CROWN CONTAMINATED SITES PROGRAM

2018 Biennial Report

SUSTAINABLE BENEFITS
FOR BRITISH COLUMBIANS
THROUGH LAND RESTORATION

BRITISH COLUMBIA

CROWN CONTAMINATED SITES PROGRAM

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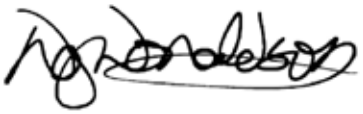
Message from the Minister

The Crown Contaminated Sites Program (CCSP) from the Ministry of Forests, Lands, Natural Resource Operations and Rural Development continues to identify and successfully remediate contaminated sites across the province. This is the seventh biennial report of the CCSP outlining our progress and the Province's commitment to a clean environment for future generations to enjoy.

Effectively managing Crown lands involves cleaning up historic contamination from former industrial activities such as mine sites and heavy industry. To date, 87 Crown sites have been investigated and we continue to manage risks to human health and the environment on these sites while actively investigating new candidate sites.

Highlights in this report include the completion of the Bralorne-Takla mine remediation. We are very proud of the collaboration of our ministry with the Takla Lake First Nation which resulted in a joint selection of the remedial option and employment opportunities for the Takla Lake community members during construction. Other program highlights include the remediation of the Atlin Ruffner mill and tailings site and the ongoing investigation and remediation work towards closure of the Britannia mine.

The 2018 Biennial Report demonstrates the Province's commitment to the remediation of Crown contaminated sites in British Columbia and shows the progress we are making towards the protection of human health and the environment. This important work will continue to benefit all British Columbians.



DOUG DONALDSON, MINISTER
FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT

Introduction

British Columbia is known across Canada and around the globe for its natural splendour. Today that beauty attracts tourism and provides outdoor recreation; these landscapes also support industrial development that encompasses mining, forestry, agriculture, manufacturing, and other activities. While all of these activities contribute to BC's economy, some historical development has had a detrimental impact on provincial land and water resources.

Some historic industrial sites, for example, are contaminated with metals, acid rock drainage, hydrocarbons and other substances harmful to human and environmental health. Generally, the contamination dates back to the previous century, when impacts of industrial development were not well managed and before current environmental standards and regulations were in place. For the most part, this is an historical issue, as in 1969 reclamation legislation for mines operating in British Columbia came into effect, making mine operators responsible for the costs of cleaning up mine sites and requiring reclamation bonds to be in place to cover those anticipated costs.

Ninety-four per cent of the total land area of British Columbia is Crown land. The Province is responsible for the remediation of contaminated sites on this land if the persons or companies responsible for causing the contamination cannot be found or no longer exist.

If the responsible organizations or individuals can be identified, they are held accountable for the cost of cleanup. Public funds are used only if private parties no longer exist and the site has defaulted to the Province or, if the site poses an immediate and unacceptably high risk to human health or the environment. Permitted activities, such as modern mines, are managed to ensure no new Crown contaminated sites are created.

To protect the environment and site users, the Province may remove contaminated soils, divert watercourses away from toxic materials, cap hazardous areas with natural or synthetic materials, and replant vegetation to create habitats for birds, animals, insects, and fish.

The Crown Contaminated Sites Program (CCSP) established in 2003, manages the remediation of contaminated sites on Crown land. This report describes the activities of that program between April 2016 and March 2018.

The CCSP manages contaminated sites to protect human health and the environment. It uses a science-based, risk-ranking methodology to confirm and prioritize sites that need remediation based on the risks they pose.

PROGRAM SITES ARE DIVIDED INTO FOUR CATEGORIES:

REMEDIATED: Crown sites where cleanup activities are completed and long-term monitoring and maintenance is required to ensure performance of the remedial solution

PRIORITY: Crown sites prioritized for action based on site investigation results and potential risk to human health and the environment

CANDIDATE: Crown sites inspected by the CCSP on which funds will be expended for a Preliminary Site Investigation

OTHER: Sites managed by the Province to fulfill obligations established under legal agreements or other commitments

Ministry Goals

The CCSP is administered by the Crown Land Opportunities and Restoration Branch of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development. By developing and applying policy, and managing and implementing operations, the Ministry ensures sustainable management of forests, wildlife, and other land-based resources while supporting activities that provide environmental, economic, cultural and social benefits across the province.

The Ministry Service Plan for 2018/19 outlines key goals and objectives that relate to the CCSP. These include:

GOAL 1: Sustainable resource management, with transparency in managing stewardship responsibilities and with equitable, respectful, and effective communications and engagement.

OBJECTIVE 1.1: Natural resource management that improves public confidence and trust in the stewardship of natural resources.

CROWN CONTAMINATED SITES STRATEGY

Remediate Crown contaminated sites to ensure clean land and water for the protection of human health and the environment.

**As outlined in British Columbia's Environmental Management Act, the costs associated with environmental remediation are borne by the parties responsible for the contamination when any of those parties can be identified and still exist.*

KEY MINISTRY GOALS

GOAL 1:
Sustainable resource management, with transparency in managing stewardship responsibilities and with equitable, respectful, and effective communications and engagement

OBJECTIVE 1.1:
Natural resource management that improves public confidence and trust in the stewardship of natural resources

CROWN CONTAMINATED SITES STRATEGY

Remediate Crown contaminated sites to ensure clean land and water for the protection of human health and the environment

POLICY

The "Management of Provincial Contaminated Sites" policy defines the guiding principles that underlie all actions to manage contaminated sites on Crown lands:

- Reduce and eliminate risks to human health and the environment and minimize liabilities;
- Apply standards that are cost effective, consistent, and in keeping with the legislation;
- Apply the "polluter pays principle";
- Work cooperatively among ministries and consult with First Nations and stakeholders;
- Act consistently and fairly;
- Act with accountability and transparency;
- Use innovative strategies for managing contaminated sites, such as public–private partnerships (P3s);
- Minimize the creation of future contaminated sites;
- Apply sound science and technology to guide management decisions.

