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Highland Highlights

After a quiet winter for viewing birds, spring has brought a menagerie of colors and sounds to the skies and branches of the Okanogan Highlands. The male red-winged blackbirds brought their predictable yet always refreshing promise of spring, by arriving while winter lingered on. Thus began the cascading signs of spring, gaining momentum with the first-of-year buttercups and the budding out of the aspen groves. The breathtaking choreography of the calypso orchid, lupine, and larkspur now leads us into the beauty of summer, along with an array of migratory songbirds.

It has been a tenuous spring for the loons at Lost Lake, but they have managed to produce two chicks despite the challenges. (Cont'd pg. 7)

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Kinross Appeals New NPDES Permit

Every five years the NPDES (National Pollution Discharge Elimination System) permit must be renewed. The permit is required by the Clean Water Act to regulate discharges from industrial facilities. The Buckhorn Mine's permit expired on November 30, 2012. WA Department of Ecology temporarily extended the permit due to complications stemming from significant violations that were issued in July 2012, which Crown/Kinross appealed. The long overdue new permit was issued on March 1, 2014.

Despite verbal assurance during the penalty settlement negotiations that they would not appeal the new NPDES, Kinross submitted an appeal to the Pollution Control Hearings Board (PCHB), one day after the permit was issued. Kinross asserts that the new permit is stayed until the appeal is settled, but they are the only one who hold that opinion. Ecology has stated that they will vigorously defend the permit. OHA has intervened in the case.

The new permit, effective March 1st, aims to increase protection of the environment by setting compliance parameters at monitoring points outside the capture zone to levels that were found in streams and groundwater before mining. The new permit makes it clear that all water contaminated by the underground mine workings and surface facilities must be captured and treated, so that contaminants stay within the capture zone.

During the penalty settlement negotiations, Kinross accepted that the new permit would include:

- A compliance schedule with interim limits
- Performance-based effluent limits
- More stringent capture zone standards, discharge requirements and effluent limits
- New limits based on background water quality

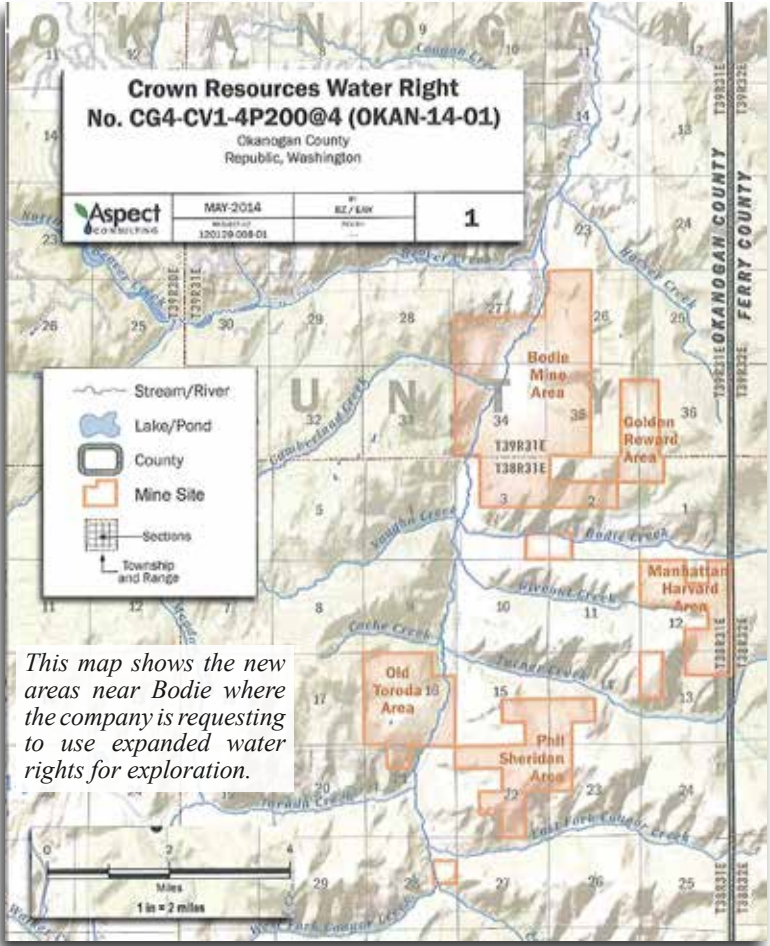
Ecology and the company had at least 30 meetings to negotiate the new permit; the new requirements are no surprise. The NPDES permit was carefully developed after many months of negotiating and intensive discussion between the company, Ecology and OHA. After all parties committed substantial resources to collaboratively help develop the new permit, and after agreeing to key provisions along the way, Kinross now sees fit to ask the PCHB to reverse and set aside the permit. (Cont'd page 4)

Kinross New Exploration Proposal Concealed in Water Right Change Application

On May 28, 2014, instead of announcing the new exploration proposal, Kinross concealed it in a water right change application in a public notice. Very few people are likely to look up the legal coordinates provided in the public notice, nor recognize a new exploration project under the guise of a water rights request.

On the same day that Kinross announced withdrawal of the Buckhorn Mountain Exploration Project, the Okanogan County Water Conservancy Board published a public notice in the newspaper inviting comments on Crown Resources/Kinross application to change one of their water rights from dust control and irrigation to include mineral exploration and mining. The exploration described in the application includes a portion of the larger exploration proposal that was withdrawn. It includes properties above Chesaw and new areas on either side of Toroda Creek Rd near the old mining town of Bodie (see maps on page 8). Crown/Kinross is also asking that the seasonal water right be extended to year-round, which would be an expansion of the water right in the basin. New appropriations for water rights in the Toroda Creek basin have been denied since the 1950's.

(Continued on page 8)



“Earth provides enough to satisfy every man's needs, but not every man's greed.”
~ Mahatma Gandhi



State of the Mountain

It is difficult to know if the old adage applies to a large-scale mining company, “if you find yourself in a hole, stop digging.” Despite nonstop efforts by the regulatory agencies, as well as OHA, to get Kinross to make good on their commitments and address the water quality problems at the mine, Kinross appealed the NPDES permit. The permit appeal continues along the same lines of official denial of responsibility for the water quality problems it has created on Buckhorn Mountain. Kinross seems to think its problems will go away because it provides jobs, donates money to worthy causes, and volunteers in the local community. However, these noteworthy attributes do not excuse Kinross from its responsibility to ensure that clean water emanates from Buckhorn Mountain.

Ecology settled the 2012 penalty and forgave all liability for water quality violations that occurred prior to the penalty settlement. Although Ecology insists that they had a verbal commitment from Kinross not to appeal the NPDES, the settlement expressly stated that the agreement does not limit Kinross’ right to appeal. By the same token, Ecology retained the right – and carries the responsibility – to enforce water quality rules and regulations. I would argue that Kinross has put “good faith” to the side by appealing the NPDES. OHA calls on Ecology to use the suite of enforcement actions at its disposal

under the Clean Water Act to instill in the mining company the seriousness of the agency’s resolve. Historically, tangible consequences are the only incentives that have gotten the company to take real action.

OHA has intervened in the permit appeal on behalf of Ecology. OHA will continue to try to work cooperatively with Kinross to encourage them to bring the mine into compliance in a timely fashion, but we will not sit idly by while they stubbornly refuse to address the groundwater quality problems at the mine. We are resolved, if necessary, to file a citizen lawsuit.

