

B. C. TAP WATER ALLIANCE

Caring for, Monitoring, and Protecting
British Columbia's Community Water Supply Sources

Email – info@bctwa.org

Website – www.bctwa.org



BACKGROUND, MAY 14, 2018: PEACHLAND CREEK COMMUNITY WATERSHED

This Background document collection of primarily photographs and a few newspaper clippings and correspondence is to accompany the BC Tap Water Alliance's May 14, 2018 letter to government [May 14, 2018 letter to government](#) and a media release, [Alliance Calls on Government to End Logging, Road Building, and Mining Speculation in the Peachland Creek Community Watershed](#).

The Background begins with three parts, featuring the lower, middle, and upper sections of the Peachland watershed:

1. The lower portions of the Munro Forest Service Road, near the water intake, where two landslides occurred and other road damages nearby;
2. The Greata Creek tributary watershed, where Tolko Forest Industries Ltd. has conducted almost all of the clearcut logging and road construction. Also, the Glen Lake area where mineral exploration is occurring.
3. The upper Peachland watershed showing the Wilson Lakes to Brenda Mine areas.

At the beginning of each section is a map identifying the locations of clearcut logging operations and the forest licensees. Logging dates, road building dates, and distance scales are not included. Not included are additional logging and road building proposals scheduled for the remainder of 2018. On each watershed section map are numbers showing locations of selected photographs taken over a period of two weeks (April 27 – May 10, 2018). Photo imagery quality was reduced to manage the Background file size.

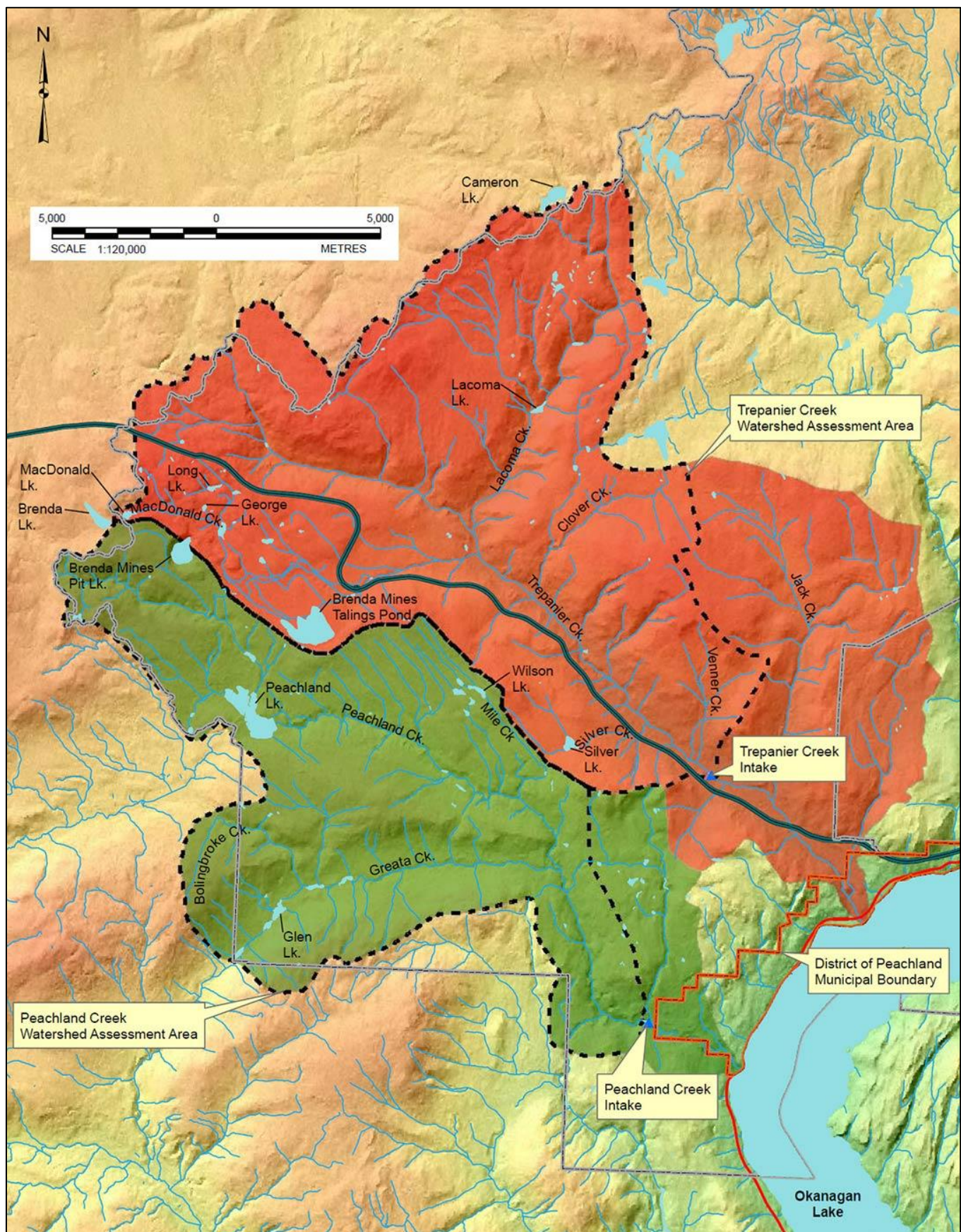
Following these three sections are older correspondence and newspaper clippings, with concerns about logging, cattle grazing and the Brenda Mine.

The author of this Background has provided a short history of Okanagan drinking water protection and resource use conflicts in his September 2013 report, [The Big Eddy](#). In this [hyperlink](#) to the Big Eddy report, readers should look to and download pdf Chapters 2 and 4 which feature the Okanagan history.

Will Koop,

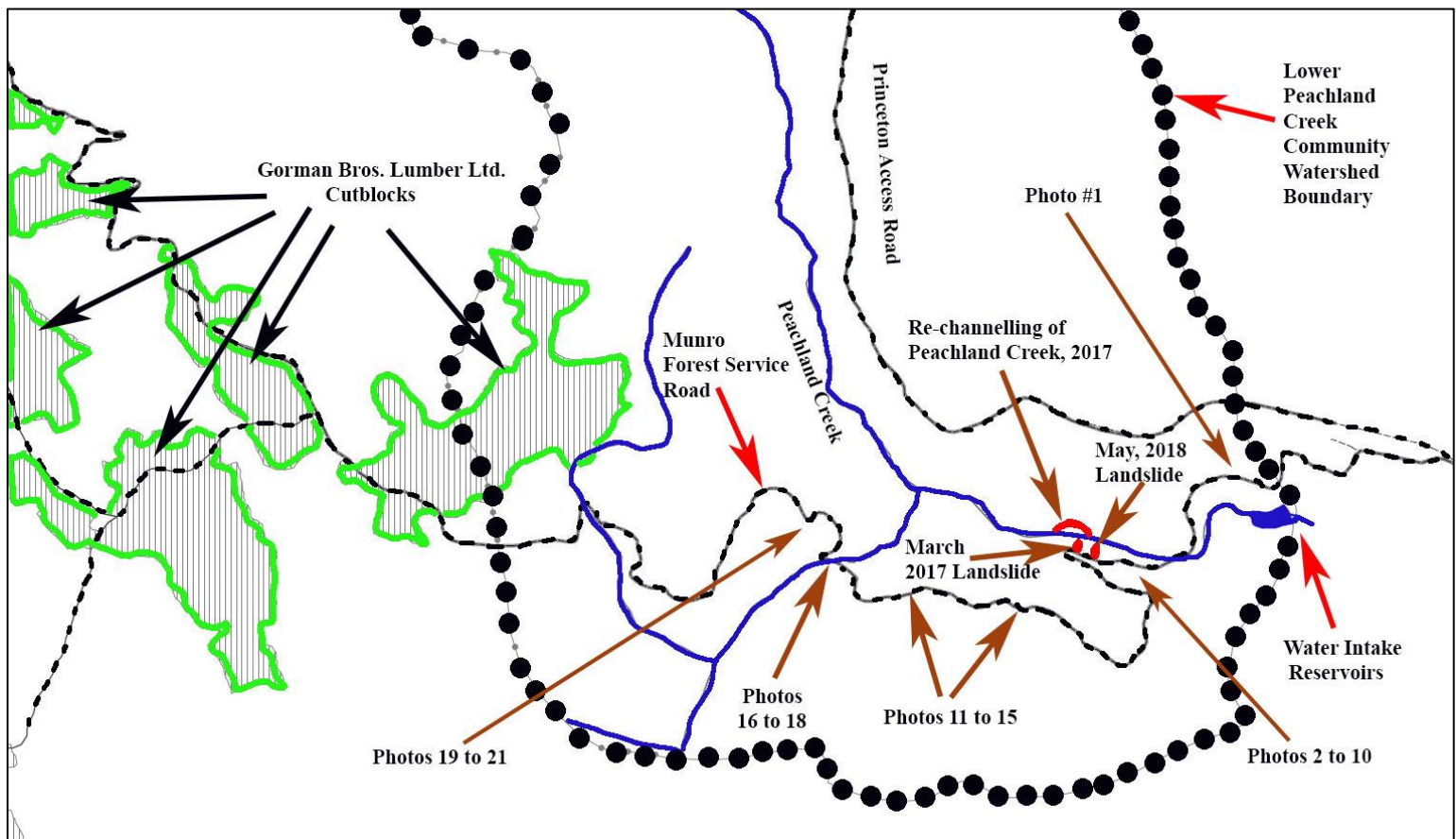
B.C. Tap Water Alliance,

May 14, 2018



Map 1: The District of Peachland's Community Drinking Watersheds, Peachland and Trepanier Creeks. (Map source: *Peachland Creek and Trepanier Creek Watershed Assessment Report for Drinking Water Source Protection*, by Golder Associates, May 19, 2010, pdf page 113.)

PART 1: THE LOWER MUNRO FOREST SERVICE ROAD



Map 2: The lower Peachland Creek Watershed, with Munro Forest Service access road.

Photo 1 (April 30, 2018). District of Peachland signage near water intake and settling ponds. The District is investing approximately \$24 million public tax-dollars in a new water treatment plant.





Photos 2 to 5 (April 27, 2018). Just before the first switchback, recent landslide (down to right) and collapse of glacial till and silt onto road. Signs near the area.





Photo stitch 6 (April 30, 2018). This landslide occurred on or about March 28, 2017. It measures about 110 feet in elevation, and about 85 feet wide at the top of the road. According to government correspondence, about 1,200 cubic meters of material fell into Peachland (Deep) Creek. The location is less than one kilometer from the District of Peachland's water intake. Turbidity readings at the intake exceeded 500 NTU as a result.



Photo Stiches 7 and 8 (April 27, 2018). *Above:* Looking from the top of the switchback down to the 2017 landslide. Concrete blocks were placed to protect vehicles. *Below:* New, and second, landslide, to the right of road, which occurred about April 22, 2018.



