel bed along this reach of the Applegate River. The HEC-RAS model completed by Lidstone and Associates for the Krause property calculated a channel bed slope of 0.45%.

In addition, identified wetland areas were clearly marked in the field with orange construction fencing and are further protected with sediment fencing.

Final grading of the site was conducted concurrently with extraction using laser-guided equipment on the graders to maintain the exact required grade. No fill slopes were created. Site grading allows the river to back up into the site during higher flows but prevents the creation of ponded areas that could strand fish. Fish use the backwater channel created by the mining during flood events and yet are able to move unimpeded back into the main channel as river levels recede. To allow future monitoring of the site, six photo point locations were permanently marked.

Mining was completed in 2011, and final reclamation occurred in 2012. Soils that had been salvaged were placed along the banks of the created channels and were revegetated with willow stakes and native grasses. The Hyde Bar site has gone through winter seasons 2011-2012 and 2012-2013, and although high flows inundated the site on several occasions, very little erosion documented.

This project created approximately 25 acres of wetland / back channel habitat that previously had not existed. Using state-of-the-art planning tools and earth-moving equipment, the necessary grade of the excavation was accomplished to allow high water flows to back into the desired areas and then flow back out in a controlled manner with no potential of stranding fish in low lying areas. The 10H:1V slope of the fish egress channel showed little if any erosion after low winters.



Lidar image of the Hyde Bar site showing the different elevations created to insure flood waters receded without trapping listed salmonid fish.

2012 Special Recognition Award — Robert Hogensen / Green and White Rock Products, Benton County

Contact: Robert Hogensen, PO Box 886, 28054 Payne Rd, Corvallis, OR 97333, 541-757-1877

The special recognition award is a new award category for 2012. This award recognizes an individual from the mining industry who has shown outstanding commitment and dedication in promoting the aggregate industry on the ground, politically, or through public education.

Background

Bob Hogensen, who recently retired as general manager of Green and White Rock Products south of Corvallis, fits all three of the Special Recognition award criteria.

Bob grew up in the Corvallis area, served in the U.S. Army in Vietnam, and attended Oregon State University.

Bob began his career in the late 1970s with a small operation, Corvallis Sand and Gravel. He moved to Green and White in the early 1980s and soon became the general manager. Bob was a hands-on manager not afraid to get his hands—or his shoes—dirty on the job.

Bob Hogensen, on the job at Green and White Rock Products site.

The Green and White operation is a unique blend of two industries, agriculture and mining, within the Willamette River floodplain.

Working with the Jones' family farming operation, Bob Hogensen and the Green and White Rock aggregate operation completed a comprehensive business plan that charted a course both parties agreed upon. Every six months a revised business plan was formulated that took into account the particular needs of both operations and insured they did not conflict.

Agricultural and aggregate operations coexist peacefully thanks to a business plan agreed upon by both operations.

To date, over 200 acres have been reclaimed from aggregate extraction to agricultural production. Another 100 acres of ponds and wetlands have been established for wildlife habitat.

Mr. Hogensen served on the Oregon Concrete and Aggregate Producers Association (OCAPA) board, providing an exchange of ideas among operators statewide, educating the public on the importance of the aggregate industry, and representing the industry in the state legislature.

Perhaps the greatest legacy Bob leaves is the knowledge that a mine operation can operate and flourish alongside a successful agricultural business on the same property. With Mr. Hogensen's leadership Green and White Rock Products is an example of cooperation and planning that should be recognized at the local, state, and national level.

A flood water control system protects the agricultural and mining operations while allowing listed salmonid fish to return to the river after flood events.

MLR Award Contact Information:

Ben Mundie, Reclamationist and MLR awards Program Coordinator
Mineral Land Regulation and Reclamation Program
Oregon Department of Geology and Mineral Industries
telephone (541) 967-2149
email Ben.A.Mundie@mlrr.OregonGeology.com

The Oregon Department of Geology and Mineral Industries is an independent agency of the State and has a broad responsibility in developing an understanding of the state's geologic resources and natural hazards. The Department then makes this information available to communities and individuals to help inform and reduce the risks from natural hazards, such as earthquakes, tsunamis, landslides, floods and volcanic eruptions. The Department assists in the formulation of state policy where an understanding of geologic materials, geologic resources, processes, and hazards is key to decision-making. The Department is also the lead state regulatory agency for mining, oil, gas and geothermal exploration, production and reclamation.

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