THE PROVINCE IS COMMITTED TO:

- demonstrating leadership in managing Crown contaminated sites;
- using a consistent risk-based approach to protect human health and the environment;
- improving the availability and quality of information on contaminated sites;
- reporting regularly to provide transparency and accountability for liabilities and progress.

Provincial Contaminated Sites Secretariat

In 2014, the Public Sector Accounting Standards Section PS 3260 came into effect. PS 3260 establishes standards on how to account for and report a liability associated with the remediation of contaminated sites.

With the introduction of PS 3260, the Provincial Crown Contaminated Sites Committee became the Provincial Contaminated Sites Secretariat. The Secretariat provides a forum for sharing information and addressing issues concerning the management of contaminated and potentially contaminated sites, coordinating across ministries and liaising with central agencies to ensure compliance with PS 3260. PS 3260 provides guidance on the recognition, measurement and disclosure of liabilities resulting from remediation.

The Secretariat is tasked to use a common database for sites with liabilities recognized and reported under PS 3260. The CCSP, through the Secretariat, is currently working with the Ministry of Environment and Climate Change Strategy to include sites recognized under PS 3260 on the Provincial Site Registry. A section of the Site Registry is now established and will be populated in 2018 and updated as liabilities are recognized.

SECRETARIAT MEMBERSHIP

The Secretariat has representatives from the following ministries, and includes individuals in both oversight and management roles related to Provincial contaminated sites:

- Ministry of Environment and Climate Change Strategy
- Ministry of Citizens' Services
- Ministry of Transportation and Infrastructure
- Ministry of Agriculture
- Ministry of Energy, Mines and Petroleum Resources
- Ministry of Forests, Lands, Natural Resource Operations and Rural Development
- Ministry of Finance–Treasury Board Staff (Performance Budgeting Office)
- Ministry of Finance–Office of the Comptroller General

Timeline of Remediation

It takes years to complete remediation at a contaminated site. The initial step of identifying candidate sites is usually completed within one year. This involves researching the history of site use and ownership. Depending on the results, the site is inspected to look for signs of disturbance and contamination. Information obtained is used to determine whether contamination at the site needs to be characterized.

Characterizing contamination at a site and the risks it poses to human health and the environment can take several more years. Field investigations are conducted to obtain information and data that are used to determine remedial requirements and priority.

Remedial planning can take several more years to complete. Remedial options are identified and evaluated based on criteria such as estimated effectiveness, costs, sustainability, risks and feasibility. First Nations, regulators and other stakeholders including neighbouring property owners, local governments and tenure holders are consulted to inform them about contamination at the site, potential remedial options, how remedial options are expected to change the site, and to get feedback. Once an optimal remedial option is selected, the next phases are remedial design, obtaining regulatory permits, and procurement of contractors.

While remediation may be completed in one year, it can often take two years due to narrow weather windows. Both investigative and remedial work can be delayed by access restrictions (e.g. failed bridges and roads to the sites, weather, and fires). Once remediation is complete, long-term monitoring and maintenance is conducted.

DRONES

Unmanned aerial vehicles (UAVs) or drones, have become an important tool in natural resource-based fields in recent years because of their aerial photography and mapping capabilities. A drone can provide a useful and safe approach for investigating contaminated sites. In the site selection phase, CCSP staff conduct field visits to Potential Candidate Sites, many of which have steep terrain and dense forests that can make identification and inspection challenging.

In 2017 the CCSP purchased a mid-level consumer drone, a DJI Phantom 3 Advanced UAV, and in collaboration with BC Timber Sales trained two staff members as drone pilots to the mandatory level required by Transport Canada. A pilot operates the remote control and watches the view on the drone's camera and a map on an iPad. The observer maintains visual contact with the drone and alerts the pilot of any hazards.

The CCSP team has logged more than 40 drone flights, including two site visits at Atlin Ruffner and Iron Crown. In the late stages of remediation at Atlin Ruffner, the drone took video footage of remediation work to test the capabilities of the drone in an open setting. It was used to gather photos and video, for the Ministry of Energy, Mines and Petroleum Resources, of a nearby mine adit and associated slide path that was too hazardous to access safely on foot. At Iron Crown, in the remedial planning phase, consultants identified three areas that were flown over for orthophoto coverage and video that were later processed with trial software. Significant cost-savings have been realized by completing this work in-house.

Using drones to investigate contaminated sites offers significant benefits in data collection, financial-savings and to the health and safety of field staff, with more opportunities for future work.

Risk Ranking Methodology

The 2002 Auditor General's report that resulted in creating the CCSP stated, "Better information about the extent of the problem and the seriousness of the risks is needed if government is to ensure that the public's scarce resources are focused on the highest priority sites." Applying an appropriate methodology for assessing and prioritizing the risks is one of the CCSP's key responsibilities.

The CCSP prioritization process determines which sites will receive action, the resources for each site, and when each site will be scheduled for attention. Sites are prioritized based on risks to human health and the environment. Higher risk sites receive priority in allocating program resources. Sites that pose a lower risk receive attention as higher-risk sites are remediated.

SETTING SITE PRIORITIES

The CCSP developed a risk ranking methodology (RRM) as its principal tool to establish program priorities and allocate funds available for remediation.

This is a scientifically-based method for assessing the ecological and human health risks presented by contaminated sites in British Columbia. The process uses two components to prioritize sites:

- A risk ranking support tool (RRM Tool), which is a data entry and calculation spreadsheet that compares contaminants in soil, water, and sediment to regulatory standards, and,
- A risk ranking workshop (RRM Workshop), which brings together internal and external experts on contaminated sites, including geologists, engineers, biologists, and toxicologists, to review and assess the information available on Candidate Sites.