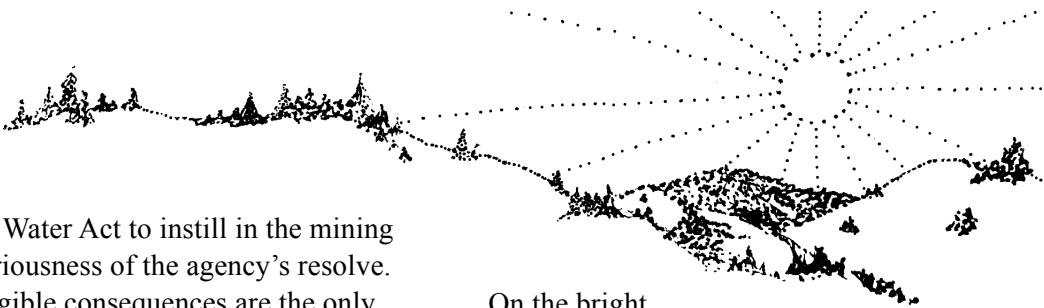
In the meantime, Kinross supporters continue to ratchet up political pressure, hounding the staff of elected officials to expedite agency review of exploration in the Buckhorn area. Governor Inslee instructed his administration to find efficiencies in the regulatory procedures to keep the process moving, to “work with agencies on streamlining to ensure permit decisions are made in a timely fashion...” Many of the problems with the Buckhorn Mine can be traced back to the rushed environmental review and permitting being completed before issues were adequately resolved. Kinross is contributing to the political pressure by terminating the current environmental review for exploration, but don’t be fooled. They are not going away. They are still looking to expedite exploration.

On the bright side, more and more people are learning interesting facts and exploring fascinating aspects of the natural world through OHA’s educational series, Highland Wonders. We look forward to beginning on-the-ground instream restoration on Myers Creek. We have other restoration projects planned too, including improvements to OHA’s Lost Lake Preserve, such as the construction of the upper interpretive trail, a picnic table and toilet facility, creation of habitat piles, and installation of more nesting boxes, so stay tuned for volunteer opportunities.

OHA volunteers have been doing a great job, but the workload is such that OHA finds it necessary to hire a person to help with our advocacy efforts. If you know of any critical thinkers with a balanced and patient approach, please encourage them to go to OHA’s website and tell us why they would be right for the job.

Please remember that your annual memberships and contributions are the foundation upon which OHA is built. Help us work toward our goal of maintaining a clean and healthy environment.

Sincerely,



Mineral Exploration Proposed near Mazama

The US Forest Service is considering exempting a mineral exploration proposal just north of Flagg Mountain (within two miles of the Mazama junction) from a full review of the environmental impacts. Acting for Blue River Resources Ltd, Discovery Consultants of Vernon B.C. submitted a Plan of Operations that has undergone numerous revisions. The latest proposal would drill 15 exploratory boreholes 24/7, dragging the drill rig from site to site on Forest Service roads, some currently in use and others abandoned. Drilling would have to happen within a brief timeframe of August 1- December 1 because the project would be located in spotted owl habitat.

District Ranger Michael Liu proposes to approve this project administratively under a “categorical exclusion” which has no appeal process. This proposal is not appropriate for a categorical exclusion, and the Forest Service should prepare a thorough study of its impacts through either an Environmental Assessment (EA) or an Environmental Impact Statement (EIS).

While the official comment period has ended, you can still send a letter to make your voice heard. Visit www.okanoganhighlands.org/help/take-action for more info. Send your letter to: Michael C. Liu, Methow Valley District Ranger, US Forest Service, 24 West Chewuch Rd, Winthrop, WA 98862; or email: comments-pacificnorthwest-okanogan-methowvalley@fs.fed.us

Your annual membership dues support our conservation efforts. Thank you!

Yellow Monkey-flower photo taken at Lost Lake



Find OHA on Facebook and Twitter!

If you use Facebook, you can stay informed about our education, restoration and mine monitoring programs by “liking” OHA. Also, if you mouse-over the “liked” button, you can choose to get notifications from OHA, which will increase the chances of you seeing our posts in your newsfeed. Please share our posts with your friends!

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Stay Informed ~ Be Involved

Send this form to: OHA, PO Box 163, Tonasket, WA 98855
julie@okanoganhighlands.org



This edition of OHA’s newsletter written and edited by:
David and Hanna Kliegman, & Julie Ashmore

~ All photos by OHA staff except where noted
~ Printed on recycled paper

Turtle/Wetland Design:



For more information, or to donate online, please visit www.okanoganhighlands.org

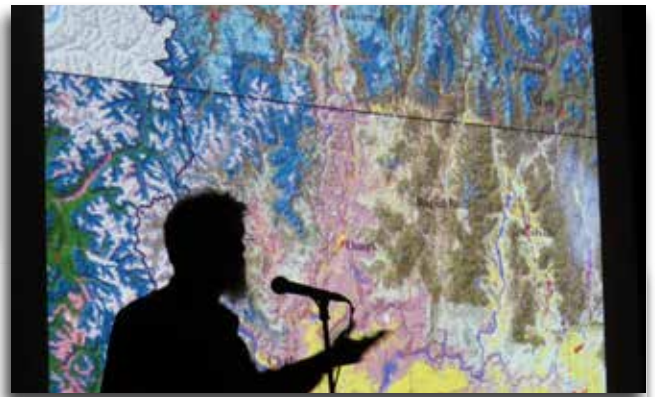
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- _____ Volunteer, either in person or via distance



Highland Wonders

On March 7th, 2014, Don Gayton returned to Highland Wonders by popular demand, generously offering a second presentation on Grassland Ecology and Grasses ID. In the photo at right, Don is sharing a rare map that portrays ecotones on both sides of the Canada/US international border. So often, maps made in both countries stop at the border. For those living in the borderlands, it is refreshing to see the natural world portrayed continuously, as it is in reality. Don updated his previous presentation, tailoring it for this event, and his Grass ID Primer can be found online at okanoganhighlands.org/education/grasses-indoor.



On April 11, Helen Lau (top left) presented an introduction into the world of macro-fungi and discussed some of their ecological functions. Helen Lau is a botanist for the USFS on the Okanogan-Wenatchee National Forest (Cle Elum Ranger District). Helen discussed the role of mycorrhizal underground networks and provided an introduction to fungi morphology. She discussed human uses of wild mushrooms and provided tips for identification. Helen discussed safe local edibles, as well as which species to avoid. Some rules to Wild Mushroom consumption, including: *Always cook them, try only one to start, keep an extra for ID, don't eat too much, and get educated.* A large group of over 100 people gathered to learn about Wild Mushrooms and Fungi Ecology.

On May 2, Scott Fitkin (bottom left), District Wildlife Biologist (Winthrop), spoke about amphibians. "Amphibians are amazing shape-shifting critters," Fitkin said. "It is fascinating to consider their dual aquatic/terrestrial life history and ability to morph from a gilled, water-breathing larval stage into a walking, air-breathing adult."



Viva la Naturaleza: Inviting Local Latino Families to Explore the Natural World



Student Leader Fernanda Abrego taught families about yarrow and locoweed at her station. "Let me tell you about two of my favorite plants!" she exclaimed. Fernanda's enthusiasm was contagious, and the families crowded around to see the plant characteristics and ethnobotanical information she described.