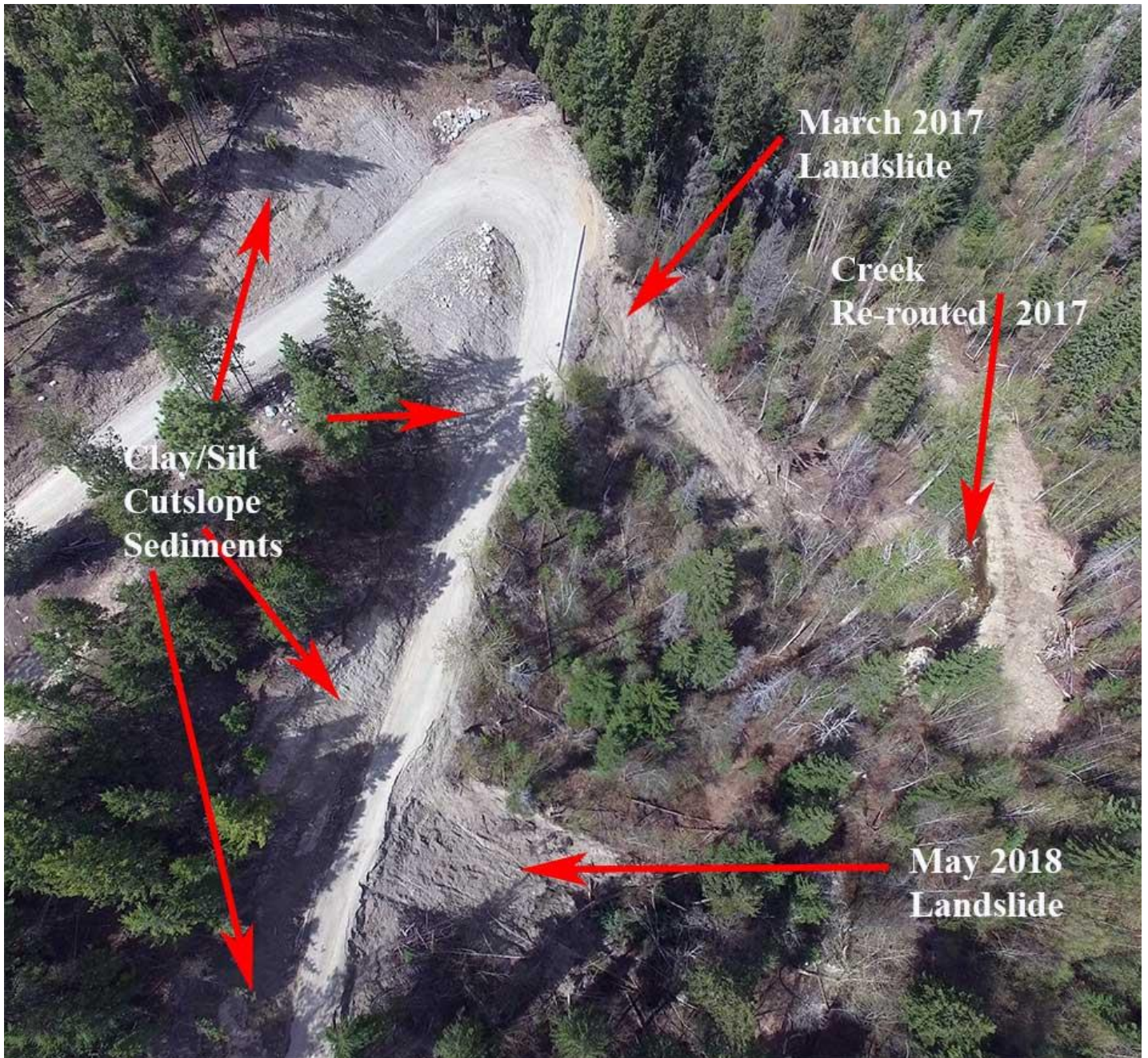


Photo 9 (April 30, 2018). The aerial shows the switchback road and the two recent landslides. To the right of photo is where the old creek channel was altered by heavy machinery to move it away from the first landslide area.



Photo stitch 10 (April 30, 2018). Looking across at the April 2018 landslide from north side of Peachland Creek. The dotted black line at top of photo indicates logging road location. This second landslide is about 20 feet wider than the first, and slightly smaller in height, around 90 feet in elevation. No estimates of material volume for this landslide is yet provided.



Photos 11 and 12 (April 30, 2018). From one to two kilometers above the Munro switchback, about 5 culverts were blocked by cutslope materials and debris. Cutslope slumping of fine glaciolacustrine silts and till were transported far down the road, which had little to no ditching, creating long, wide wash torrents during snow melt. Below, a culvert, recently and partially cleared by maintenance workers, still shows signs of blockage.





Photos 13 to 15 (April 30, 2018). Multiple scenes showing cutslope slumping and resulting culvert blockages, with culverts recently and partially cleared by maintenance crew.





Photo stitch 16 and photo 17 (April 30, 2018). Road failure around the 3.5-kilometer mark on Munro Road. Debris has fallen into stream channel above Peachland Creek. The Princeton access road is seen in distance to left.





Photo 18 (April 30, 2018). Same location as photos 16 and 17, looking west and upslope. Road failure resulted from stream above road (top left), and a blocked culvert, causing wash over road.



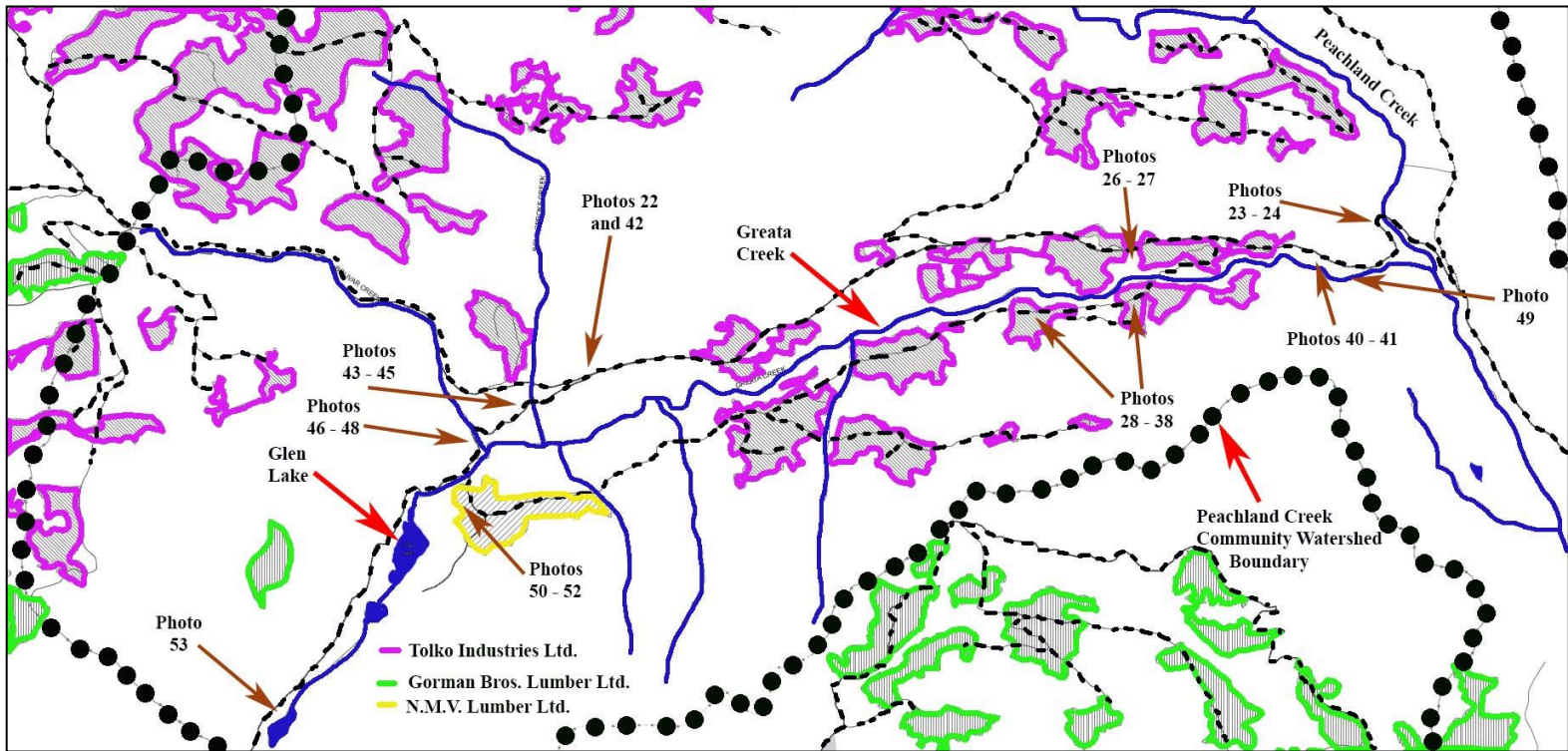
Photo 19 (April 30, 2018). Cattle livestock grazing gate on Munro Forest Service Road. Cattle pens nearby. Reportedly, over one thousand head of cattle will populate the entire community watershed from late May to the Fall, freely roaming through and drinking from stream and small lake sources.



Photos 20 and 21 (April 30, 2018). Glacial silt muck oozing out of small cutslopes causing blockage of culvert and water runoff to spill across road prism and down ditches and ephemeral streams. About 4-kilometer mark.



PART TWO: THE GREATA CREEK TRIBUTARY WATERSHED



Map 3: Greata Creek Tributary Watershed.

Photo 22. Signage at confluence of Glen Lake and Peachland mainline Forest Service roads.





Photo stitch 23 (May 2, 2018). Ongoing steep cutslope erosion at bridge crossing over Peachland Creek, on Peachland mainline Forest Service road. Erosion of downslope or cutbank area has eroded over recent years, with silt fencing erected at bottom area beside Peachland Creek. The lower area is shown in Photo stitch 24.



Photo stitch 24 (May 5, 2018). The lower two-thirds of this slide area is below the Peachland mainline Forest Service Road, with Peachland Creek at the far bottom.

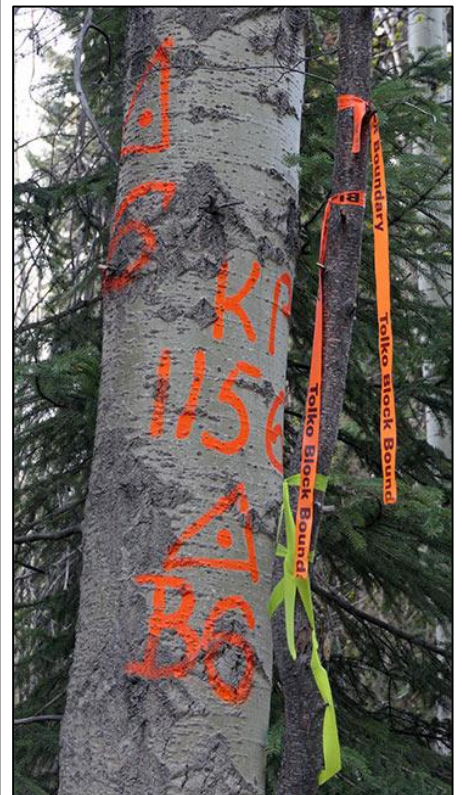


Photo 25 (May 5, 2018). Tolko Forest Industries' flagging in the Greata watershed showing proposed cutblock boundary ribbons for more logging in 2018.