KEY STEPS IN ASSESSING CROWN CONTAMINATED SITES

The process of assessing sites and the actions required follows these steps:

- Identify potential sites through Coarse Screening and other sources;
- Determine land ownership and responsibility for cleanup (and other Coarse Filter Criteria);
- Develop a list of Potential Candidate Sites;
- Complete CCSP site inspections;
- Develop a list of Candidate Sites;
- Hire expert consultants to conduct Preliminary Site Investigations;
- Enter field observations and analytical data into the RRM Tool;
- Hold an RRM Workshop to rank sites based on a group consensus and make recommendations;
- Assign Management Actions appropriate for High Priority Sites;
- Update the RRM Tool with any new data resulting from Management Actions.

RECOMMENDATIONS FOR ACTION OR INVESTIGATION

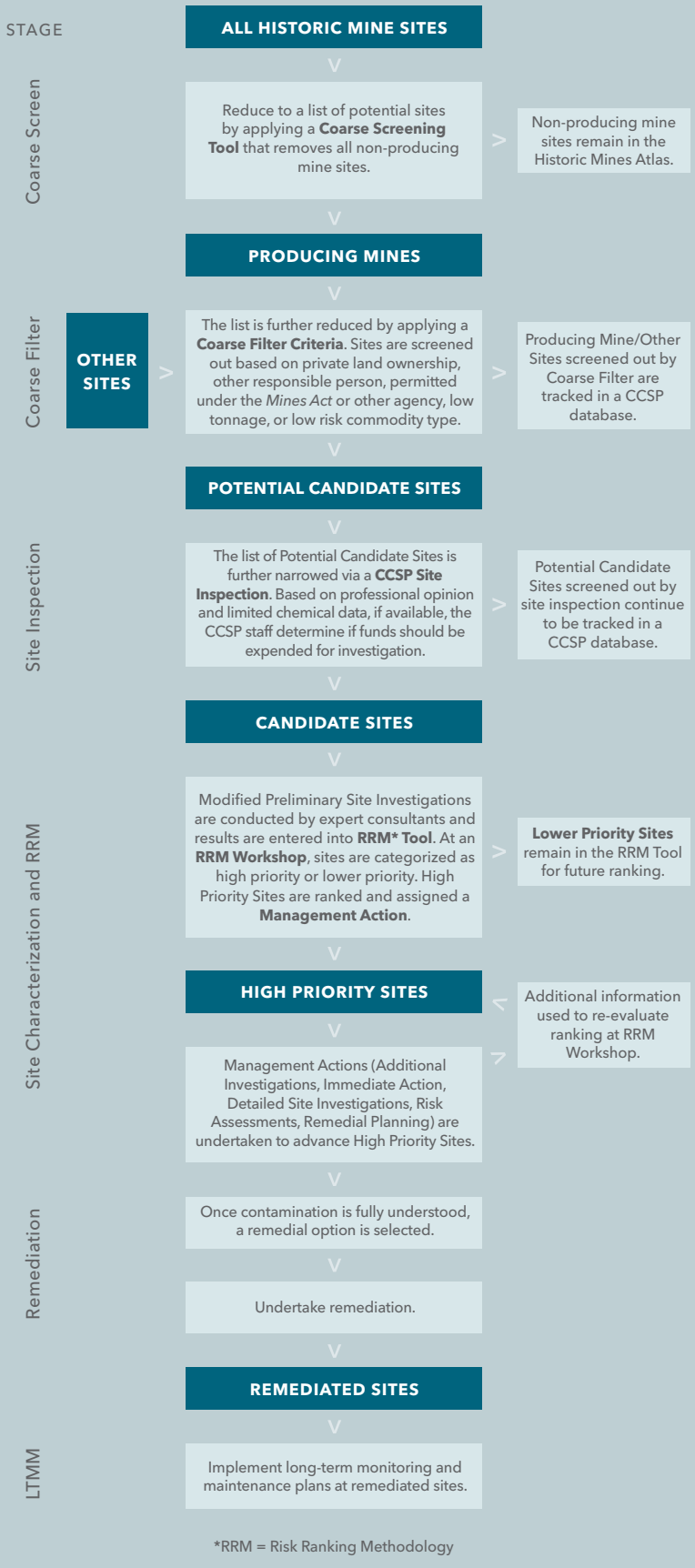
Field researchers gather available data on contaminated sites to complete the RRM Tool. The information allows RRM Workshop participants to rank sites based on risk and make initial recommendations on Management Actions for identified High Priority Sites. Using the expert guidance of workshop participants, a level of action appropriate for each site is selected. Workshop participants may recommend any of the following:

POSSIBLE MANAGEMENT ACTIONS:

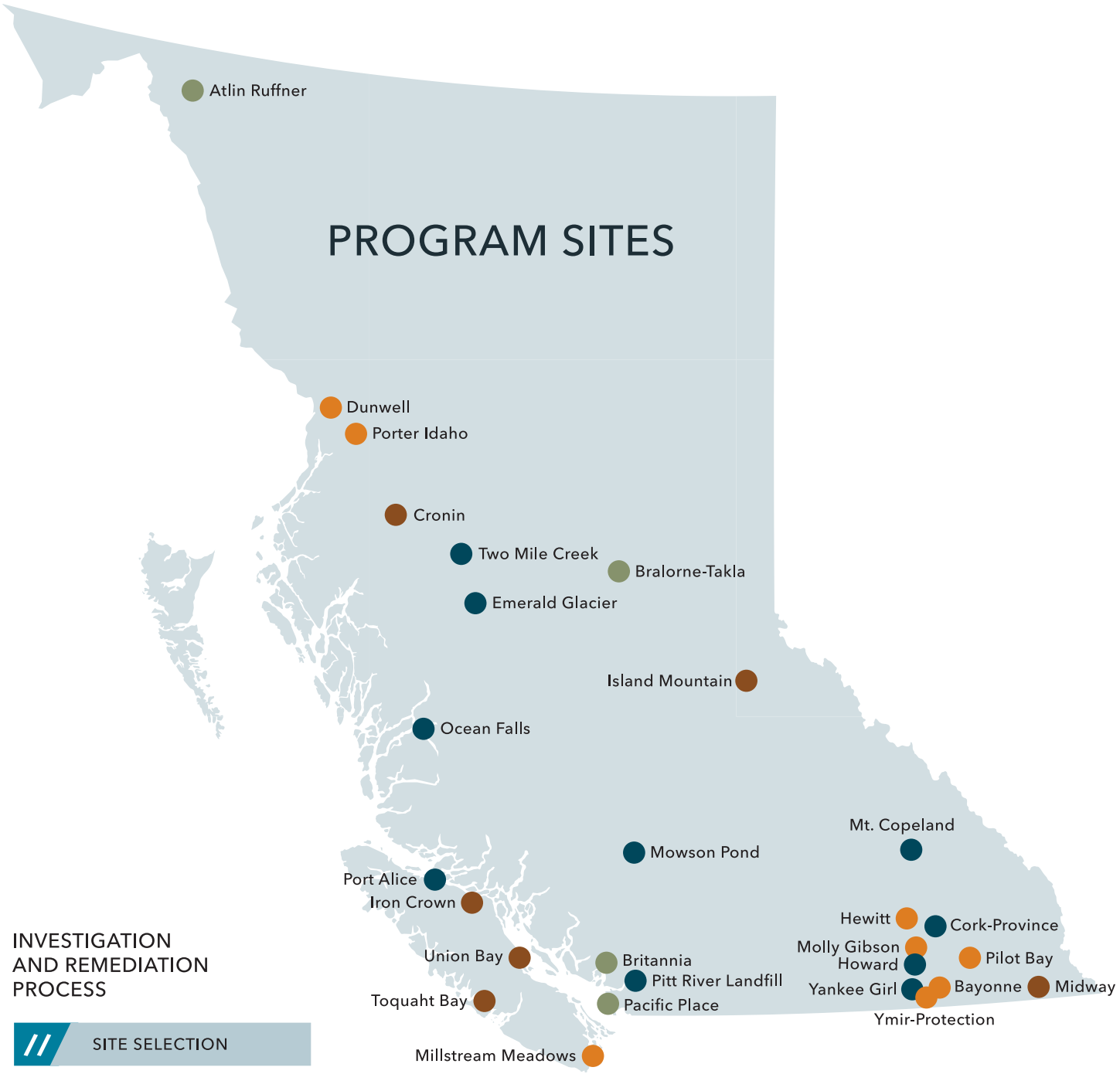
- IMMEDIATE ACTION: Where health or safety risks require urgent attention, the RRM Workshop recommends immediate action for High Priority Sites.
- DETAILED SITE INVESTIGATION: Where the information indicates that a potential risk may exist, the RRM Workshop recommends a Detailed Site Investigation to delineate areas of contamination.
- SUPPLEMENTAL INVESTIGATION: When analysis shows a need for action on a High Priority Site and requires additional information to determine the most appropriate steps, the RRM Workshop recommends specific, targeted investigations. These can include further study of various risks, seasonal or other sample taking, or other types of investigation.
- REDUCE UNCERTAINTY: Where the data in the RRM Tool are too uncertain for a site to be ranked at the RRM Workshop but suggests the site is High Priority, the workshop may recommend gathering more information or performing analyses about specific issues.
- LOWER PRIORITY: Where a Management Action can be deferred for sites with the lowest risks.

Recommendations from the workshop guide the CCSP in planning the allocation of program resources. As site remediation takes many years to complete, the program balances resources between investigation of new sites and advancement of remediation at the highest priority sites.

STEPS FOR PRIORITIZING AND EVALUATING CONTAMINATED SITES



*RRM = Risk Ranking Methodology



INVESTIGATION AND REMEDIATION PROCESS

SITE SELECTION

SITE INVESTIGATION + RISK ASSESSMENT

Ymir-Protection
Millstream Meadows
Pilot Bay
Hewitt
Porter Idaho
Dunwell
Molly Gibson
Bayonne

REMEDIAL PLANNING

Island Mountain
Cronin
Iron Crown
Toquaht Bay
Union Bay
Midway

REMEDIATION

Atlin Ruffner
Bralorne-Takla
Britannia
Pacific Place

LONG-TERM MONITORING + MAINTENANCE

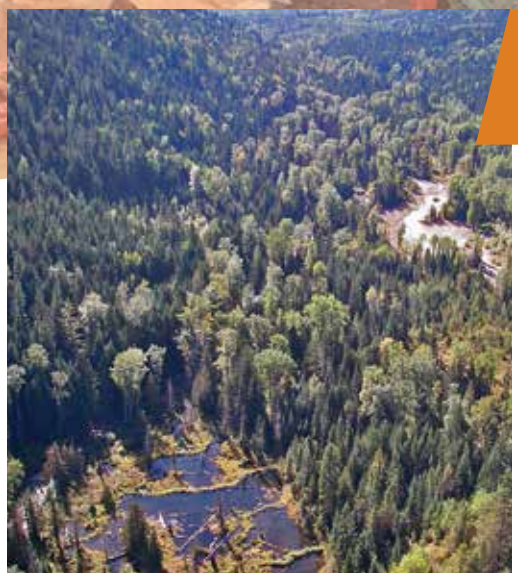
Mt. Copeland
Pitt River Landfill
Ocean Falls
Mowson Pond
Emerald Glacier
Port Alice
Two Mile Creek
Cork-Province
Howard
Yankee Girl

SITE SELECTION

As part of the CCSP's Risk Ranking Methodology, staff identify and inspect Potential Candidate Sites. Sites are selected from a CCSP database that ranks historic mine sites on a number of site specific and georeferenced factors such as the volume of ore mined, or the proximity to human or ecological receptors. Sometimes other types of sites that fall under the CCSP mandate are identified and screened. After confirming Crown land ownership and potential responsibility, the CCSP conducts site inspections to identify suspected high-risk sites. From the results, Candidate Sites are identified and approved environmental and engineering consulting firms are contracted to conduct Preliminary Site Investigations and confirm potential risks.