On Sunday, May 18th, OHA sponsored an educational event, "Viva la Naturaleza," in partnership with the Tonasket School Garden, Tonasket High School MEChA Club, Tonasket School District, Tonasket Migrant PAC, AmeriCorps/VISTA, Team Naturaleza, and the Viva la Naturaleza Student Leadership Team. The event connected Latino community members with the natural world and was part of OHA's "Highland Wonders" educational series.

The Viva la Naturaleza event began with an introduction from Norma Gallegos, who provides a diverse array of nature-based learning opportunities to Latino families in the Wenatchee area via a program called Team Naturaleza. The families were invited to learn about the School Garden and to join in helping to improve the soil by planting a cover crop. Afterward, families participated in a native plant hike. The hike featured an "Each One Teach One" structure, which allowed our student leaders and other community members to teach about native plants one-on-one to each family as they walked along the trail. George Thornton, a local botanist, retired high school teacher, and President of OHA's board, provided technical assistance for developing the hike and also taught at a station. After the plant hike, families were given exploration booklets with clues about a variety of native plants, and worked to match living plants with the clues in the booklets, written in both Spanish and English. Family members worked on their "exploration hunt" booklets together, enjoying the sunshine, the view, and a mutual feeling of satisfaction from spending time and expanding horizons together in the natural world.

The event concluded with a barbeque that included tasty carne asada, and homemade salsa and side dishes. Certificates of Appreciation and Discover Passes were presented to the Student Leadership team, and closing remarks were given by Norma Gallegos of Team Naturaleza, who encouraged families to continue exploring and experiencing local natural areas.

This event was a collaboration between several entities and was coordinated by the following individuals: Tyler Graves, Scott Olson, Hanna Kliegman, Julie Ashmore, George Thorton, Lee Miller, Martha Wisdom, Norma Gallegos, and the Student Leaders: Hilda Celestino, Rosemary Luna, and Fernanda Abrego.

Big thanks for assistance with translation and event logistics go out to: Norma Guterrez ❖ Gustavo Montoya of El Mundo ❖ LaVonne Hammelman and the Oroville Seed Library ❖ Jane Thompson ❖ Sabrina Norrell (AmeriCorps) ❖ Junior leadership group: Raphaela, Daisy and Madeline ❖ Maria Gonzales at Oroville Harvest Foods ❖ Event leadership team for the time and effort invested to make this event a success ❖ The families who participated, for making the most of the experience

Upcoming Summertime Highland Wonders Events

July 19, 2014 Pre-registration required for outdoor events; please visit okanoganhighlands.org/education/hw for details.

Stream Ecology, with Mark Oswood

OHA presents a unique opportunity to learn about Stream Ecology, hands-on in the highlands. The event will be lead by freshwater ecologist and emeritus professor Dr. Mark Oswood. An indoor presentation in Chesaw will cover the basics of stream ecology, followed by a demonstration of books and gear, and a field trip to a local stream. This event will focus on stream ecology, and how riparian zones and streams interact to support and affect populations of aquatic insects. Community members will have the opportunity to collect macroinvertebrates and look at and identify specimens with field optics, streamside.

August 16: Geology of the Highlands

It has become an annual tradition for OHA to explore the varied and fascinating geology of the Okanogan Highlands. For lifelong learners, geology offers an unending supply of topics to be explored. Don't miss this year's tour -- register early before it fills up. This event always has a waiting list.

September: Evening with the Experts

Do you have a plant you've been wondering about? Bring your "mystery plant" to OHA's *Evening with the Experts* in September 2014. Make sure you're prepared, with our guidelines for photos and plant specimens: okanoganhighlands.org/education/mystery-plant



Mark Oswood will share his expertise in stream ecology with a presentation and field trip. (Photo by Susan Ballinger)



Kinross Appeals NPDES Permit

Cont'd from page 1

Kinross complains that the permit is internally inconsistent and unworkable; goes beyond Ecology's authority; is contrary to the penalty settlement agreement; and is unreasonable, arbitrary and capricious. What OHA sees is that it is "easier" for Kinross to appeal the permit than to gain control of the pollution the mine is generating.

Kinross Appeal Specifics Include...

Outfall Capacity: Even though the permit provided for unlimited discharge as long as they are properly engineered and authorized by the landowner, Kinross alleges this is not adequate. Kinross claims that the water quality criteria for turbidity in the permit will limit their outfall capacity and thus their ability to dewater the mine and maintain the capture zone. They have not in fact maintained the capture zone since mining began, regardless of these criteria, but excess discharge has caused slope instability and erosion.

Compliance Schedule and Interim Limits: Kinross claims that the interim water quality standards outside the capture zone will not be achievable within the required timeframe. This is interesting, since the interim limits are the same as the old limits. Kinross was always required to maintain a capture zone and has never done it. Kinross had agreed in the penalty settlement that the new limits would be background levels and now the company is appealing, alleging that the interim limits contradict the penalty settlement.

Final limits: Kinross alleges that Ecology used incorrect calculations to

determine background water quality and the new permit limits. Background water quality criteria are based on baseline data collected before the mine began operating. OHA's take is that it will be difficult to achieve background limits unless Kinross makes a concerted effort to address mine leakage.

Definition of Capture Zone: Kinross alleges conflicts in the permit between the maps and tables regarding the capture zone, and states that there are some mine facilities outside the capture zone. Moreover, they say the capture zone in the permit is not large enough for them to be able to capture all contaminants. The company's approach seems to be based on expanding the capture zone to include those areas that have already been polluted. This is not the intent of defining a limit for the area that is allowed to be contaminated.

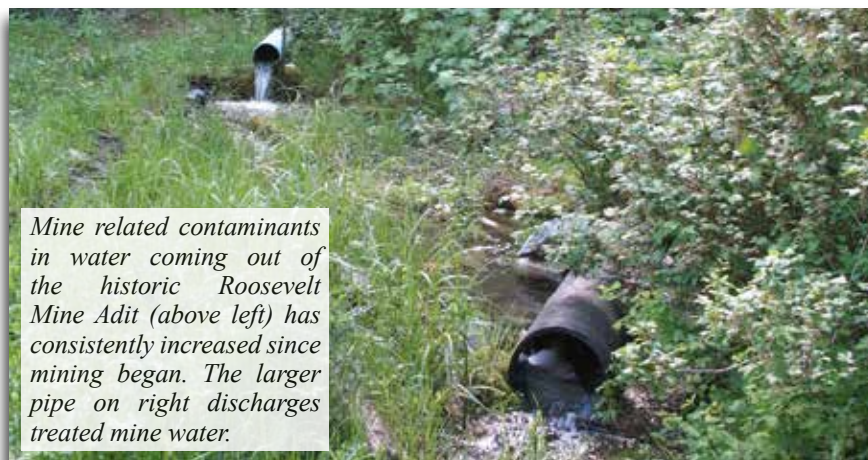
Performance Based Limits for the Mine Water Treatment Plant: Kinross complains that the new performance-based limits for the Mine Water Treatment Plant do not properly consider future performance, based on projected reduction in water quality in the mine. However, even if projected changes become real, there is no reason for treated water to be released with higher levels of contaminants.

Haul Road: Kinross claims that since the haul road management is in coordination with the US Forest Service, the permit requirements exceed Ecology's authority. In fact, Ecology has the responsibility to ensure protection of resources on land that is also under the jurisdiction of other agencies.