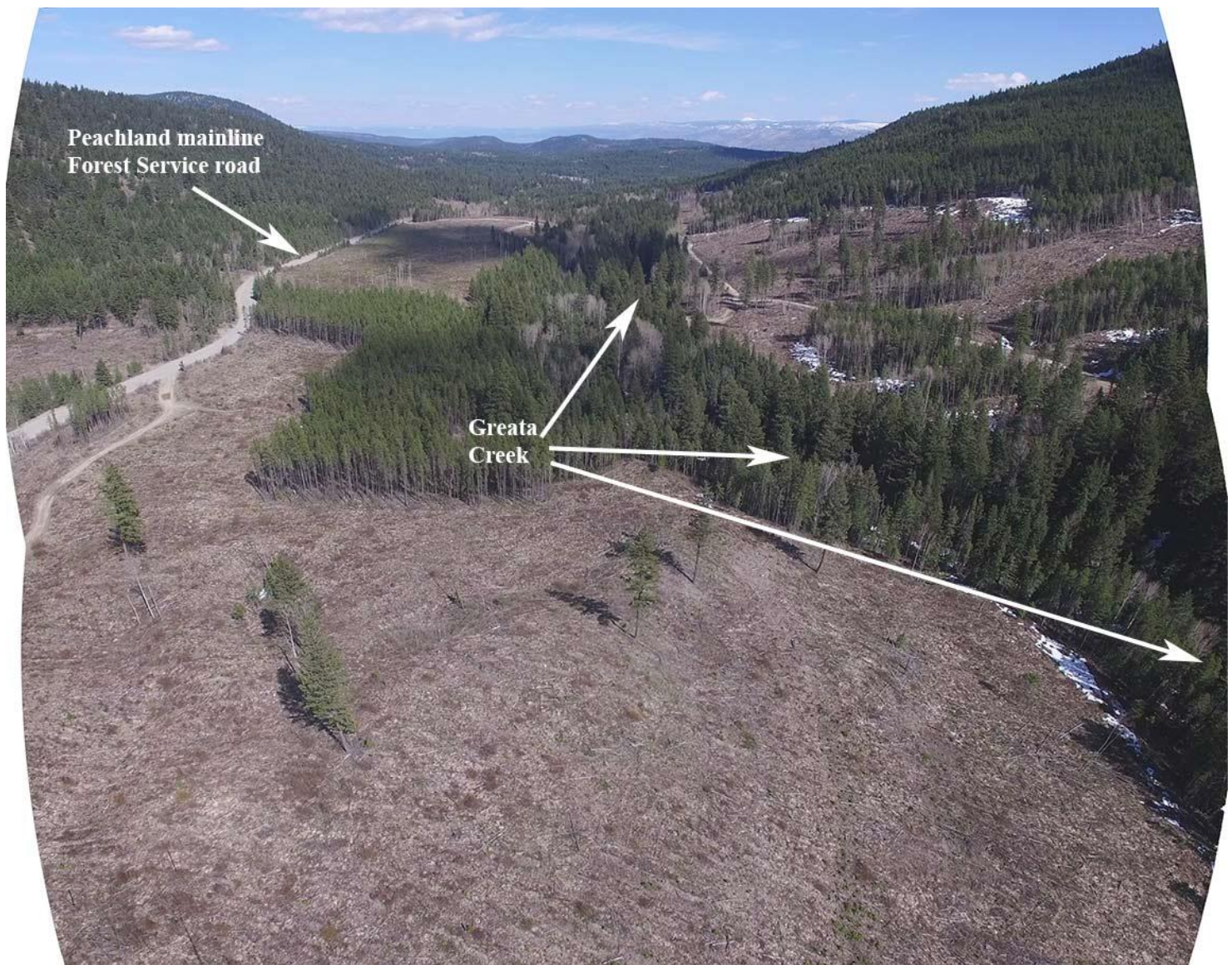


Photo stitch 26 (May 2, 2018). Tolko Forest Industries' logging operations, Grea Creek, looking eastward. At the top end of clearcuts, it is only about 3 kilometres to Peachland Creek confluence. Top right corner of clearcuts to bottom right area on right side of Grea Creek is **where photos to are located**.

Photo stitch 27 (May 2, 2018). Looking westward from same spot above. Tolko has numerous new cutblocks proposed in the Grea drainage for 2018.





Photo 28 and Photo stitch 29 (May 2, 2018). Dominating presence of soil erosion from Spring snow melt alongside Tolko's secondary road that travels the majority of the southern flanks of the Greata Creek valley.





Photo stitches 30 and 31.





Photo stitches 32 and 33. Logging through narrow riparian zone.





Photo stitches 34 and 35.





Photo stitches 36 and 37. Below, ditch water from cutslope was running strong, and eroded road prism above culvert.





Photos 38 and 38.





Photos 40 and 41 (May 2, 2018).

Above: Cattle livestock fencing and cattle route through Greata Creek.

Below: Not far distant from photo 39 is last year's cattle poop in the middle of Spring melt runoff into Greata Creek. Cow poop-water-borne-illness bacteria remains active for up to two years.

Location: about two kilometers west of Peachland Creek.



Photo 42 and photo stitch 43 (May 5, 2018).

Off the western end of the Peachland mainline Forest Service road is the Glen Lake branch Forest Service road. Here is access to the Glen Lake reservoir, and beyond that the controversial mineral exploration taking place by Troubadour Resources (Amarillo Project). Not far along this branch road were numerous road problems: washouts, flooding, and downslope failures.





Photo stitches 44 and 45 (May 5, 2018). Small creek overflowing because the culvert is too small, and slightly plugged. Recent high water, and erosion of road prism.





Photo stitches 46 and 47 (May 5, 2018). The Glen Lake forestry road bends around Bolivar Creek, a tributary to Greata Creek, just below the photos to the left. The road cuts through fine glacial lacustrine soils which are eroding off the road, and into the Creek below. There is no ditch along this section of the road, nor were any culverts placed (if so, they were hidden somewhere).





Photo stitch 48 (May 5, 2018). This is the same area as in photos 46 and 47, showing the collapse of a cutbank into Bolivar Creek. Water runoff pooled and poured across the road, causing this area to fail. **Photo stitch 49, below (May 5, 2018).** Greata Creek is running turbid, not clear.





Photo stitch 50, above, and **photo 51**, left. Recent clearcutting by N.M.V. Lumber Ltd. The East Fir forest access road that links to this clearcut from the Glen Lake forest access road ties in with Tolko’s lengthy forest access road that runs the length of the south side of the Greata valley.

Photo stitch 52, below. This is a view of Glen Lake, Peachland District’s reservoir. It is just west of photo 50 above, showing the area where Troubadour Resources is conducting mineral exploration. According to the Penticton Herald newspaper, April 10, 2018, the Ministry of Mines paperwork submission asked if Troubadour’s application was in a community watershed. The “applicants said no.”

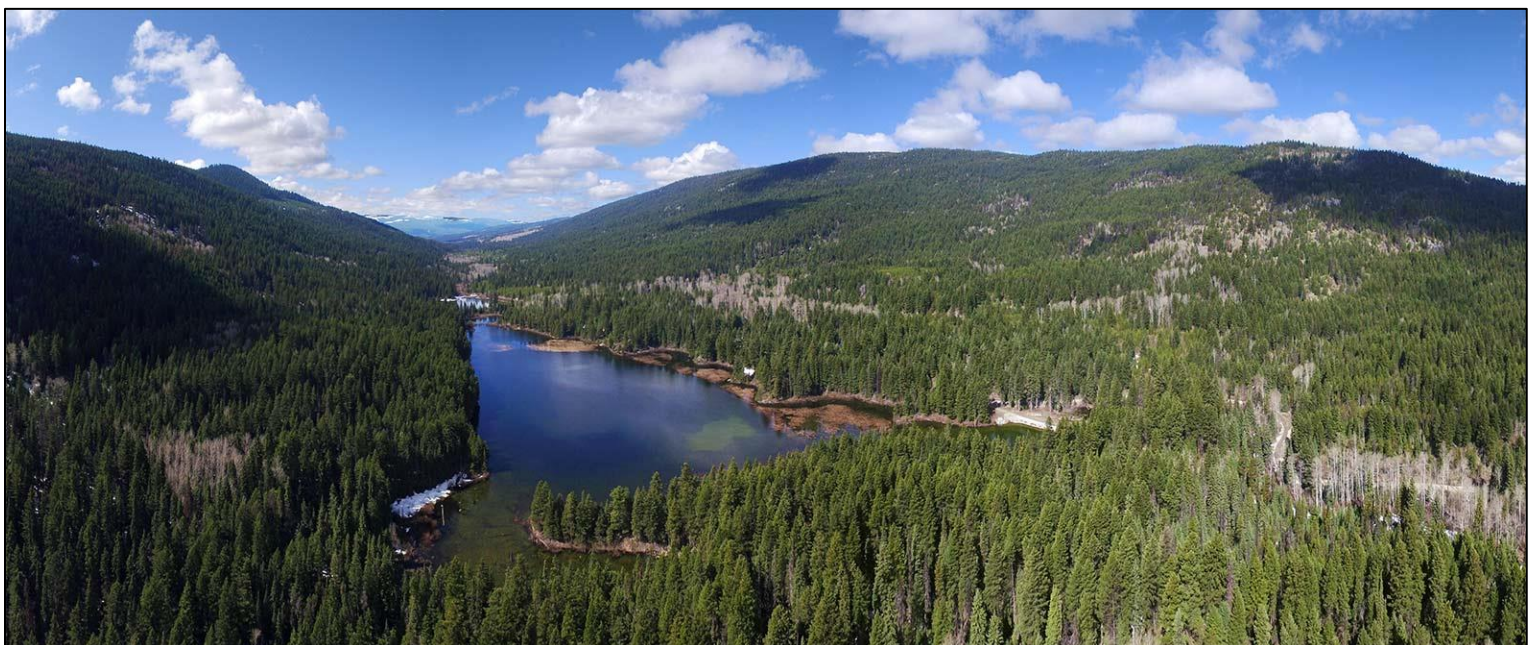
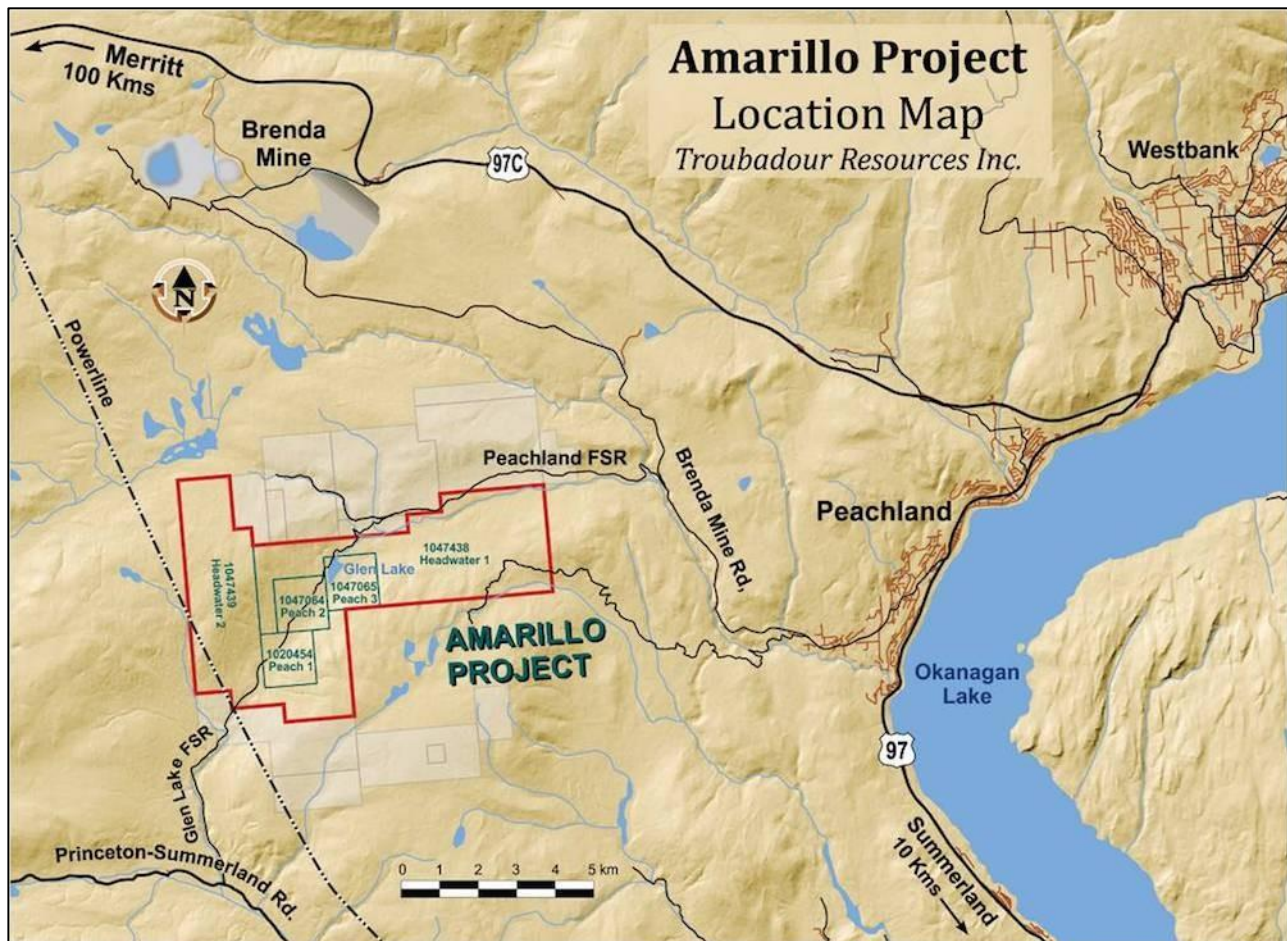




Photo stitch 53 (May 5, 2018). Further west from photo 52, looking eastward back toward Glen Lake. Map below, from Penticton Herald, shows the mining exploration staking area, most of which is in the Peachland Community watershed, in the Greata tributary drainage.