In late summer and early fall 2016, the CCSP inspected six Potential Candidate sites. Research was conducted prior to the site inspections to understand the historic mining operations of each site, and to identify Areas of Potential Environmental Concern (APECs) that should be visited. The APECs typically included all of the former mine workings and waste products including adits, waste rock piles, mills, and tailings. Soil and water samples were collected from key APEC locations to be assessed against provincial environmental standards. The inspection and analytical results were evaluated to determine which sites should be identified as Candidate Sites. As as result of the site selection process, one of the six sites was identified as a Candidate Site (Hewitt).

// SITE INVESTIGATION + RISK ASSESSMENT



YMIR-PROTECTION

49° 19′ 19″ N, 117° 10′ 17″ W

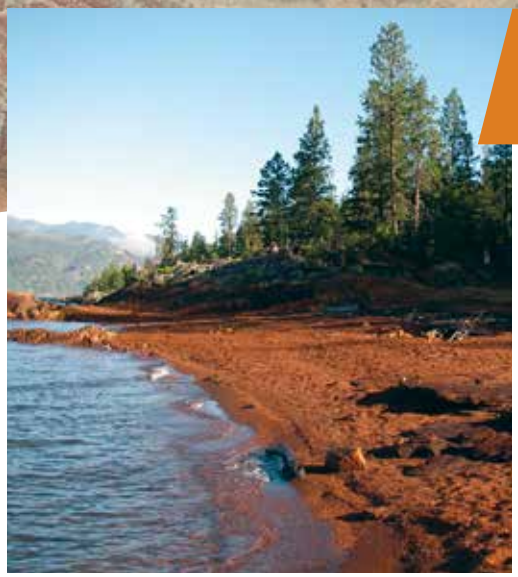
The tailings site from the former Ymir and Protection Mines is located in the West Kootenay region, 4.5 km east of the town of Ymir. The majority of the mining operations occurred between 1900 and 1942, and targeted a sulphide ore deposit with gold, silver, lead, and zinc commodities. The main tailings area is next to Wildhorse (Ymir) Creek. The crusher area is located up gradient to the northeast. Mine wastes at these two areas straddle Crown and private lands. A Modified Preliminary Site Investigation has been conducted. Additional investigations will be required to better understand site conditions and remediation requirements. Monitoring is ongoing while higher priority sites are being remediated.

MILLSTREAM MEADOWS

48° 28′ 52″ N, 123° 30′ 33″ W

The Millstream Meadows site is in the District of Highlands, near Victoria. The site operated as a disposal facility for septage wastes and material such as waste from septic systems and other trucked liquid wastes, including oily wastes. The liquid wastes were discharged with few controls into a series of three lagoons at the site. The provincial government and the Capital Regional District have conducted environmental investigation and remediation since 1995. The Capital Regional District, with the support of the CCSP, began work to clean up the site in 2008, when contractors excavated the worst of the contaminated soils from Lagoon 1 and a portion of Lagoon 2. In 2011, the excavation was filled in with clean gravel.

Since the remedial excavation in 2009, the Capital Regional District has continued to monitor groundwater, surface water, and soil gas quality. Additional investigations in 2016 and 2017 were made to assess remaining risks at the untreated lagoon areas and to confirm deep groundwater quality. In winter 2017-2018, a second round of borehole geophysics began to better understand groundwater flow and possible contaminant migration in deep fractured bedrock. This work includes the expertise of specialists from the University of Guelph. This information will be used to ensure that long-term deep perimeter monitoring wells are correctly located to identify any possible migration pathways for contaminants. The CCSP and Capital Regional District are working towards obtaining a risk-based Certificate of Compliance for the site.



PILOT BAY

49° 38′ 36″ N, 116° 53′ 00″ W

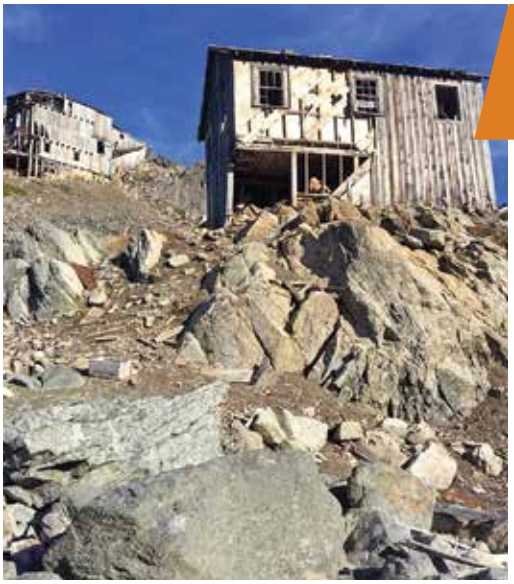
The former Pilot Bay smelter operated on the eastern shore of Kootenay Lake near the end of the 19th century. Refining and concentrating operations began in 1895, when 52,000 tons of ore mined from the nearby Bluebell Mine and 2,500 tons from other local mining operations were transported to the site for processing. Due to difficulties processing the ore efficiently, the refining infrastructure at the site was shut down in 1896, and the concentrator operated intermittently until 1906. For decades the site sat derelict and the infrastructure was eventually dismantled and left to deteriorate. By 1952, approximately 32,000 tons of silver, lead and zinc rich ore remained at the site. The majority of the former milling and smelting buildings were located upland from the foreshore (private lands), while mine wastes generated from site operations were deposited along the foreshore and into Kootenay Lake (primarily Crown land).