Discharge from outfall 004, where water is released back onto Buckhorn Mountain. Discharge points have been an ongoing issue at the mine, when more water has been accumulated than could be discharged, creating a host of water quality problems. Significant slope stability issues have also arisen as a result of mine water discharge.



Mine related contaminants in water coming out of the historic Roosevelt Mine Adit (above left) has consistently increased since mining began. The larger pipe on right discharges treated mine water.



Approvable Adaptive Management Plan Update Required

On many occasions, OHA has expressed concerns regarding the water quality problems at the Buckhorn Mine, problems that are still occurring. While we acknowledge that mitigation measures have been installed, to date little quantitative improvement has materialized. Crown Resources/Kinross has failed to implement key actions of the Adaptive Management Plan (AMP) for Water Quality. **The Department of Ecology has not followed through with adequate guidance or enforcement policies.** Whether the problems have been systemic or caused by variations in interpretation, **the result has been a serious lack of action to address the ongoing water quality issues at the mine.**

On July 1, 2014, according to the NPDES permit, an approvable update to the AMP is to be submitted to Ecology. Implementation of the AMP is required according to the NPDES permit. This Plan recognizes that water that escapes collection and treatment could negatively impact ground and surface water quality. The original version of the AMP discussed hypothetical impacts and mitigation measures. The AMP no longer needs to ask if mine contaminants are impacting ground and surface water: **contamination outside the capture zone is certain.** The AMP must focus on understanding the extent of the problem and what actions should be taken to mitigate the escape of contaminants.

In keeping with OHA's interest in reducing pollutant discharge from the Buckhorn Mine, OHA presented Ecology with recommendations for consideration. Kinross communicated to OHA that plan updates are not part of a public process, and they are unclear as to whether they want OHA's involvement.

OHA's goals are to provide well-reasoned analysis of the adaptive management to date and to make recommendations for a path forward that will provide quantitative benchmarks toward reducing the unpermitted discharge of pollutants.

Key to the issues that affect water quality is establishment and maintenance of a capture zone surrounding the mine. While water level monitoring can provide important information for understanding the response of groundwater to hydrologic events and local dewatering, its use cannot provide unequivocal evidence that a capture zone has been established, because of the fractured nature

of the bedrock at the Buckhorn Mine. Therefore, OHA recommends removing groundwater levels from the adaptive management and reporting actions as an indication of the integrity of the capture zone. Instead, water quality monitoring should be used to indicate if the capture zone is being maintained.

A critical objective of the monitoring program is to determine the nature and extent of any mine-impacted water outside the capture zone. While OHA believes that this type of analysis was required in the old AMP, clarifying this objective would provide significant improvements in addressing the contamination problems. To determine the extent of impact, additional down gradient and downstream monitoring will be needed.

OHA's AMP actions for water quality and hydrogeologic evaluations in the annual report include: identifying locations affected by mining and the associated sources and pathways; analyzing potential effects on aquatic biological resources; identifying all groundwater zones; showing/explaining the zone of influence of each dewatering well; estimating monthly groundwater inflow to the mine; and discussing the movement of water in faults.

OHA has recommended eliminating the FEFLOW groundwater flow model in characterizing the capture zone because it has not provided realistic predictions in all the years that it has been used.

OHA recommends adding a new AMP action level that follows implementation of mitigation measures: evaluation of the effectiveness of selected mitigation measures. An important part of the AMP process is to evaluate whether the selected remedies have been effective in remediating mine-related effects, yet the original AMP had no requirement to do so.

A number of mine-related parameters do not have NPDES permit limits. In these cases, measured concentrations in groundwater and surface water should be compared to background values or water quality standards. More details will be provided in our recommended revisions to the Hydrologic Monitoring Plan.

Whether or not an approvable update to the AMP will be submitted to Ecology by July 1 remains to be seen. OHA has offered recommendations in a timely fashion, which could help the company to meet this requirement, should they choose to work cooperatively with stakeholders.

The AMP must focus on understanding the extent of the problem and what actions should be taken to mitigate the escape of contaminants.

Kinross Fails To Passivate Ore Headings in Underground Mine

In May 2014, OHA sent a memo to Ecology about two issues relating to development rock classification and passivation of potentially acid generating (PAG) rock at the Buckhorn Mine. Both issues relate to transparency of information.

Passivation: Requirements vs. Practice

Passivation is a process that aims to make a material “passive,” or less influenced by environmental factors such as water and air. In the underground mine, the damaged rock zone (DRZ), above the estimated elevation of the final water table, passivation of PAG rock is required for all exposed PAG rock, using a sealing substance called shotcrete. These requirements are clearly described in the mine plans. Shotcrete application is intended to minimize air and moisture penetration into zones of PAG wall rock, thereby minimizing the potential for sulfide oxidation and the onset of acidification. In addition, use of shotcrete should reduce the amount of interaction between reactive rock in the DRZ and mine wall runoff/seepage, thereby reducing transport of any sulfide oxidation products. Furthermore, shotcrete is an alkaline material, potentially providing buffering capacity.

The transparency of the development rock management plan reporting has been limited by Crown/Kinross not reporting composite results for material extracted from ore headings on a quarterly basis—only in the annual reports. It is unclear how the composite sampling results are being handled statistically to determine whether ore or wastes are PAG.

In a similar twist and without justification, only non-ore PAG headings exposed in the DRZ have been considered by Kinross for passivation using shotcrete. PAG ore headings above the long-term water table are not being passivated. It is more likely that ore headings will be PAG because of their higher mineralization. The designation of rock as ore vs. waste is highly uncertain and changes with the price of gold. However, the designation of rock as PAG does not change based on the price of gold and is a more reliable measure of the need for passivation.

Issues with PAG designations

Crown/Kinross makes a distinction between “capital” vs. “expense” headings (to split the designation of mined materials as development rock vs. ore) when no justification for this distinction can be found. Kinross uses this distinction as the basis for only passivating development rock headings and not applying shotcrete to ore headings. Neither the DRMP¹ nor the First Addendum to the DRMP makes any distinction between development rock and ore. In addition,

in quarterly reporting they only report composite samples for development rock headings. Quarterly reporting of all composite sampling results is important because it helps identify PAG areas remaining in the mine above the long-term water table that will require passivation. Composite samples for ore have only been reported annually and have never been passivated, although they are supposed to be. *This leaves an entire block of the underground mine potentially vulnerable to developing acid mine drainage above the long-term water table.*

Crown/Kinross has reported NO PAG as a result of composite samples in development headings in the quarterly reports since 2011. Crown/Kinross only reports the results of composite samples from ore in the annual reports. Theoretically, PAG below the long-term water table is safe from developing acid conditions, but there is no differentiation of whether testing results are above or below the long-term water table, and therefore the risk cannot be fully assessed.

OHA has requested that Ecology require the quarterly DRMP reports to include all composite sampling results from ore headings as well as the results of the development headings. OHA further requests that the elevation of the heading or composite sample locations be listed with the results in the quarterly and annual reports, in order to determine the quantity of PAG headings above the long-term water table. This will allow a more transparent evaluation of where the underground mine is vulnerable to long-term acid mine drainage.