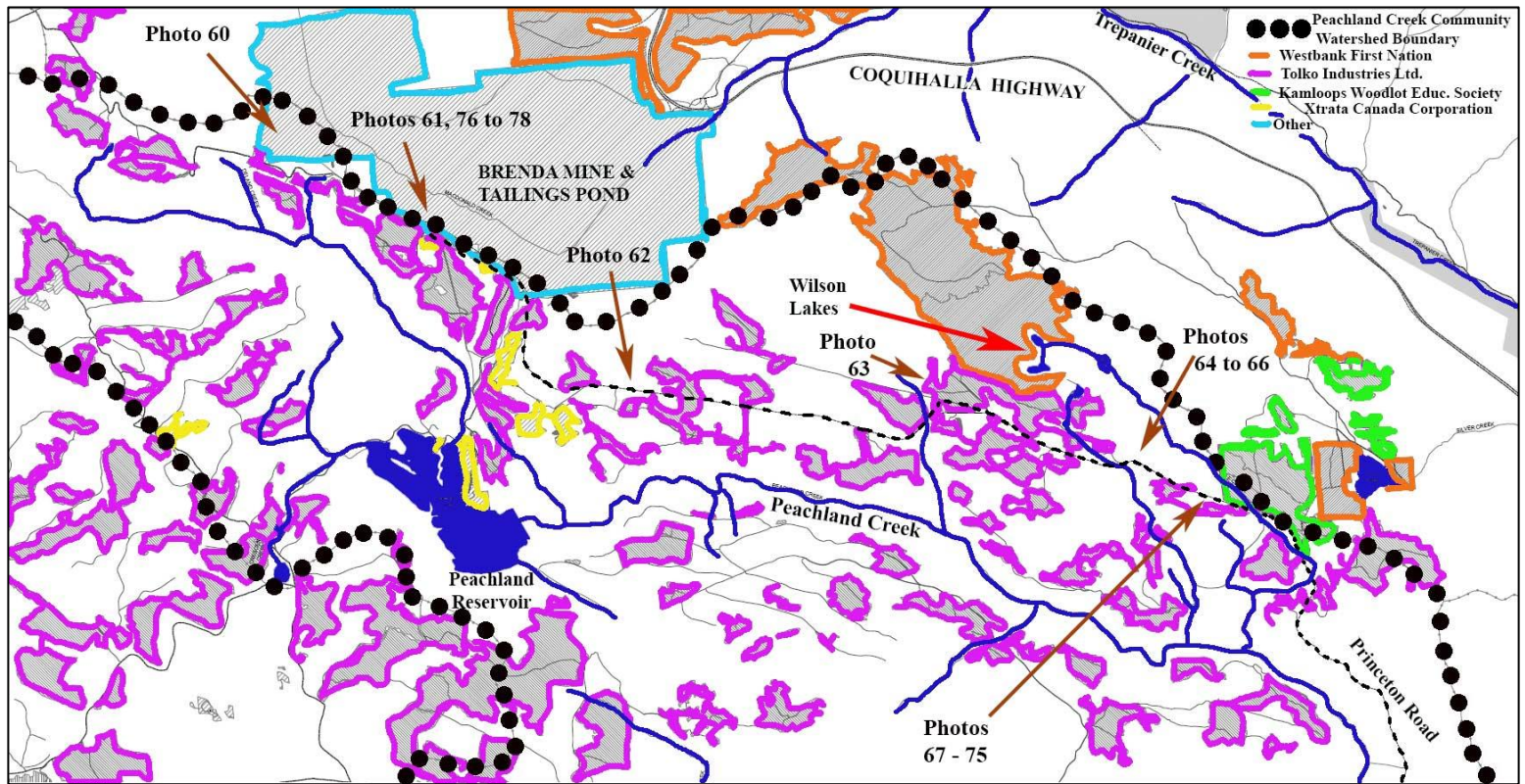




Photos 54 – 59.

Scattered all over the Peachland Community watershed is a large assortment of litter: here, a cigarette package, a soft drink can, beer cans, rifle and shotgun shells.

PART THREE: WILSON LAKES AREA AND UPPER PEACHLAND CREEK



Map 4: Upper Peachland Watershed.



Photo stitch 60 (May 9, 2018), above. Brenda mine quarry, top left. Brenda mine tailings pond in far distance to right. **Photo stitch 61**, below. Brenda mine tailings pond.



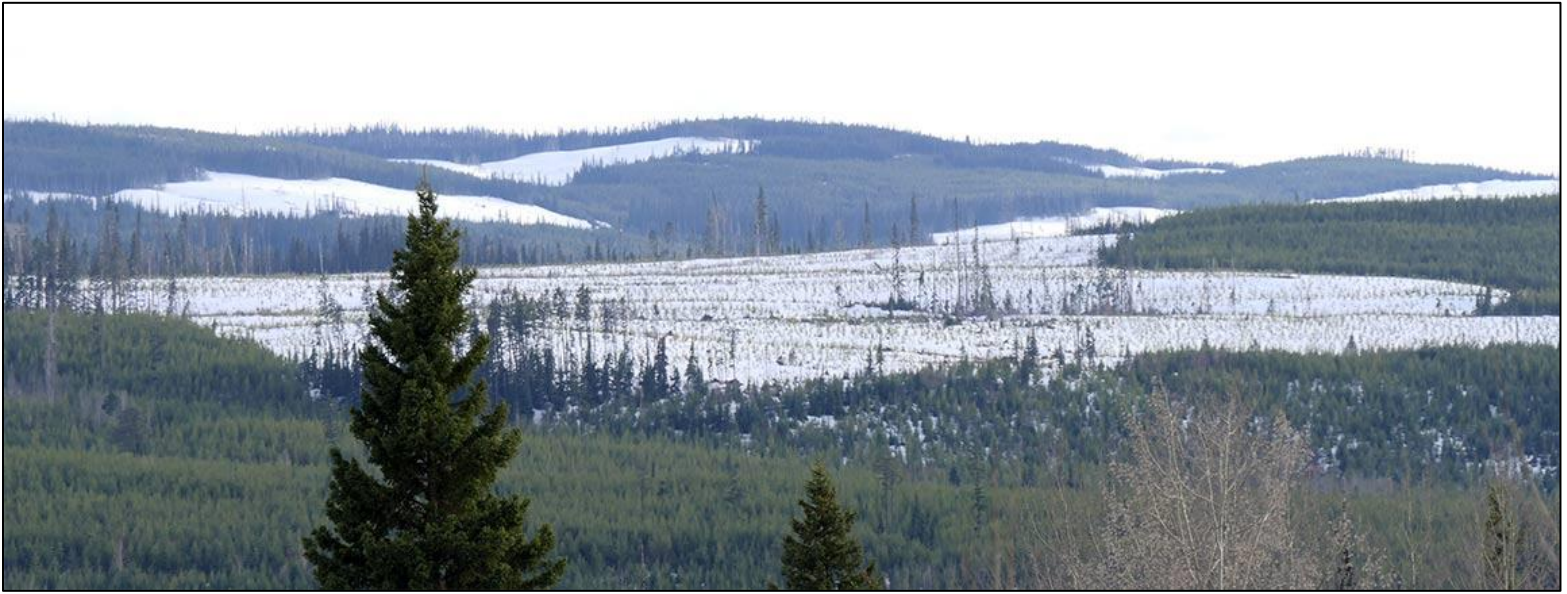


Photo 62 (April 30, 2018). Clearcut logging predominates upper Peachland watershed. Higher snow pack in clearcuts and quicker snow melt than in intact forests.



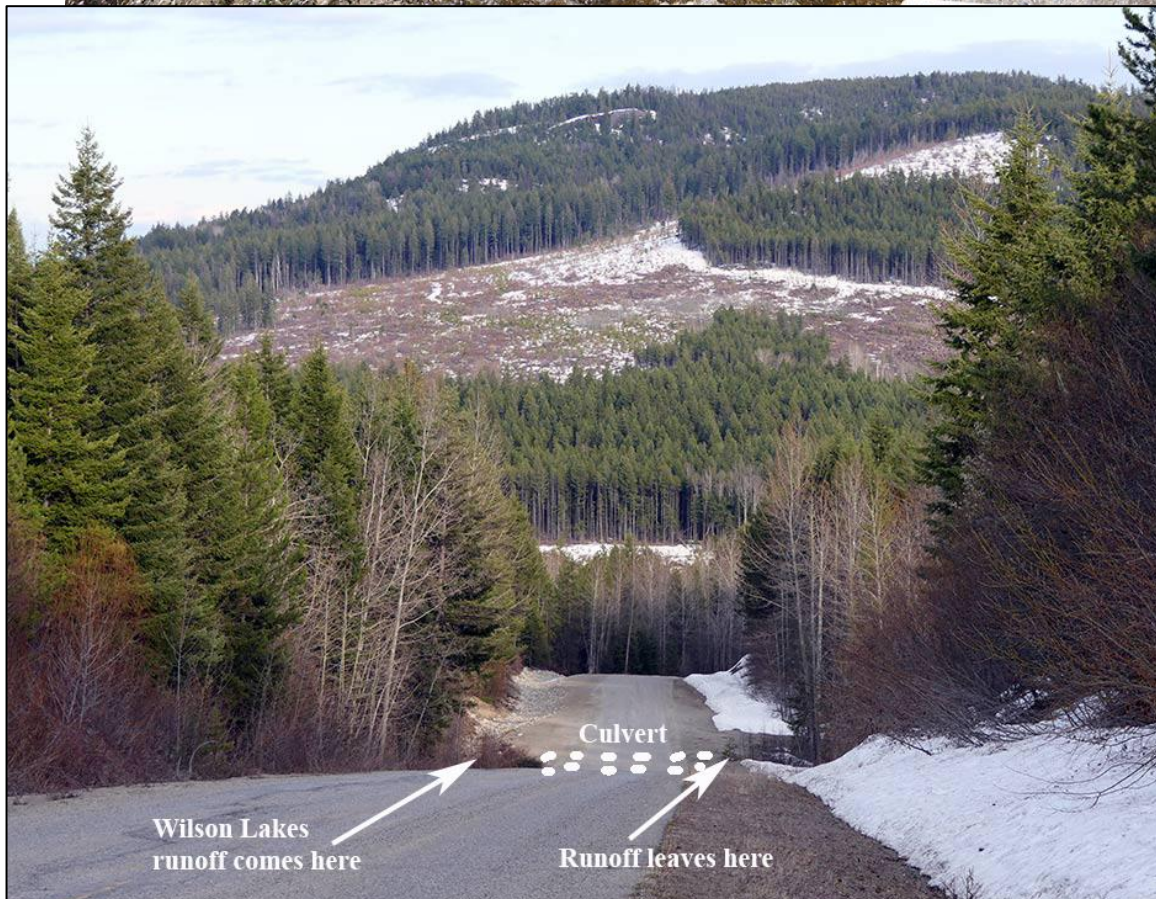
Photo stitch 63 (May 9, 2018). This is the largest integrated clearcut in the Peachland Community watershed, with upper logging recently conducted by Westbank First Nation (it has a Community Forest tenure in both the District of Peachlands Community Watersheds), and lower (bottom and to right) by Tolko Industries. In the middle of the photo is what remains of Wilson Lakes. Because of the logging, the spring snowmelt runoff has been significantly altered, creating increased and quicker timing. Most of the runoff from this area runs down slope from the Wilson Lakes area to the far upper right, where some intact forests remain. Tolko has clearcutting proposals for this area in 2018, an area which is briefly mentioned below.



Photo stitch 64 (May 5, 2018). The increased water runoff from Wilson Lakes area is seen here cutting through BC Hydro's access road. According to a local citizen that is familiar with this area, this area began to be washed out last Spring (2017), but this year's runoff has been much greater.