The Province recently initiated a review of the site conditions at Pilot Bay and developed a plan for further investigation, identifying the extent of contamination and a preliminary risk assessment for the site. In 2016/17, a current comprehensive Preliminary Site Investigation, Detailed Site Investigation and targeted human health and ecological risk assessments were conducted on the Crown foreshore area of the Pilot Bay site. Results of these investigations are now being reviewed and next steps for site management are being considered.

HEWITT

49° 19′ 19″ N, 117° 10′ 17″ W

The Hewitt site is a former silver, lead and zinc mine located near Silverton. The associated mill and tailings area, known as the New Van Roi mill, is next to Slocan Lake. Mining and ore milling activities occurred intermittently between 1893 and 1977. Site features include mine openings, mills, adits, waste rock piles and tailings deposits. A Preliminary Site Investigation was conducted in 2017. Contamination in mine wastes, soil, sediment, surface waters and pore waters was discovered. The majority of the mine wastes sampled are considered potentially acid generating, with a high degree of leaching. The primary contaminants are metals including arsenic, cadmium, lead and zinc. Future Management Actions will be based on the risks the site contamination presents to human health and the environment.



PORTER IDAHO

55° 55′ 39″ N, 117° 18′ 48″ W

The former Porter Idaho mine operated briefly from the mid 1920s to early 1930s and produced copper, gold, lead, silver and zinc. The former mine workings are located southeast of Stewart on Mount Rainey. A Preliminary Site Investigation was conducted in 2016. Access to the mine area was by helicopter and not all areas of the mine could be accessed due to steep terrain. Mine works and infrastructure include adits or tunnels with associated waste rock deposits.

The investigation identified waste rock contamination including antimony, arsenic, lead, silver and zinc all of which exceeded standards. Approximately 40 percent of waste rock samples were classified as potential acid generation or having an uncertain risk of acid generation. Water samples from some source areas (adits and waste rock) exceeded aquatic life guidelines for cadmium, lead, silver and zinc. Receiving water samples exceeded aquatic life guidelines (one sample for arsenic and the other for copper and zinc).

Exposure pathways between the contamination and human and ecological receptors were identified. The information collected will be used to determine further Management Actions based on the risks the site presents to human health and the environment.

DUNWELL

55° 59′ 49″ N, 129° 55′ 15″ W

The former Dunwell mine is located northeast of Stewart. The mine operated briefly from the mid 1920s to early 1930s and produced copper, gold, lead, silver and zinc. Mine workings and infrastructure included four primary adits with associated waste rock deposits and a concentrating mill. A Preliminary Site Investigation was conducted in 2016 to assess environmental contamination and acid rock drainage potential, and to characterize exposure pathways between contaminant sources, people and ecology. The majority of the waste rock samples were classified as potential acid generation or having an uncertain risk of acid generation. Metal contamination exceeding applicable standards and guidelines was identified in waste rock, adit drainage water, and in water and sediment from a downslope creek. The information collected will be used to determine Management Actions based on the risks the site presents to human health and the environment.

MOLLY GIBSON

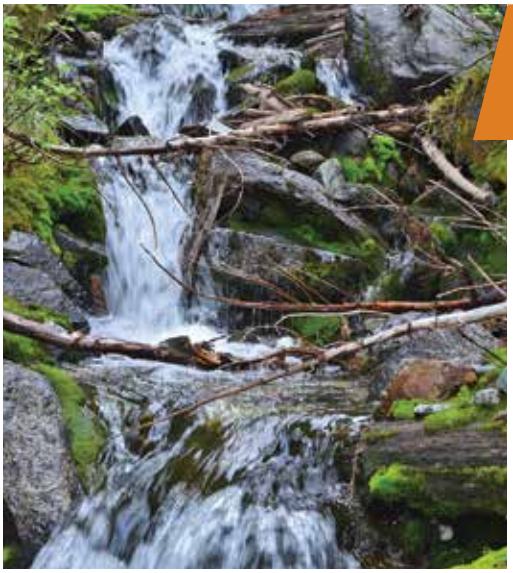
49° 43′ 30″ N, 117° 09′ 06″ W

The former Molly Gibson mine, located approximately 15 km northeast of Nelson, operated from 1899–1950 and produced silver, lead, zinc, gold, and copper. The mine consisted of an upper workings area and lower workings area, and included a mill area, and ore unload area.

A mine access road, Kokanee Glacier Road, connected the highway with the mine workings. The mill area is approximately 1 km south of Gibson Lake. An ore processing mill was built beside Kokanee Creek. The mill area was connected to the workings areas by an aerial tramline.

Production between 1899 and 1950 totaled 55,860 tonnes mined and 47,556 tonnes milled. Ninety percent of the production was completed by 1913. Milling occurred intermittently from 1906–1920.

A Preliminary Site Investigation in 2012 found high levels of lead, arsenic and cadmium in soil between the parking lot, creek, and groundwater seeps. Based on the RRM Workshop results, a limited Detailed Site Investigation was undertaken in 2017. The report is currently being completed. Further ranking and Management Actions will be recommended at the next RRM Workshop.