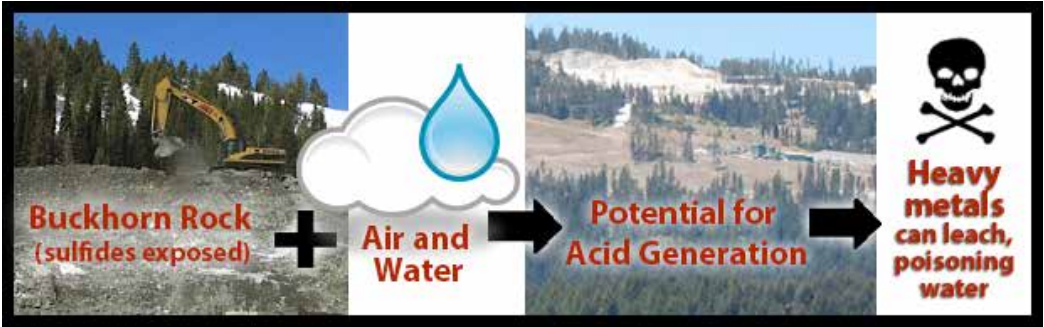
OHA recommends Ecology take the following actions:

- Require that the quarterly and annual DRMP reports include: the results of composite sampling of the ore headings; the elevation of all heading or composite sample locations; and the designation as ore or development rock.
- Require Crown to provide a clear description of how the composite sampling results were calculated and used to evaluate whether mined material and headings are PAG.
- Ensure, by following enforcement policy, full compliance with the requirements of the DRMP. Those requirements include that all PAG rock in the DRZ above the long-term water table will be adequately passivated.

¹ Development Rock Management Plan

Why does Passivation Matter?

In metals mining, the ore is often rich with sulfide minerals. When these minerals are tied up in the natural rock, they are inert and cause no harm. When ore is blasted for mining, the sulfide minerals are exposed to the weather and a reaction can take place that forms sulfuric acid. This acid can then dissolve from the rock other metals and substances that are harmful to the environment. Acid mine drainage creates perpetual pollution, is toxic and irreversible, and must be prevented at the Buckhorn Mine.



2014 Annual Meeting to Discuss Water Year 2013

OHA again attended the annual coordination meeting, which is held with the agencies and the company during the first quarter of each year to discuss the adequacy of the monitoring and mitigation plans, and any modifications that may be required. The Department of Ecology, USDA Forest Service, WA Department of Fish and Wildlife, Department of Natural Resources, Crown/Kinross and OHA were in attendance. OHA was represented by David Kliegman, consultant Ann Maest of Buka Environmental, and consultant Peter Schwartzman of Pacific Groundwater Group. OHA presented our review of the annual reporting documents, along with an independent analysis of the monitoring data.

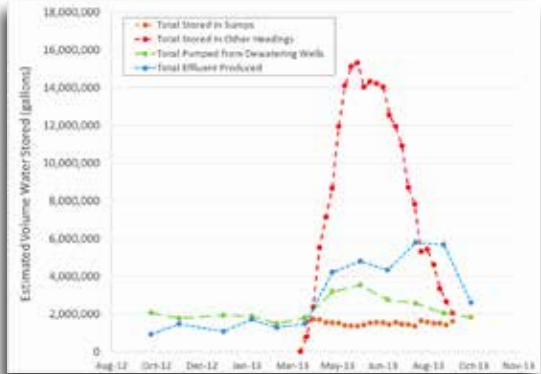
OHA shared concerns about the Buckhorn Mine’s significant water quality problems, and expressed that the actions taken to date have been inadequate. We expressed why water level data alone is insufficient to confirm that mine contaminants are being captured, especially since water quality monitoring shows that mine seepage is not being contained. OHA pointed out questions from the Adaptive Management Plan that were not answered in the company’s annual

reporting documents, and called for Ecology to follow appropriate enforcement policy and require remedial action. Of particular concern was the exceedence of water quality standards at MW-14 for sulfate and TDS for the last half of this reporting year. The above passivation issues were also presented as a high priority by OHA, along with the call for a remediation plan to be initiated and implemented.

OHA also raised a specific concern regarding the large amount of water stored in “other headings” in the underground mine. The quality of this water has not been ascertained, and only a small fraction of mine water is treated. The majority flows into groundwater, escaping capture. To show this, OHA shared a graph (below) showing the volume of water stored in the mine, pumped from dewatering wells, and treated in WY2013, based on data collected by Crown/Kinross. OHA asked that an ongoing comprehensive trend analysis be required, and that remedial action be initiated to reestablish the capture zone.



OHA and regulatory agencies listen to Crown/Kinross present 2013 monitoring results.



Remembering OHA Volunteer, Marge McCormick

Over the past three years, Marge McCormick contributed a lot as a regular OHA volunteer. Marge passed away in March 2014, and will be missed greatly. Her enthusiasm for the natural world was very refreshing. Countless times, Marge was there to help OHA, with virtually every project that we have opened to volunteer assistance. She helped with the Myers Creek stream surveying and bird surveys, plant and fenceline monitoring at Lost Lake, installing interpretive signs along the Lost Lake Preserve hiking trails; she helped with paperwork for our outdoor education events for adults, assisted with wetland workshops for 6th grade students, sewed very helpful props for wetland education with students, and helped greet people at our indoor Highland Wonders education events.

The OHA staff and board wish to extend a thank you to Marge's family for sharing her with us, and also for supporting our work by inviting people to make contributions in memory of Marge. Her many talents made a difference in the highlands.

OHA is looking for volunteers to help fill some of the needs that Marge assisted with over time. If you are interested in volunteering, please contact julie@okanoganhighlands.org or 476-2432. From biological monitoring to education, there are many opportunities.



Above right: Marge takes a close look at a Red-belted polypore (*Fomitopsis pinicola*) fungi at the Lost Lake Preserve during a biological monitoring hike. The April 11 Highland Wonders event on Fungi was dedicated to Marge.

Photo by Lee Johnson

Supplemental Environmental Projects Enhance Highland Habitats *Lost Lake and Triple Creek to Benefit*

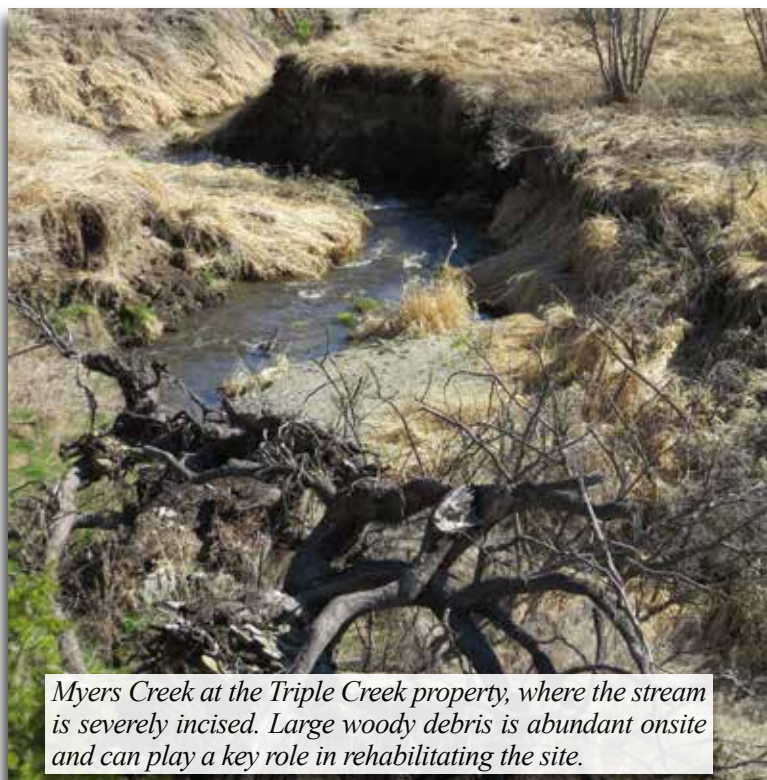
The July 2012 penalty settlement for permit violations between Kinross and Ecology included a provision whereby Kinross would pay \$180,000 towards Supplemental Environmental Projects (SEP) in lieu of the penalty. The projects must be completed by September 1, 2016. Nine months after the agreement they have prioritized projects.