Photo stitch 65 (May 9, 2018). Just 100 meters away west of **Photo 64**, on the north side of BC Hydro's right-of-way, Tolko Industries is planning to build a logging access road and conduct clearcutting in 2018. The area is already in significant hydrological stress and will only create further water runoff damage next Spring, or in periods of heavy rainfall.



Above: Photo stitch 66 (May 5, 2018). Same location as Photo 64, but from other side, looking westward to Tolko's harvesting proposal area (to upper right). The culvert could no longer handle the added volume of water flow. This culvert had withstood years of water runoff from the Wilson Lakes area.

Left: Photo 67 (April 30, 2018). The runoff at photo 66 arrives at the Princeton road into a culvert placed long ago.

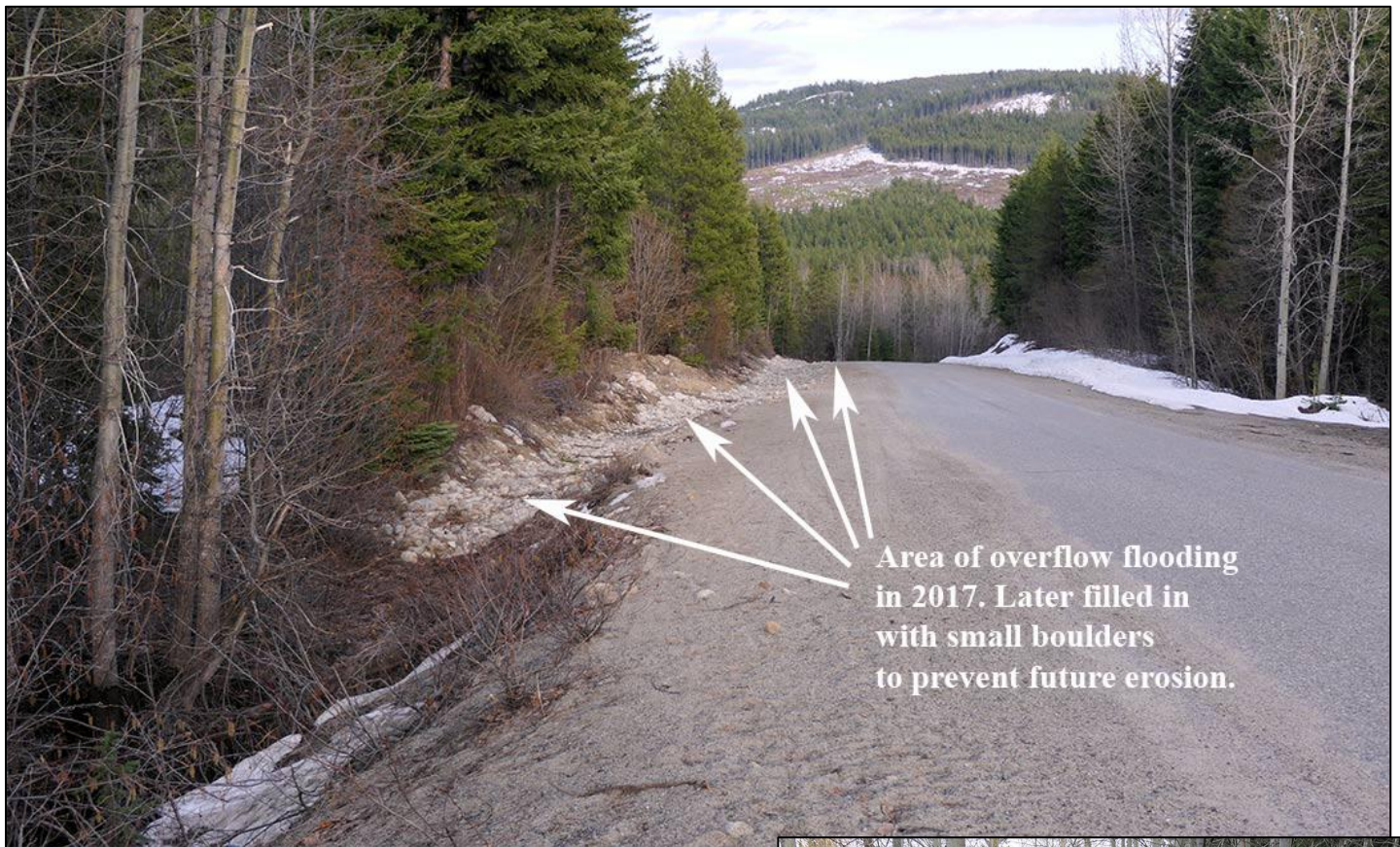


Photo 68, above (April 30, 2018). Close up of area in **Photo 67**. The water runoff was too much for the small culvert under the Princeton road in 2017, and no doubt due to some blockage, that the water quickly pooled in the area to left bottom of photo, and then spilled down the road ditch, eroding the ditch.

Photo 69, right (April 30, 2018). Strong runoff flow leaving culvert underneath Princeton road immediately to right of **Photo 68**. When examined closely, this area never had so much runoff in the past.





Photo stitch 70 (May 4, 2018). Just below Photo 69, a large culvert was recently placed under a forest access road. The heavy water runoff continues downslope, cutting through soils that were never eroded before, accustomed to only smaller flows.

Photo stitch 71, below (April 30, 2018). The water runoff from Photo 70 is seen heavily eroding the east side of the Princeton road, also eroding a logging access road.





Photos 72 and 73 (April 30, 2018). About 150 meters down Princeton road from Photo 71, the raging melt water eroding the western flank of the pavement, is pouring over the road grade. Photo 73 below, reveals that the entire road was engulfed, with a wide section running over the other side of the road.





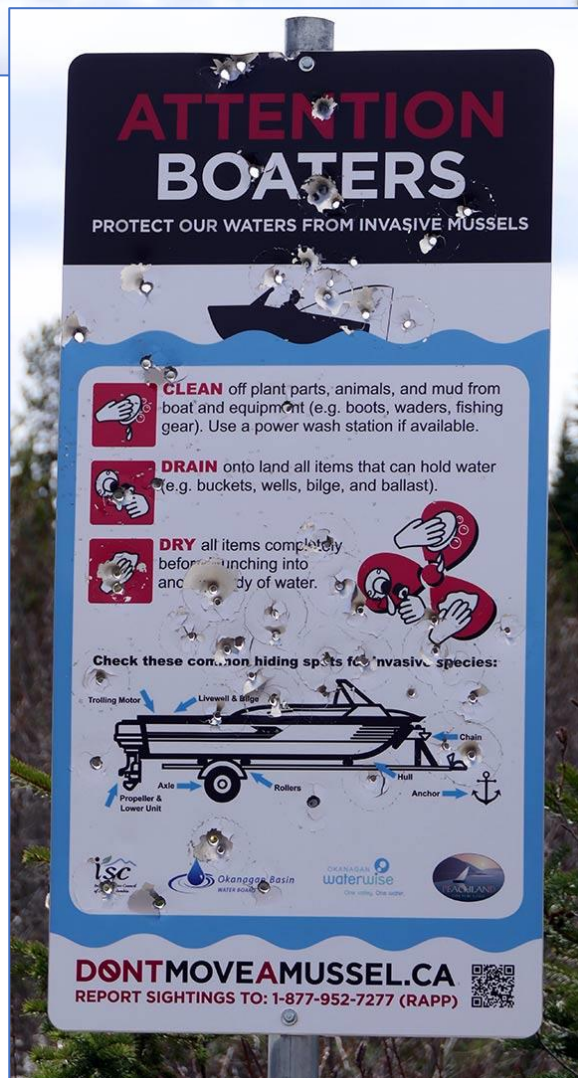
Photo stitch 74 (May 4, 2018). Four days after Photos 71-73, local highways crew have dug the Princeton road ditch here deeper, so that runoff would be contained and not spill over again.



Photo 75 (May 4, 2018). 75 meters down from **Photo 74**, the water is running high and turbid, despite the efforts to dig the newly scoured ditch deeper.

Photo 76 (May 9, 2018). Up near the dormant Brenda mine, is the road access to Peachland Lake, a large storage reservoir for the District of Peachland. It has become a major public recreation site.





Photos 77 and 78 (May 9, 2018). The government's and forest industry's public relations programs since the 1980s that advocated 'multiple use' and 'integrated use' of formerly protected policies for community and domestic watershed sources (in order to gain public acceptance of controversial logging and cattle grazing), the public is now boating on Peachland Lake reservoir, where holidays are now spent, and not a camping spot found for weeks. Though gasoline motors are discouraged for use on the reservoir, this rarely occurs.

CORRESPONDENCE AND NEWSPAPER ARTICLES

Peachland Irrigation District

Peachland, B.C.

ADDRESS ALL CORRESPONDENCE
TO SECRETARY/TREASURER

DISTRICT OFFICE:
4912 PRINCETON AVE.
PEACHLAND, B.C. V0H 1X0
TELEPHONE 767-2393

March 19th, 1985

Hon. Alex Fraser
Minister of Highways
Parliament Buildings
Victoria, B.C.

Dear Mr. Fraser;

The Board of Trustees of the Peachland Irrigation District is emphatically opposed to the contemplated Nicola-Okanagan connector from the Coquahalla Highway passing through our watershed.

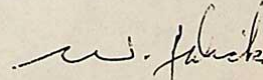
This Board has become increasingly aware that your Ministry is considering routes for the new highway to join with Highway 97 in the Peachland area. We understand that one of the options is to generally follow the Peachland Creek valley from the Headwaters Lakes area to Lake Okanagan. A route of this nature would traverse nearly the full length of the watershed for the District's domestic water supply. Our water reserves are retained in Peachland Lake and the Peachland Creek serves to conduct this water in the open stream to our intake pond, a distance of approx. 16 miles. It is felt that the quality of our water supply would be extremely vulnerable to the intrusions upon it that may be caused by forest cover removal, road construction, highway traffic, the application of sand and chemicals for snow and ice control, the passage of commerce with its attendant insidious spillage along the right-of-way, as well as the very real possibility of a major spill of undesirable materials which then may find their way into the downward flowing stream.

The Board unanimously opposes the presence of a highway in our watershed, as it will disturb the ecology of the surrounding lands, interfering with our control of the District's water supply quality.

The Peachland Irrigation District provides water service to the southern portion of the Municipality of Peachland, where in excess of 850 properties rely on this watershed for clean healthy drinking water. It is the Board's considered opinion that a highway through this jurisdiction will reduce the quality of water that our customers depend on.

We solicit your support in maintaining the high quality of drinking water that our ratepayers presently enjoy.

Sincerely,



W. J. Dick, Chairman of the Board of Trustees

cc: Premier Wm. Bennett, MLA
Minister of Municipal Affairs
Minister of Environment
Willis, Cunliffe, Tait - DelCan



SOUTH OKANAGAN-SIMILKAMEEN UNION BOARD OF HEALTH

Office of the Secretary

390 Queensway Avenue

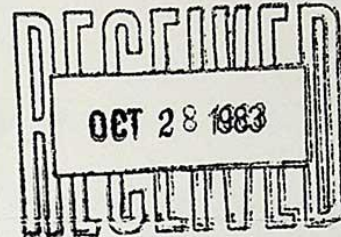
Office of the Chairman

Kelowna, B.C.

V1Y 6S7

Telephone: 762-2704

October 27, 1983



Peachland Irrigation District
4912 Princeton
PEACHLAND, B.C. VOH 1X0

Dear Board Members:

Re: Drinking Water Quality

One of the major responsibilities of the South Okanagan-Similkameen Union Board of Health is to be continuously alert as to the quality of drinking water.

The Board's attention was drawn recently to the fact that, although the Peachland Irrigation District is the supplier of water to approximately half of the residents of Peachland, little concern has been expressed by your body in regard to the effect on the quality of the water by the activities of Brenda Mines. There are some users of this water who have expressed understandable fears in this regard.

This Board has been in close touch with Brenda Mines for some time now, and together a number of changes have been instituted which will in part assist both the composition and amount of runoff which will affect the water you purvey.