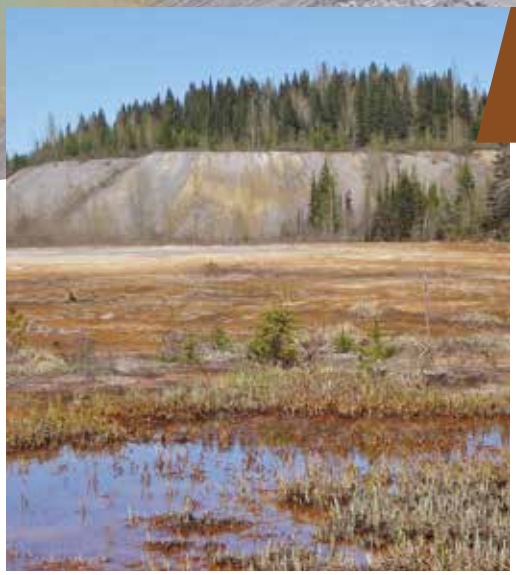


BAYONNE

49° 09′13″ N, 116° 57′ 18″W

The former Bayonne mine site is located in mountainous terrain near Salmo. It was a gold, silver, lead, zinc, cadmium, copper and silica mine that began in 1902, with the majority of operations occurring between 1935 and 1946. Intermittent mining operations occurred until 1984. Features include a former ore processing mill, portals or adits with associated waste rock dumps, and a large acid generating tailings deposit that extends into Bayonne Creek. A Preliminary Site Investigation in 2008 identified arsenic, cadmium, lead and zinc as the main contaminants at the site. A Detailed Site Investigation was conducted in 2017 with a focus on the tailings deposit and associated impacts on receiving waters. The results from this investigation will be used to support the evaluation of remedial options for the site.

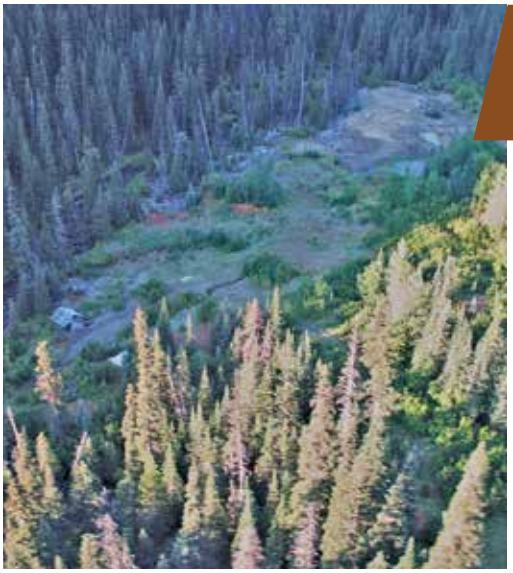
// REMEDIAL PLANNING



ISLAND MOUNTAIN

53° 06′ 04″ N, 121° 35′ 02″ W

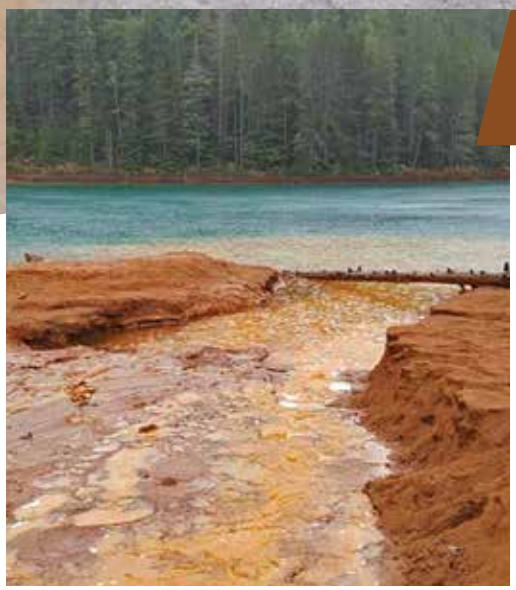
The former Island Mountain and Cariboo Gold mine site is located in Wells. The mine operated for several decades beginning in 1933. This site has been investigated in detail. Mine wastes consisting primarily of tailings contaminated with arsenic and other metals extend over 65 hectares including beside and in Jack of Clubs Lake and the Willow River. Despite the extensive mine waste, water quality in the lake and river generally meets provincial water quality guidelines for protection of freshwater aquatic life. Remedial options under evaluation include placing clean fill cover over the tailings in areas where contamination poses the greatest risks. A detailed remedial design will be selected based on input from First Nations, the community of Wells and stakeholders.



CRONIN

54° 55′ 30″ N, 126° 48′ 56″ W

The former Cronin mine site is approximately 30 km northeast of Smithers in a mountainous, forested, and sparsely populated area partially within Babine Mountains Provincial Park. The Cronin mine operated between 1917 and 1974. Investigations and risk assessments have identified impacts and risks from metal contamination in the mill and tailings impoundments. The main tailings impoundment is approximately 2700 m² and 10 m from Cronin Creek. A smaller tailings impoundment is approximately 600 m² and 100 m from Cronin Creek. Ecological impacts and risks were identified in and around the mill and tailings impoundments, including a section of Cronin Creek. The human health risk assessment concluded that actual health risks for recreational users of the site were minimal. Remedial options will be developed with stakeholders, including users of the site, First Nations, and regulators. Without road access to the site, remediation of the site is difficult. Four signs were installed at the Cronin site in 2017 warning the public of the presence of contamination.



IRON CROWN

50° 15′ 29″ N, 126° 51′ 36″ W

The former Iron Crown mine site is located near Woss on northern Vancouver Island, near the Nimpkish River. The mine operated from 1959 to 1963. Tailings released from the former mill have contaminated Canyon Lake and the area around it with metals and acidity. The lake and surrounding area is used for recreation including swimming. Based on an initial evaluation of remedial options, the preferred option was covering the tailings to minimize release of contaminants.

Ongoing studies have been conducted to improve characterization of current conditions, satisfy regulatory requirements, and enable predictions of the degree of environmental improvement that can be expected with remediation. Work has included assessment of wildlife, vegetation, and the ecology of Canyon Lake; groundwater and surface water flows; and contamination in soils, sediments, groundwater, surface water, and biological tissues. Information collected to date and feedback from further consultation with the Namgis First Nation, regulators, the local community, and other stakeholders will be used to design the remedial program.

UNION BAY

49° 35′ 31″ N, 124° 52′ 54″ W

The Union Bay Waste Coal Pile is located south of Courtney in the town of Union Bay. The site is comprised of approximately 13 hectares of Crown foreshore, the majority of which is leased to West Fraser Mills Ltd. (West Fraser), and is Crown land. The site was used by Canadian Collieries (Dunsmuir) Ltd. as a coal washing and load out facility. The facility produced coal waste products, which generate acid rock drainage that discharges into Baynes Sound.