Repairing the road that runs along Lost Lake was chosen as project #1. For multiple years, a damaged culvert at the lake outlet has backed up spring runoff, causing the lake level to be higher than the road. The Forest Service got a grant to repair the culvert but did not have adequate funding to fix the road, which was poorly constructed to begin with, and has sunken from people driving through the flooded road, making it lower than the lake in places. Vehicles driving through the lake have degraded this high quality aquatic ecosystem. OHA has observed the increasing severity of the problem and its impact on the Lost Lake habitat, and submitted a proposal for this very suitable use of SEP funds. The SEP will make it possible for the Forest Service to fix the road properly.

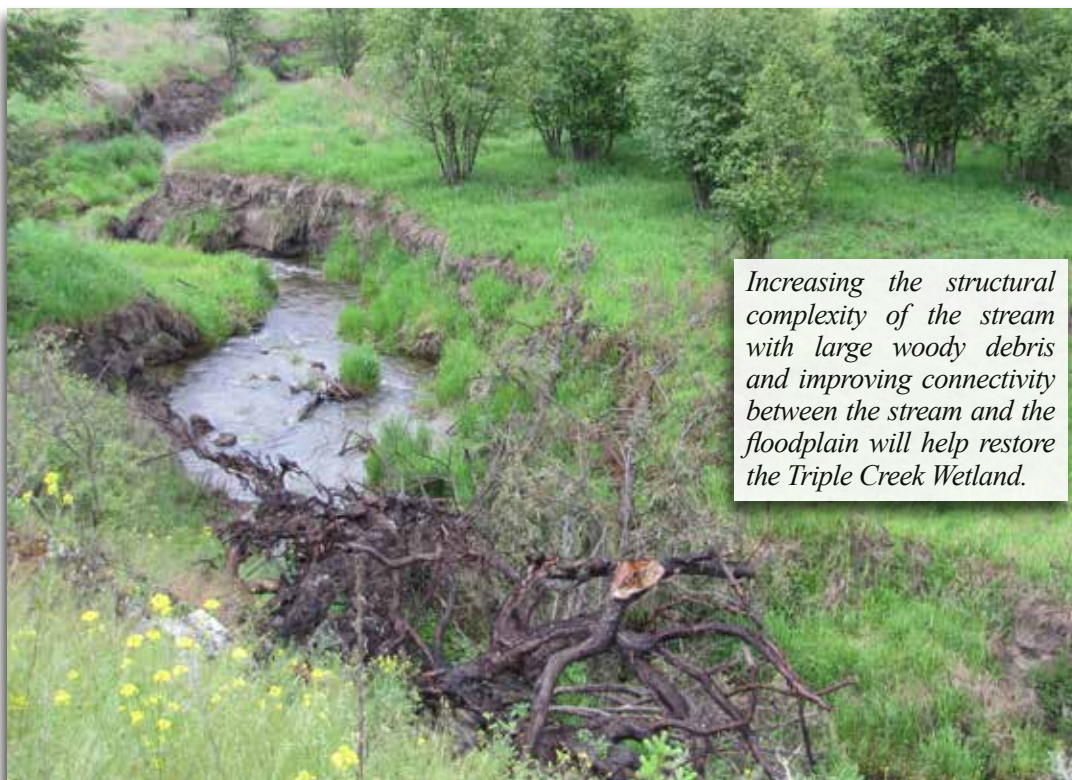
Ecology and the company next prioritized a project in the alluvial floodplain at the western foot of Buckhorn Mountain. The Triple Creek Wetland is located in a floodplain of Myers Creek, about 1.5 miles from Chesaw, WA, where Thorp and Bolster Creeks drain into Myers Creek. Until about 1998 the wetland thrived, supporting diverse and abundant flora and fauna, including a large heron rookery and beavers. High water from that winter's large snow pack and spring rains caused erosion in the headwaters of Myers Creek, which was exacerbated by large clearcuts upstream from the Myers Salvage Sale. Floodwaters heavy with sediment loads were sent downstream, eroding the channel up to 15 feet deep through the Triple Creek Floodplain. The previously saturated wetland has become progressively dryer, opening the door for invasive weeds and significantly reducing wildlife use of the area.

OHA, who presented the original abstract to Ecology and Kinross, has asked Trout Unlimited to bring their expertise in wetland restoration and partner with us on this project. There are two main goals, 1. to bring the Triple Creek wetland into a healthier condition, and 2. to improve stream habitat and habitat-forming processes within the reach, with subsequent long-term improvements for the wetland.

In Autumn 2013, the Lost Lake road remained flooded even after the new culverts were installed at the lake's outlet (shown at far right). This late season flooding made it clear that further action was needed to remedy the ongoing problem. OHA submitted a proposal for road reconstruction to be funded through the Supplemental Environmental Projects, which resulted from the penalty settlement between Ecology and the company following the water quality violations of July 2012. The project was approved in April 2014.



Myers Creek at the Triple Creek property, where the stream is severely incised. Large woody debris is abundant onsite and can play a key role in rehabilitating the site.



Increasing the structural complexity of the stream with large woody debris and improving connectivity between the stream and the floodplain will help restore the Triple Creek Wetland.

Nesting Cavities “For the Birds”



Harris Dunkelberger and Lee Johnson install a duck box in the Lost Lake forested wetland.

Before it was a preserve, the upland forest at Lost Lake was logged, in the mid-’90’s. In addition, large diameter snags have been aggressively harvested for firewood throughout the highlands. These practices have lead to a dearth in some areas of cavities for secondary cavity nesting birds, species that cannot nest without existing holes in trees. To help compensate for the lack of cavities at the Lost Lake Wetland and Wildlife Preserve, the following enhancements have been installed: four swallow boxes, five owl boxes, three duck boxes, and with the creative twist of Lee Johnson’s new prototype, four flying squirrel habitat boxes.

OHA would like to thank Gorman Bros/Oroville Reman and Reload for their generous donation of all lumber dimensions needed for the bird boxes, and Lee Johnson, for his dedication in building and facilitating installation of the boxes needed to support cavity nesting wildlife species at the Lost Lake Preserve. OHA would also like to thank Harris Dunkelburger and Rachel Willner for assisting with the installation, and Ken Bevis, DNR Stewardship Biologist, for providing on-the-ground input on the Lost Lake Preserve Management Plan.