The South Okanagan-Similkameen Union Board of Health has been, and will continue to be, active in maintaining water quality throughout this area, and would be happy to cooperate with you in the interests of providing the best quality water for Peachland.

Sincerely,

E. Sheila White

Ald. E. Sheila White
Chairwoman

ESW:dn

cc Corporation of the District of Peachland

HEALTH CENTRES LOCATED AT

Kelowna • Keremeos • Oliver • Osoyoos • Peachland • Penticton • Princeton • Rutland • Summerland • Westbank

PUBLIC TASK FORCE CONCERNS ABOUT WATER RESOURCE MANAGEMENT & DEVELOPMENT

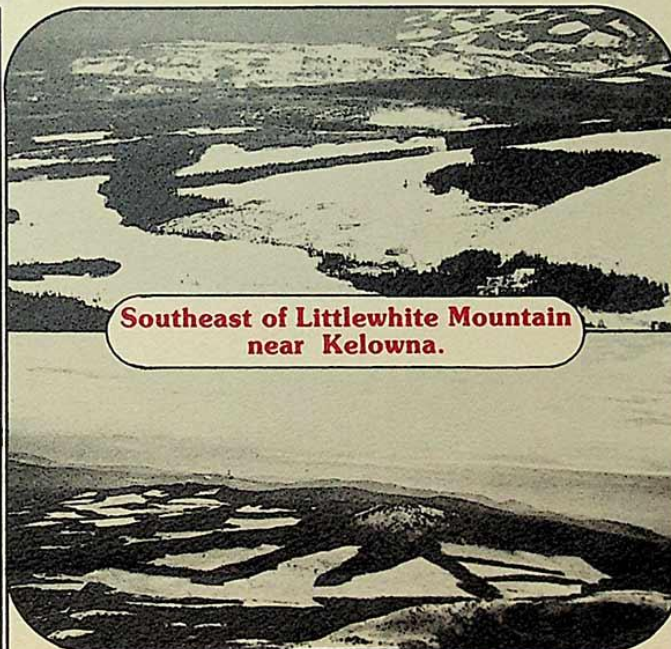
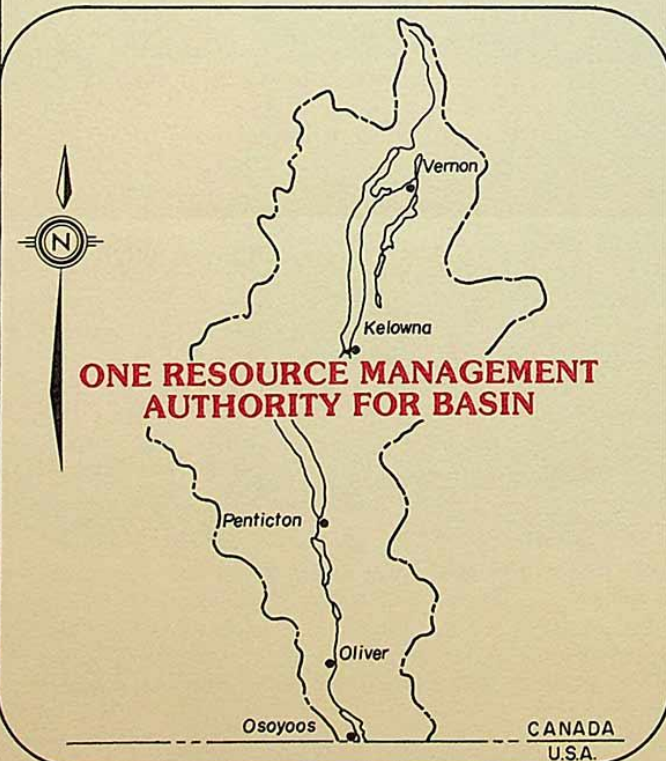
The Okanagan Basin Implementation Public Task Force, a group of individuals representative of the many points of view about the management and development of the Okanagan water resource, was established by the Implementation Board in 1976.

A nucleus for this group was drawn from the original Okanagan Basin Study Task Force and supplemented with some members of the Kalamalka-Wood Lake Study Task Force. New members have been added over the years as have new points of view.

The role of the Task Force has remained the same – to provide the Implementation Board with public comment on the progress and process of the Implementation Program over the past five years.

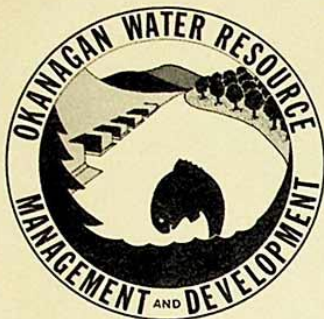
The Public Task Force held five working sessions during the April, 1979, to March, 1980, period and the Task Force executive met with the Implementation Board on four occasions to discuss their perception of public concerns with respect to the Implementation Program. One of the main activities of this group over this period was the compilation of a list of these concerns which the Task Force considers to be of prime importance to future water management in the Okanagan Basin. This list, as prepared by the Task Force, is reprinted without change in this publication. The graphics have been added for descriptive purposes. Comments or answers to most of these concerns will be provided as part of the output being developed by the Implementation Board under the Review of the Framework Plan.

BASIN MANAGEMENT: The Okanagan basin land and natural resources are administered by three regional districts, three cities and several villages and municipalities. A need exists for a Resource Management Authority for the entire basin. Since the earlier suggestion that the three regional districts become one was not acceptable to the local governments, a **water authority** is needed first, then promotion of a **comprehensive water management authority**, and then a **Regional Resource Management Authority (or Commission)**. This progression is essential if the basin water resource is to continue to meet the needs of the citizens.



**Southeast of Littlewhite Mountain
near Kelowna.**

WATERSHEDS: The Study did not look seriously at the water source (i.e. above 3,000 ft.) where water is collected and stored from the winter snowpack. Dramatic physical changes have occurred in the upper level watersheds since the Study terms were initiated at the beginning of the decade; for example – large scale clear-cut logging, burning and/or scarifying of the soils; the complete commitment for storage of almost all available upper levels of water; much increased use of the upper watersheds for both summer and winter recreation. Questions arise now which were not evident early in 1970; for example – do we risk an overall upper levels climate change with clear-cut logging? Is high altitude cutting and road construction adding to the sediment loads entering the main lakes? If we have a combination of large snowfall and fast melt in the spring, do we have an increased flood threat from the mountain streams?



Province of
British Columbia



OKANAGAN INFORMATION.

1981-6

For further information about water resource management and development in the Okanagan Valley contact:

Graham Punnett, Information Officer,
Okanagan Implementation Office,
P.O. Box 458, Penticton, B.C.
V2A 6K6

493-3636



Secretary,
Municipality of Peachland,
Peach Avenue,
PEACHLAND, B.C. V0H 1X0

7

1979 - 80 PUBLIC TASK FORCE

Lorna Young, Chairman, Okanagan-Mission (Biogeographer/Orchardist)
Ivan Cumming, Executive Member, Naramata (Educator/Consultant)
Bob Graham, Executive Member, Armstrong (Municipal Clerk)

Garth Maquire, Vernon (Interested Citizen)
Chris Bull, Penticton (Fish & Wildlife Branch)
George Creighton, Okanagan Falls (Engineer)
Dave Evans, Oliver (Sportsman/Rancher)
Doug Fraser, Osoyoos (Naturalist, Retired Teacher/Orchardist)
Art Garrish, Oliver (Agriculturist)
Dr. John Gibson, Penticton (Conservation/Recreation)
Shelley Hansen, Kelowna (Forest Service)
Bob Harrison, Kelowna (Forestry)
Gary Huva, Kelowna (Lands Branch)
Dave Lovdahl, Kelowna (Water Management Branch)
Bert Nilsson, Vernon (Labour Union)

Bill Parchomchuk, (Sec. Mgr., O.B.W.B.)
Albert Saddleman, (Native Indian Interests)
Harry Sheardown, Osoyoos (Alderman/Retailer)
Dr. M. Smart, Vernon (Medical Health Officer)
Agnes Sovereign, Vernon (Interested Citizen)
Dr. Dave Stevenson, Summerland (Agricultural Researcher)
Ted Swales, Kaleden (Horticulturist)
Harold Thomson, Penticton (Regional District Planner)
Sheila White, Summerland (Alderman/Recreation)
Olive Woodley, Vernon (Interested Citizen)
John Woodworth, Kelowna (Architect)
Bill Blair, Oliver (Irrigation District Manager)

HEALTH CENTRES:

RUTLAND, B.C.
KELOWNA, B.C.
PEACHLAND, B.C.
SUMMERLAND, B.C.
PENTICTON, B.C.
OLIVER, B.C.
OSOYOOS, B.C.
KEREMEOS, B.C.
PRINCETON, B.C.



ADDRESS OFFICIAL COMMUNICATIONS TO:
DIRECTOR,
SOUTH OKANAGAN HEALTH UNIT
390 QUEENSWAY, KELOWNA, B.C.

SOUTH OKANAGAN HEALTH UNIT

January 19, 1971

To: All Operators of Water Systems.

We are receiving increasing reports of range cattle fouling water courses and lakes throughout the Health Unit area.

We have been aware of the problem for over twenty years but at one time the numbers of cattle were somewhat limited and people were tolerant of the problem in the belief that there was nothing that could be done about the situation.

Representations were made by this office in 1949 to the Department of Lands and Forests but we were advised that it was not possible to protect watersheds by restricting grazing permits in the areas.

We believe that the increase in the number of people in the Health Unit area and the work that has been done in recent years to obtain clean water for domestic use is becoming a factor for further consideration. The other aspect which is also important is the enrichment of the receiving bodies of water from the 20,000 cattle in the watershed area.

We have had several meetings with representatives of the Grazing Division and there is opposition to any restrictions on grazing or to even admit that a problem exists.

We have recently conducted a six month bacteriological study on the untreated water at various locations in the Naramata Watershed and we are convinced that a serious problem exists. We plan on further sampling from now till cattle are released back on the range in order to compare the results. We also plan on sampling other raw water sources.

In the interim we would like operators of other systems to answer the following questionnaire and mail it back to this office so that we can document the scope of the problem.

Yours truly,

D.A. Clarke, M.D., M.P.H.,
Medical Health Officer

FRA:DAC:eg

390 Queensway Ave.,
Kelowna, B. C.

July 31, 1972

Brenda Mines Ltd.,
Peachland,
B. C.

Dear Sirs:

A complaint was received from the Peachland Irrigation District on July 27, 1972, regarding a "milk white effluent" from the mine pit entering the creek which runs into Peachland Lake.

A visit was made by Mr. F. R. Alcock, Senior Public Health Inspector, to investigate the complaint.

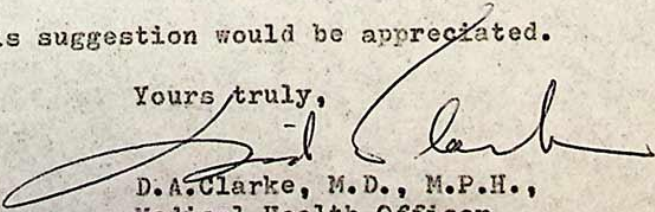
Mr. Harris was very cooperative in showing Mr. Alcock around. The discharge from the mine pit was examined as also was the creek discharge into Peachland Lake. At the time of inspection the discharge water and the creek water was very clear and no evidence of a milky color was seen.

It was noted, however, that the molybdenum level was 1.9 PPM and the nitrate level was 6.8 PPM in the chemical analysis report on the mine pit discharge water. Peachland Lake appeared to have an algal density above normal and a water sample was taken for microscopic examination. It was found that considerable numbers of chorella and fragilaria were present in the sample. The addition of the nitrate in the quantities noted will tend to bring up the level of enrichment of Peachland Lake and recurrent algal blooms may be experienced. The other trace elements noted may be triggering agents for the production of blue green algae.

It would be wise to divert the mine pit water into the tailings dam in order to reduce the nutrient inflow to Peachland Lake. The high calcium carbonate noted is also a potential algae triggering agent as the carbonate may be used for a carbon source if there is a shortage of carbon dioxide in the water. If the carbonate was not present the algae production would be limited to available carbon-dioxide for carbon in solution.