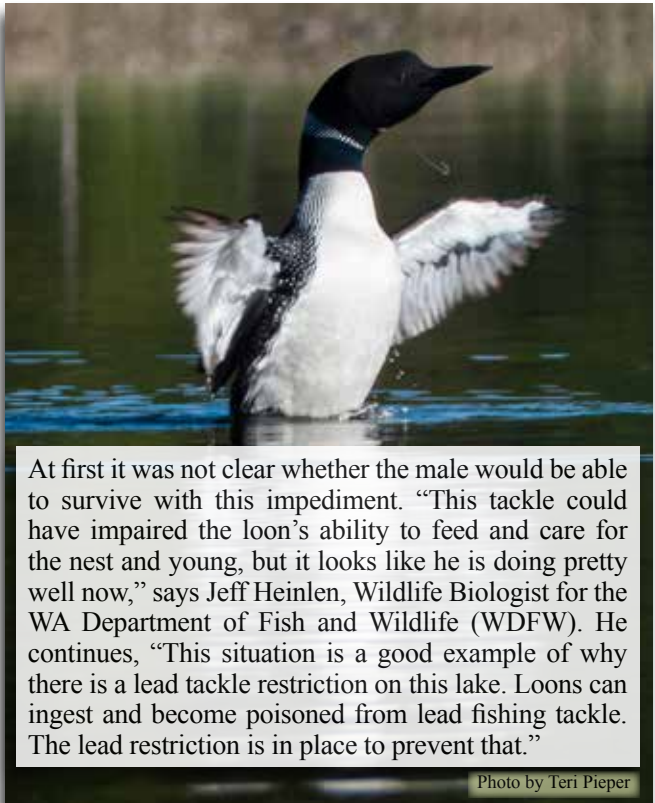
Highland Highlights: The Splendor of Spring

Lost Lake Loons Beat the Odds



Photo by Ginger and Dan Poleschook

The Okanogan Highlands provide some of the best loon-nesting habitat in Washington State, with rich wetlands at the lake’s edge providing ideal conditions for floating mat nests. Lost Lake is no exception, producing more loon chicks on record than any other lake in WA State. Unfortunately, this year, a fishing tackle jig became embedded in the tongue of the male loon at Lost Lake. “This may have been caused by ingesting a fish on an active fishing line,” says Ginger Poleschook, who has been conducting WA Common Loon observation and conservation efforts with her husband Dan for 20 years.



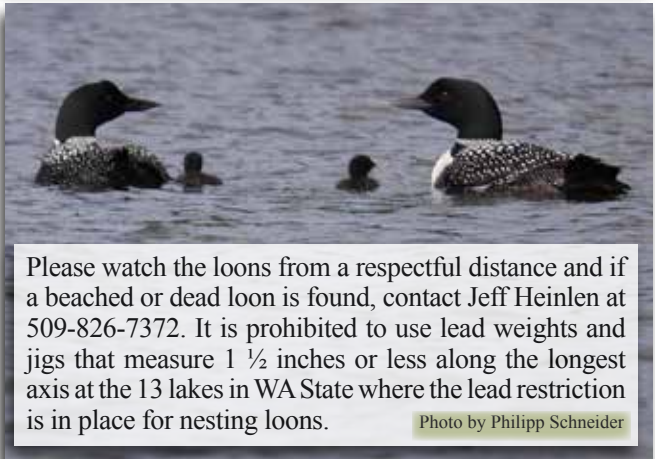
At first it was not clear whether the male would be able to survive with this impediment. “This tackle could have impaired the loon’s ability to feed and care for the nest and young, but it looks like he is doing pretty well now,” says Jeff Heinlen, Wildlife Biologist for the WA Department of Fish and Wildlife (WDFW). He continues, “This situation is a good example of why there is a lead tackle restriction on this lake. Loons can ingest and become poisoned from lead fishing tackle. The lead restriction is in place to prevent that.”

Photo by Teri Pieper



Photo by Teri Pieper

On May 10th, Ginger and Dan Poleschook, with the help of Dan Furlong and Jeff Heinlen, attempted to capture the male utilizing a pursein fishing net and decoys painted by Ginger. The Lost Lake male loon is not banded because he has evaded capture every summer during the banding effort coordinated by the Loon Lake Loon Association and the Biodiversity Research Institute (BRI). The male again avoided capture, so the fishing tackle remained embedded. Beating the odds, the male adult has survived for over seven weeks since the tackle was first observed, and possibly longer since it was acquired. Despite the injuries caused by the tackle and line, the pair has successfully produced two chicks, hatched on June 5th and 6th. The BRI capture crew will attempt to capture the male in July during the annual capture, banding and lab sampling of adults and chicks, and they will assess if there is any action necessary at that time. In the meantime, the male has been observed foraging, vocalizing, and assisting with care and protection of the chicks.



Please watch the loons from a respectful distance and if a beached or dead loon is found, contact Jeff Heinlen at 509-826-7372. It is prohibited to use lead weights and jigs that measure 1 ½ inches or less along the longest axis at the 13 lakes in WA State where the lead restriction is in place for nesting loons.

Photo by Philipp Schneider



Photo and description by Lee Johnson

This enchanting, well-hidden mallard duck nest was discovered by Troy Shaddox during a birding adventure on Lee Johnson’s forested acreage in Wauconda, hidden under an old root ball a 1/4 mile away from the wetland. Duck nests located far from water are not an uncommon strategy, and because the eggs all hatch on the same day, the hen can lead the duckling parade to the safety of water in one trip, across open fields, rangeland and even through dense forest.

Myers Creek Bird Survey Saturday, May 24, 2014



Lee Johnson and Todd Thorn observe bird species by sight and sound at the Myers Creek point count stations.



A chipping sparrow perches on a branch above Myers Creek

Each year, OHA conducts a bird survey at the Myers Creek Mitigation Site near Chesaw, to monitor the bird species present onsite. This year we observed more species than ever before. To help with next year’s survey, contact julie@okanoganhighlands.org



Echo Bay/Kinross Withdraws Proposal for Buckhorn Exploration

On May 28, 2014, Echo Bay Exploration (EBE, a fully owned subsidiary of Kinross Gold) announced their withdrawal of the Buckhorn Mountain Exploration Project. The exploration had been proposed on almost 10,000 acres of federal, state and private lands surrounding the Kinross operating Buckhorn mine. The proposal to drill up to 965 exploration holes began in 2009 and had been undergoing development of a Draft Environmental Impact Statement (DEIS) when the termination announcement was made.

The Plan of Operations that Kinross submitted was to do exploration 24/7, utilizing up to 20 drill rigs simultaneously in the Okanogan Highlands above the town of Chesaw, near the US/Canada international border. Questions materialized in the agencies' environmental review process regarding the accuracy of wetland inventories and the lack of adequate baseline water quality data, in areas where work was proposed such as on steep slopes and through a rare remnant cedar ecosystem.

OHA welcomes the termination of the massive exploration proposal. Kinross/Echo Bay is facing the economic reality that its 'blank check' approach for unfettered exploration over an entire large block of lands was not going to be feasible if the agencies were going to seriously analyze the impacts.

The Kinross proposal called for clearing almost all vegetation in up to three 160-acre areas and for drilling exploration holes on as close as 50-foot centers, with associated drill pads and waste dumps, but Kinross/EBE would not identify upfront specifically where the mineral exploration would take place.

The US Forest Service (FS) and the Washington State Department of Natural Resources (DNR) were the lead agencies doing the environmental review, with the Washington State Department of Ecology as a supporting agency. Kinross has canceled all cost share agreements with the agencies.

Kinross stated clearly that it will not abandon efforts to explore in the area. In the future they plan to focus on specific exploration targets that would provide greater opportunity to streamline the process.

The impacts of past exploration and current mining on Buckhorn cannot be looked at in isolation. The process involves releasing contaminants that were tied up in rock into surface and groundwater. The purpose of our laws is to understand the impacts before actions are taken. It is essential that the agencies take a careful, 'look before you leap' approach to protect the land, water and wildlife.