Your consideration of this suggestion would be appreciated.

Yours truly,


D.A. Clarke, M.D., M.P.H.,
Medical Health Officer

FRA:DAC:eg
cc: Peachland Irrigation Dist.
S. Husch

THE CORPORATION OF THE DISTRICT OF PEACHLAND

PEACHLAND IRRIGATION DISTRICT AND MUNICIPAL
LIASON COMMITTEE MEETING - MARCH 28th, 1984
HELD IN MUNICIPAL COUNCIL CHAMBERS

Present: Aldermen Wilson, Ostryk, and Municipal Clerk Harry O. Lever
Trustees; J. Dick, W. Mottrom, and Secretary-Treasurer F. Sime.

The meeting which was called at the request of P.I.D. got underway at 1:20 p.m. with Alderman Ostryk joining the proceedings at 1:35 p.m.

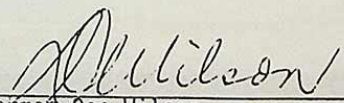
Trustee J. Dick, spokesman for P.I.D., said the purpose was to discuss problems which possibly exist with the Flushing Agreement and any other matters which are of concern to the Irrigation Board and Municipal Council. He mentioned that recent flushing of a Hydrant above Don Wilson's home which requires the laying of an under-the-surface pipe on his property to connect into a highway drainage ditch. The P.I.D. valve connecting the Wilson water supply is located on his property and therefore P.I.D. should be aware that no further improvement of their works should be undertaken.

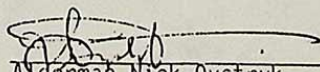
Alderman Ostryk raised concerns that were brought up at the P.I.D. meeting held on March 26th, 1984 in regard to the Brenda Mines discharge into Deep Creek and the lack of protest by the Board of Trustees in this matter. Trustee Dick pointed out that P.I.D. come under the jurisdiction of the Ministry of Municipal Affairs and that the senior government had overruled the objections of the Board of Trustees in this matter. Alderman Ostryk said the feeling of those present at the General Board Meeting indicated that the Trustees demand the waste water be shut off. P.I.D. Trustees read a letter which indicated that they were not to interfere and in any event had no powers to override the approvals of Victoria. Indeed P.I.D. are very concerned about their water quality and do not like the discharge. The water presently being tested indicates a rise in the level of Sodium Chloride. They reported the mine has permission to discharge until April 30th, 1984 or until the freshet commence or whichever occurs first. P.I.D. have adopted the position that once the discharge is complete, the 34" steel pipeline installed to by-pass the reservoir will be removed.

Alderman Wilson asked what are P.I.D.'s plans to ensure that there is no re-occurrence next year or in the future of this present situation. He suggested and trusted that P.I.D. would join with the Municipality to provide a united front to ensure there would be no such discharge into Peachland's Domestic Water Systems.

Trustee J. Dick mentioned that he gets feedback that the Municipal Council are continuously criticising P.I.D.. It was pointed out that this was due to the fact that Council has been battling the war of words on the effluent dumping, and P.I.D. has seemed to be very quiet on the issue and has not adopted a very visible stand on the issues. It is therefore suggested that better communications are carried out under any further or future circumstances.

There being no further business, the meeting adjourned at 2:14 p.m.

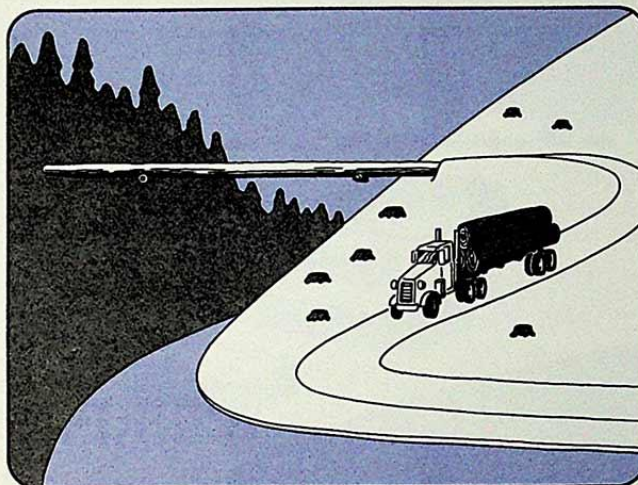

Alderman Don Wilson
Municipal Liason Committee Member


Alderman Nick Ostryk
Municipal Liason Committee Member



Okanagan Water Quality Control Project

FORESTRY



With forest soil erosion, everybody loses.

It reduces regrowth capability.

Sediments from forest soil erosion carried downstream reduce the quality of drinking water and can destroy fish habitat.

And phosphorus from forest soils enters our lakes, contributing to algae blooms that lead to expensive water treatment, clogged irrigation equipment, and changes in water chemistry that are harmful to fish.

That's why the Ministry of Environment and Parks has initiated the Okanagan Water Quality Control Program (OK Water). OK Water is developing maps of the erosion

potential of forest areas and working with other government agencies and industry to establish guidelines for reducing erosion on forest lands.

As a check on the effectiveness of these initiatives, OK Water is monitoring forest activity in several areas — including Shingle Creek, Coldstream Creek, and Hydraulic Creek.

For further information, please contact: Phil Epp, Okanagan Water Quality Control Project, Penticton, 493-8261.



MINISTRY OF
ENVIRONMENT AND PARKS

Peachland Irrigation District

Peachland, B.C.

ADDRESS ALL CORRESPONDENCE
TO SECRETARY/TREASURER

DISTRICT OFFICE:
4912 PRINCETON AVE.
PEACHLAND, B.C. V0H 1X0
TELEPHONE 767-2393

December 10th, 1984

INQUIRY ON FEDERAL WATER POLICY
240 Bank St., 6th Floor
Ottawa, Ontario

Mr. Chairman and Members of the Inquiry Board;

Our District was not made aware of the deadline for submitting briefs for approval in time to present our case formally at the hearing held in Kelowna, B.C. on November 28th. However, we appreciated being able to attend as spectators for the full session and were advised by the clerk that if we wanted to, we could still make our official presentation to you in letter form.

We were the water utility most directly affected by the discharge of mine tailings waste by Brenda Mines Ltd. in the spring of 1984. It was our watershed and creek that were used as aqueducts for the discharge. Therefore, we feel that we would like to make our feelings known on this issue to make sure that it never happens again. This discharge was forced upon the District, in spite of its objections, by the Provincial government. Since we are a low level of local government, we were bound under the law to go along with the orders of the senior level or face prosecution and legal enforcement of their orders.

There were tests taken of the water at regular intervals by the Ministry of Environment and by Brenda Mines Ltd. itself, to try to make sure that there was no or minimal effect on the quality of water provided our customers. However, the levels of various contaminants rose, some quite high. The existing drinking water standards were not of much use, since most of the constituents were either not listed or weren't the ones rising and causing concern.

We support the stand taken by the Municipality of Peachland and the South Okanagan Similkameen Union Board of Health, in requesting more comprehensive testing and more extensive and enforceable standards. We would also like to see a local independent testing facility that could be relied upon to provide unbiased test data and that could be used to provide accurate results for enforcing the standards. Currently, public questions arise as to the reliability of the government's test results and it would be desirable if confidence could be reinforced in times of controversy.

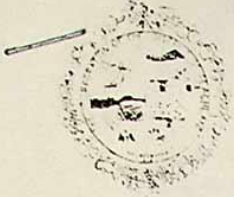
A new Canada Safe Water Act that would be all-encompassing in the areas of standard maximum levels, testing procedures, enforcement procedures and penalty charges would go a long way towards providing the public the protection it needs from private industry contamination and business oriented government intervention. Community water systems in general and P.I.D. in particular require the guarantee of a continuous high quality water supply, which should not be affected by any outside influence in the watershed.

Thank you for letting us voice our concerns and we wish you success in your endeavors to provide recommendations for the preservation of Canada's most precious resource for future generations.

Sincerely,

A handwritten signature in dark ink, appearing to be 'FRS' or similar, written in a cursive style.

Fraser R. Sime, Sec./Treas. to the
Board of Trustees



The Corporation of the District of Peachland

PHONE 767-2647

PLEASE ADDRESS ALL CORRESPONDENCE TO THE
MUNICIPAL CLERK

MUNICIPAL OFFICE
5806 BEACH AVENUE,
P.O. BOX 390,
PEACHLAND, B.C. V0H 1X0

Inquiry on Federal Water Policy
240 Bank Street
6th Floor
Ottawa, Ontario

PEACHLAND VERBAL PRESENTATION - INQUIRY HEARINGS - KELOWNA
NOVEMBER 28, 1984

Mr. Chairman & Members of the Inquiry,

At the Regular Council Meeting of the Corporation of the District of Peachland, on June 19, 1984, a resolution was passed stating our concerns with water quality and quantity. We acknowledge that we are not in any respect experts on health, chemistry, research, or water, but as elected officials in our community, we felt it our responsibility to make our concerns known.

Events last spring, when Brenda Mines discharged approximately 2000 acre feet of supernatant from their tailings pond into Okanagan Lake, via Peachland Creek which feeds one of our water systems, brought very much to the forefront the need for a Canada Safe Water Act.

You have received our written brief, dated October 3rd. In this brief, we request that enforceable standards be set for those substances which are proven health hazards, and Recommended Standards be set for those substances with no known or anticipated adverse effects on health.

The Daily Courier

SERVING THE FOUR SEASONS PLAYGROUND



Vol. 75 No. 151

KELOWNA, B.C., TUESDAY, JANUARY 31, 1984

35c per copy

Carrier Delivered \$1.50 per week

'Brenda dam may let go'

By J.P. SQUIRE
Courier Staff

A wall of water could flood the tiny village of Peachland if Brenda Mines Ltd. is not allowed to discharge several million gallons of water from its mountain-top tailings pond, the manager warned today.

Gordon Harris said there is "a very good chance" the 1,000-metre (6,000-foot) long dam could break if the company is not allowed to lower the level of water before spring runoff arrives mid-April to mid-May.

The dam is located approximately 2.9 kilometres (1.8 miles) northeast of Peachland by road.

The Brenda Mines dam, as high as 140 metres (450 feet) in places, is capable of holding 9,000 to 10,000 acre-feet of water. An acre-foot is one acre covered with water to a depth of one foot.

The proposed release would be about 2,000 acre-feet spread over several months, Harris says. The current depth of water inside the dam is 15 metres (45 to 50 feet).

The level of water in the tailings pond, which consists of runoff from the mines' rock piles and open pit, rose by almost two metres (five feet)

**'Must
act
soon'**



GORDON HARRIS

over the winter months due to heavy precipitation.

The mine has been closed since September.

The result is that the water is close to the top of an impervious layer of slime, finely-ground rock which seals the water in, says Harris.

"We can't leave it until it reaches the top," he said. "The water cannot be contained forever on top of the mountain. If we must release water, and there is no doubt that it must be done and done quickly, then now is the best time to do it."

"We must remove an amount equivalent to the water which has accumulated since September because we expect a rise in the level

of the pond of another five feet with spring runoff."

Any release of water from the mine site would enter either the Peachland Creek or Trepanier Creek watersheds, which supply the northern half of Peachland with water for domestic purposes.

The company has contacted both the waste management branch of the B.C. Environment Ministry and inspection branch of the Energy, Mines and Petroleum Resources Ministry concerning permission to discharge water.

As well, the company has hired its own engineering consultants to come up with alternatives. Their recommendations are expected in

about one week.

Since the mine has been closed for five months, the quality of the water is extremely good and more than meets Canadian drinking water standards, says Harris.

"It's drinkable. I've drank it myself. We've done every test known to man and it passed them all."

There is absolutely no cause for concern about water quality in the region, he emphasized.

"My major concern is the integrity of the tailings dam. My responsibility to these communities is to ensure that it is not placed at risk (and) the sooner we start, the lower the flow will be."

The tailings pond water will be diluted about one part to 10 parts of water from other sources such as Peachland Lake, he explained.

The water in the tailings pond formerly evaporated at the same rate as runoff filled it, he said.

But the rock piles and pit have grown in recent years, the evaporation rate was not as high last year and rainfall has averaged 30 in 48 centimetres (30 inches) in recent years, compared to previous averages of 32 to 40 centimetres (20 to 25 inches.)

Mine ignores protest

By STEVE BERRY
Staff Reporter

A Peachland protest will soon be going down the tube, a mining company spokesman vows.

Brenda Mines Ltd. manager Gordon Harris yesterday said the copper and molybdenum mine soon will start flushing tailings down Peachland Creek, despite a group of protesters camping in a 84-centimetre (33-inch) outflow pipe.

"They'll get awfully wet if they actually do go into the pipe," Harris said.

The mine manager denied that the small band of plastic-suited protesters, belonging to the Kelowna branch of the Society for Promoting Environmental Conservation (SPEC), had actually spent a night in the pipe as reported.

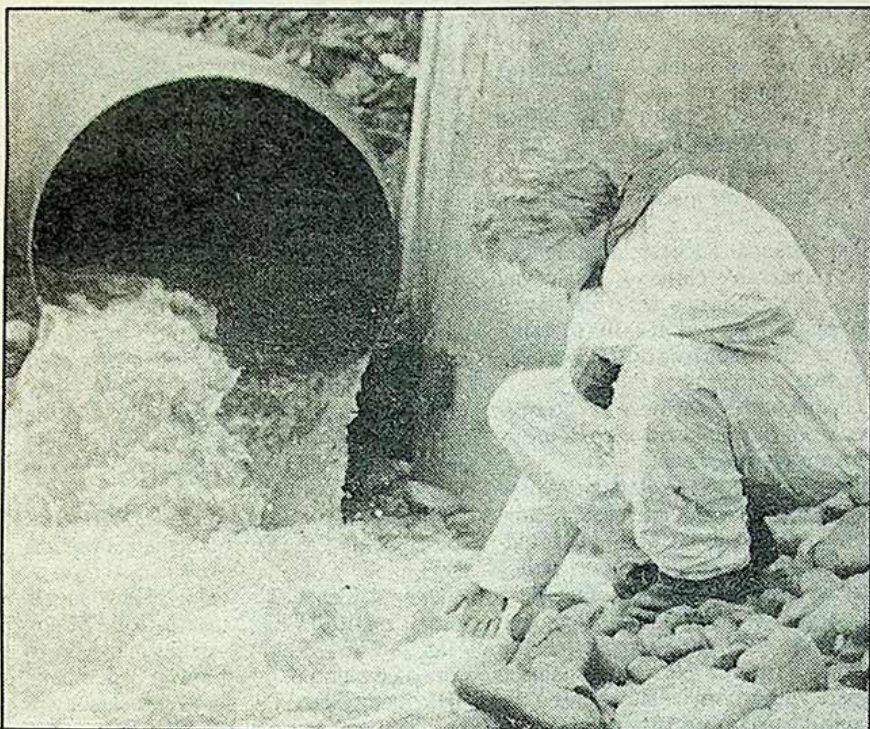
Instead, they have been "on and around" the pipe, he said. Harris added that the six or seven protesters had not affected operations so far.

The pipe is being flushed with clear water at the moment to test it for the eventual discharge of the mine tailings, which should start this week, Harris said.

SPEC protesters as well as about 50 members of the Save Okanagan Lake and Valley Environment group (SOLVE) say the tailings will harm the water quality of Okanagan Lake and may harm Peachland's water supply.

"We want to stop people, towns and companies from treating the lake as a toilet bowl," said Margaret Undershute, SOLVE organiser.

Undershute said SPEC protesters were in the pipe while her people were picket-



CP photo

Protester Steve Squires checks water from Peachland Creek pipe.

ing the area.

She added that an appeal was being made to the ministry of mines and a legal injunction was being looked at.

Harris termed the water to be discharged as "clean and drinkable." He added that immediate discharge was "of the essence" because spring runoff could cause the dam, which now contains the tailings,

to weaken and overflow.

Some 10,000 acre-feet of water and tailings could then wash down into Peachland, Harris said. An acre-foot is one acre covered to the depth of one foot.

The temporarily-closed mine is scheduled to re-open in the spring. About 100 Peachland families make their living there.

Brenda Mines, ministry face Peachland residents

By BRIAN DRISCOLL
Courier Staff

PEACHLAND — Brenda Mines and the provincial Ministry of Environment were put on the hot seat Friday night by a crowd of about 100 at a public information meeting at the Peachland Community Hall.

The public was invited to hear and question a panel of experts on the Brenda Mines issue and the larger question of pollution in Okanagan Lake.

Despite his attempts to reassure the audience that the proposed dumping of waste water into Peachland Creek posed no risk to health, Gordon Harris, Brenda Mines manager, left many unconvinced.

And sharing the blame with Brenda Mines were Ministry of Environment officials Dick Nickel and Bill Hamilton, because of the ministry's approval of the discharge.

Harris told the audience that the overflow problem arose in part because of an unexpected flow of water into the tailings pond, in part because the rules were changed on the company in 1979.

He explained that concentrations of nitrates from the mine were seep-

ing into nearby creeks, so Brenda Mines was directed to re-route the creeks into the tailings pond.

He also says water was encountered when the mine was deepened, which had to be pumped into the pond.

He said the overflow problem was not unexpected and that his predecessor had warned that if there was no discharge the dam would overflow.

Asked about pumping the excess waste water into the mining pit, Harris replied that this could not be done. He said the pit was not solid rock, that the water would seep down and make the pit unsafe for future mining. The water would also absorb nitrates and metals, creating a worse pollution problem.

He also said the tailings pond water would fill the pit to a level of several hundred feet.

Harris rejected the suggestion to build another tailings pond. He said there was no suitable location for one. Nor could the dam be built higher until the mine was back in operation because the tailings were needed to raise it.

Dr. David Clarke,

director of the South Okanagan Health Unit, attacked the planned discharge of waste water into Okanagan Lake.

He cited the danger of arsenic and cyanide poisoning and labelled the waste water "sterile" and incapable of supporting life.

Harris replied that fish and ducks were living in the catchment below the dam, which "is essentially tailings water", and that dozens of LC-50 tests with trout fingerlings in the waste water have shown they can survive in it.

Asked when a permanent solution could be found, Harris said an alternative plan for disposing of the tailings water is being developed. It should be ready within a year, but he said there is no guarantee of a permanent solution.

Harris questioned why his company was being singled out as a polluter when the cities of Vernon, Kelowna and Penticton each produce much more pollution than the discharge would create.

"The source of the greatest pollution in the lake is Penticton. I want to put a little pollution in and everyone's up in arms."



BRENDA MINES SEEN BY MANY AS CORPORATE POLLUTER

... M.W. Taylor, (left) questions manager Gordon Harris

— Courier photo

He also criticized the format of the meeting.

"This meeting has provided a totally inadequate platform" and was nothing more than "a platform for militant environmentalists".

The two Ministry of Health officials were attacked for approving the discharge and allegedly taking orders from the Ministry of Mines and Petroleum Resources.

But Nickel said the decision to approve the discharge was made at the deputy minister level and that the order from the Ministry of Mines was subject to approval by his

ministry and the Ministry of Health.

He said the tailings water is "close to drinking water" standards and should pose no health risk.

Nickel admitted he was not comfortable with the situation. But he rejected the suggestion that there was a danger of arsenic poisoning, saying the arsenic levels in the tailings pond were less than one-tenth the standard for drinking water.

Dr. Clarke, who opposes the discharge permit, calls it "an experiment" we're passing through.

He said the community must get a performance bond from the company to ensure there is not another "rape of the lake".

"My goal as health officer is to attempt to assure you that your health is protected. It is difficult to do that now. I feel the mine has broken faith."

George Waldo, Peachland mayor, called Peachland an "injured bystander", and attacked the Central Okanagan Regional District for being "amazingly silent" on the issue. He also criticized the Peachland Irrigation District (PID), for accepting the discharge through its system.

But Frase Sime, speaking for the PID, said the decision was imposed upon it.

While the discharge is continuing, Nickel outlined an elaborate system of monitoring, which will be done at the expense of Brenda Mines.

... group formed to save lake

PEACHLAND (Staff) — Following the public information meeting, a group called Save Okanagan Lake (SOL) was formed to oppose and prevent the discharge of Brenda Mines tailings water into Okanagan Lake.

Peter Chataway, a member of the steering committee of SOL, called for a non-

violent confrontation Monday morning to try and prevent the discharge.

He also suggested Brenda Mines be required to post a \$1 million bond as a guarantee against any further discharges, and recommended the group take escalating action until such a bond is posted.

Chataway said the time is ripe for the group to act against the mining company because the publicity it would create would force the company to take action.

The group will hold its first meeting Monday evening at 7:30 p.m. at the home of Margaret Undershute. She can be contacted at 767-9304.

Brenda protest draws 100

By GORDON ISFELD
Courier Staff

Premier Bill Bennett may not have been in town, but that didn't stop about 100 demonstrators from gathering outside his Kelowna constituency office Friday to protest the dumping of waste water from a nearby mine tailings pond into Peachland Creek.

Led by a coffin symbolizing the death of Okanagan Lake — which is fed by the creek — the protesters later marched through downtown streets to draw attention to their fight to stop Brenda Mines Ltd. from releasing 2,000 acre-feet of waste water from its mountaintop pond.

Carrying placards reading "Is Bill in bed with Brenda?" and "Clean water is a right", members of Save Okanagan Lake and Valley Environment (S.O.L.V.E.) demanded that Bennett stop the dumping which began Wednesday evening after the environmental group lost its bid for a temporary injunction.

S.O.L.V.E. spokesman Bruce Becker said the group staged Friday's protest to ensure Bennett and his constituents were aware on the issue.

"The premier is going to hear about it whether he's here or not," Becker replied when asked why S.O.L.V.E. chose to demonstrate outside Bennett's office even though the premier is in California.

Becker said the fight against Brenda Mines is spreading across Canada and into all sectors of the community. "We have all sorts of people coming out of the woodwork."

In addition to the support of the Society for Promoting Environmental Conservation, the local group has also enlisted the help of the Greenpeace Foundation which, organizers say, plans to protest Brenda Mine's action at the Toronto head office of its parent company, Noranda Mines.

Becker said the group has been in contact with the B.C. Ombudsman's office, which has promised to look into the matter. The West Coast Environmental Law



SOME OF the protesters who want to make Premier Bill Bennett hear about their opposition to Brenda Mines wastes being dumped in Okanagan Lake made their point Friday. With a symbolic coffin as

their prop, they demonstrated in front of the premier's constituency office, then paraded, with the coffin, through downtown streets.

—Courier photo by GARY NYLANDER

Association has also expressed its support and plans to look at the legal arguments surrounding the issue, he said.

On Wednesday, the B.C. Supreme Court

ruled there was not enough evidence to warrant a temporary injunction to set aside the B.C. environment ministry's permit allowing the dumping of the waste water.

S.O.L.V.E. will seek a permanent injunction against Brenda Mines within the next 10 days.

The company wants to dump the waste water into the creek before the spring

runoff begins and threatens to collapse 2,000-metre (6,000-foot) dam endangering the residents in the downstream municipality of Peachland.

Where Peachland Creek meets Okanagan Lake

Dear editor:

Attached is a photo of the mouth of Deep Creek at the highway, taken on the afternoon of May 5, 2018.

The photo reveals the dark brown sediments originating from two tributary sources: Greta Creek watershed, and the Wilson Lakes area. Peachland Creek is often tinged a light brown color every year during freshet, but as you can see, it is running dark brown.

The sediments entering Okanagan Lake stay afloat for a short duration, and then settle below, fanning outwards in wide patterns.

On my tour through the Okanagan, I went out to inspect the Greta and Wilson Lake areas twice over the last week (boots on the ground) to understand where the muddy water is coming from. Melt waters sourced from clearcut logging and logging road networks are eroding and scouring exposed soils and creating new areas of erosion in the Peachland Community Watershed. I have lots of photographs showing related damages and water runoff.

Sincerely,

Will Koop
B.C. Tap Water Alliance.