OHA will continue to examine and analyze exploration proposals in North-Central WA, working to ensure that clean water is protected for future generations.

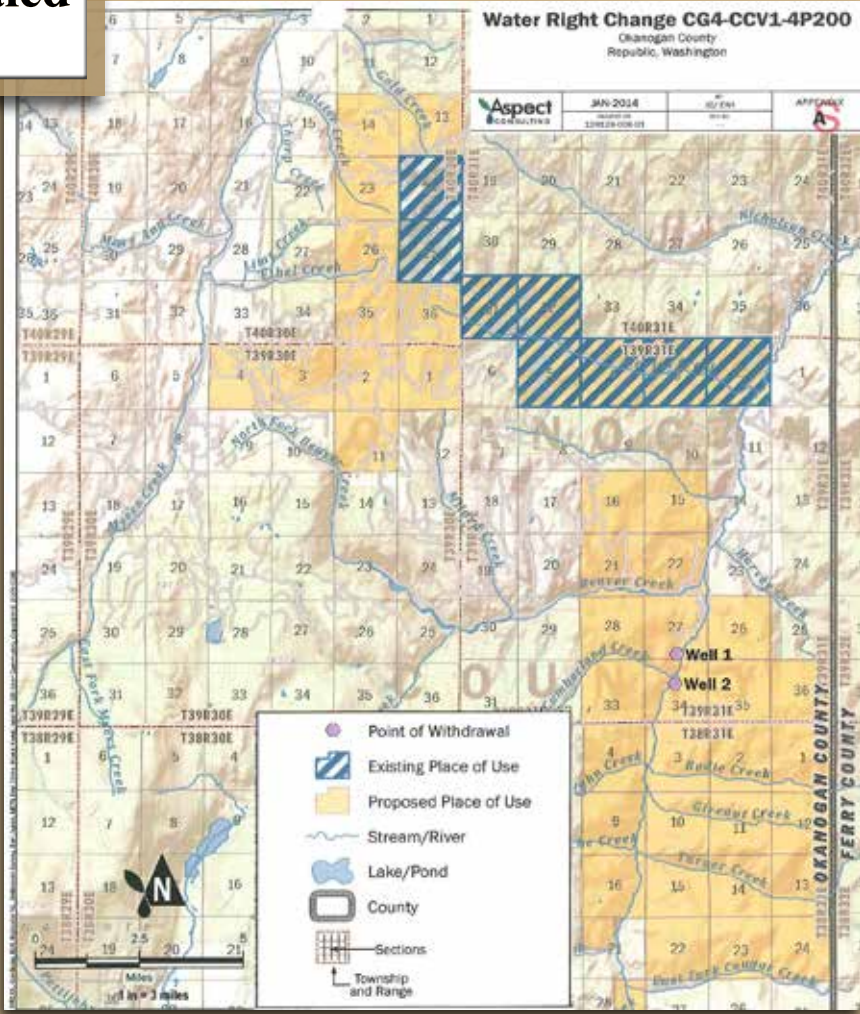
Kinross New Exploration Proposal Concealed in Water Right Change Application

Cont'd from page 1

Crown/Kinross is seeking to change a seasonal-use irrigation water right, in which much of the water goes back into Toroda Creek, to a year-round use for exploration drilling in which the water can mix with drilling fluids and contaminants normally tied up in the rock, and can pollute the groundwater. The contaminants could be released into groundwater via the exploration drilling and as the wastewater pit settles into the ground. Some of the water would be used outside of the Toroda Creek basin, further depleting an already over appropriated stream, adversely impacting senior water rights holders and the public interest.

The impacts of exploration and mining must be considered in a cumulative context. The exploration process involves releasing contaminants that were tied up in rock into surface and groundwater. Unaddressed concerns that were brought up in the Buckhorn Mine environmental review process have ended up causing significant water quality problems on the ground, when the goal should be to understand the impacts *before* actions are taken. Kinross should control the pollution emanating from the Buckhorn Mine before it proposes to expand its operations. In addition, the company will not build good faith with the community by concealing a new exploration proposal within a water rights change application.

The map at right shows the areas Kinross is proposing for "places of use," in the change of water right application, with "use" being exploration and mining. Rather than transparently communicating their intentions, the company pulled the almost 10,000 acre Buckhorn Exploration project off the table while simultaneously applying to "change their water right" to include large exploration projects. The areas depicted on this map include some of the areas from the original Buckhorn Exploration proposal as well as new areas near Bodie.



Inslee Calls For Expeditious Review of Buckhorn Exploration Proposal

On March 11, 2014, Governor Jay Inslee sent a letter to the directors of his administration's agencies, instructing them to move forward expeditiously with the Buckhorn Exploration Proposal. It is true that the regulatory process should be efficient. In the light of Kinross terminating funding for the agency's EIS for the large Buckhorn Exploration proposal, Inlee's letter may seem moot. However, if we do not learn from experience then we will repeat the same mistakes, increasing damage to public resources.

In 1992 a large-scale, open-pit, cyanide-leach gold mine was proposed on Buckhorn Mountain. Although this proposal underwent an extensive environmental review, it was ultimately abandoned after the Pollution Control Hearings Board rescinded its permits because they did not have reasonable assurance that the mine would meet water quality standards and not harm senior water rights.

Less than a decade later, after the federal lands on Buckhorn Mountain were patented, state agencies conducted an environmental review for a large gold mine, in the same location, proposed by Kinross in the name of its fully owned subsidiary, Crown Resources. Regulatory agencies were working through issues when the Governors Office of Regulatory Assistance (ORA) stepped in and pushed the plans and permits through, before many of the issues were resolved. The permits were issued, construction completed, and mining operations commenced. Within six months it became obvious that something was very wrong: the mining company was not able to contain mine contamination within the boundaries. This problem continues to this day.

Now Governor Inslee is once again instructing ORIA ("Innovation" was added to the name of the agency) to "work with agencies on streamlining to ensure permit decisions are made in a timely fashion..." The purpose

of environmental review is to look before you leap. The Department of Ecology has learned the hard way that it is better to get it right than to do it fast. Based on experience it is ill-advised to rush review of mining impacts.

Large mines can have long-lasting impacts that can persist for generations, making environmental review critical and complicated. The mining proponent is very focused on profitability; talk is cheap and environmental protection takes a back seat. It is the purpose of the regulatory agencies to identify and limit the detrimental impacts or to fully mitigate them. It takes time to learn from past mistakes and develop plans that can adequately protect the land and water.

The Buckhorn Mine planning, review and implementation practices have provided an important opportunity for improving the process. At the top of the list is the critical importance of high quality baseline data for understanding the impacts and ensuring that those impacts are mitigated. Baseline water quality monitoring data and a complete inventory of streams and wetlands must be taken *before* any proposed exploration would be undertaken; otherwise, the data would be impacted by the exploration activities.

OHA does not object to ORIA facilitating communications between Kinross and the agencies. It would be beneficial for ORIA to help inform the mining proponent about what is required by the various agencies, so that the process can move forward. However, the ORIA should understand that its role is not to truncate the process with unreasonable timelines. The agencies need adequate time to review submittals and send them back if they are not adequate. ORIA should help everyone, especially the proponent, understand that careful review of impacts, including thorough collection of baseline data, is required so that appropriate plans can be developed.