Remedial planning is currently underway by West Fraser Mills Ltd. for installation of an engineered cover to prevent the acid rock drainage. Site reconnaissance, geotechnical fieldwork, baseline investigation, topographic survey fieldwork and field planning work have been completed for preparation of a detailed design plan. The detailed design plan is now under development. Installation of the engineered cover is anticipated to be completed by fall of 2019. Once the engineered cover is in place, the site will be used as green space and the Province will be responsible for long-term monitoring and maintenance of the site.

TOQUAHT BAY

49° 01′ 08″ N, 125° 21′ 32″ W

The Toquaht Bay Marina and Campground is located approximately 16 km northeast of Ucluelet on the shores of Barkley Sound. During the 1960s, ore from the former Brynnor iron mine was milled north of the shoreline and tailings were deposited along the shoreline to the former Tree Island. A recreation and camping area at the site was developed after the crushing operation closed and a boat launch and marina were later added. As part of the Maa-nulth Treaty, the Toquaht Bay campground was transferred to the Toquaht Nation who also operates the marina—the marina remains under a Crown land tenure. The treaty specifies that the Province will investigate remediation under the Environmental Management Act, a requirement that was triggered in July 2011, by the Toquaht Nation.

A Preliminary Site Investigation completed in early 2013 found unexpectedly high levels of arsenic and cobalt in site soil and high concentrations of iron. Based on the recommendation of the Medical Health Officer (from Island Health Authority), Toquaht Nation and the Province worked together to close the campground, boat launch and marina in spring 2013 to ensure public safety.

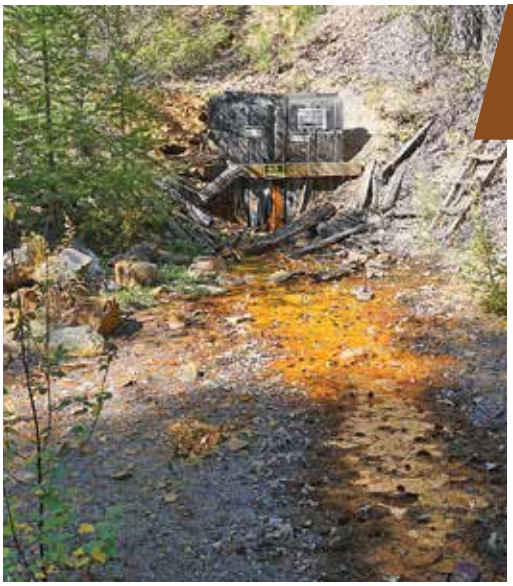
The CCSP installed fencing and signage in August 2014 to allow temporary reopening of the marina and boat launch until remediation is complete. The campground will remain closed until then. Toquaht Nation opened the nearby Secret Beach campground in early 2014.

Investigations since 2013 have included human health risk screenings, a Detailed Site Investigation and supplemental investigations, groundwater and porewater studies, a littoral drift investigation, preliminary ecological risk assessment, conceptual site models, three-dimensional groundwater modelling, and remedial option conceptual design. Remedial planning began in 2015 based on the results of technical studies and additional studies addressed questions raised during the remedial options evaluation process.

Following remediation, the Ministry of Environment and Climate Change Strategy will require the Ministry of Forests, Lands, Natural Resource Operations and Rural Development to seek a legal instrument (Certificate of Compliance) to indicate the site has been remediated in accordance with appropriate environmental quality standards. The cleanup, which requires additional studies, negotiations, consultation, regulatory approvals, procurement, detailed design, and construction, is expected to take up to six years (to 2024) to complete.

The Province, through the CCSP, is working closely with the Toquaht Nation on the remediation, sharing technical information and working cooperatively in planning the proposed cleanup.

A remedial options analysis report has been completed and discussions with the Toquaht Nation are underway.



MIDWAY

49° 14′ 05″ N, 115° 53′ 29″ W

The former Midway mine was an underground lead-zinc mine that operated intermittently between 1933 and 1962. The mine is located 30 km west of Cranbrook on a steep forested hillside next to Highway 3. South across the highway is a large perennial marsh, which is separated from Moyie River by the CP Railway line. Mining operations left behind three waste rock piles and two adits. Acid rock drainage slowly seeps from both adits and either disappears to ground or to a small ephemeral marsh located at the base of the waste rock piles.

Environmental investigations have been ongoing since 2005 to delineate the source of contamination, and assess the potential for human or ecological health risks. The assessment found risks to aquatic life and wildlife to be acceptably low; however, there is a potential concern for occasional visitors to the waste rock areas of the site. To address these potential risks, a remedial options analysis was completed in 2014, which evaluated several options to mitigate the waste rock exposure to visitors. The recommended remedial option is to recontour the waste rock piles to a geotechnically safe slope and cover with non-acid rock drainage crushed rock. To address surface and groundwater transport of contaminants into the aquatic ecosystem, construction of an engineered storm water detention pond was also recommended.

// REMEDIATION

PACIFIC PLACE

49° 16′ 27″ N, 123° 06′ 36″ W W

Pacific Place lands are located along False Creek at the former Expo 86 site in Vancouver. Under an agreement with Concord Pacific Developments, the Province excavates contaminated soils as each lot is developed, eliminating the need to backfill and re-excavate each lot. A groundwater treatment plant cleans groundwater prior to discharge into False Creek and the groundwater is monitored regularly. The remediation schedule is driven by development. The neighbourhood continues to transform from its former industrial use to parks, community centres and mixed commercial residential use. CCSP will continue to manage the Provincial interests and responsibilities during the ongoing remediation.

REMEDIATION

ATLIN RUFFNER

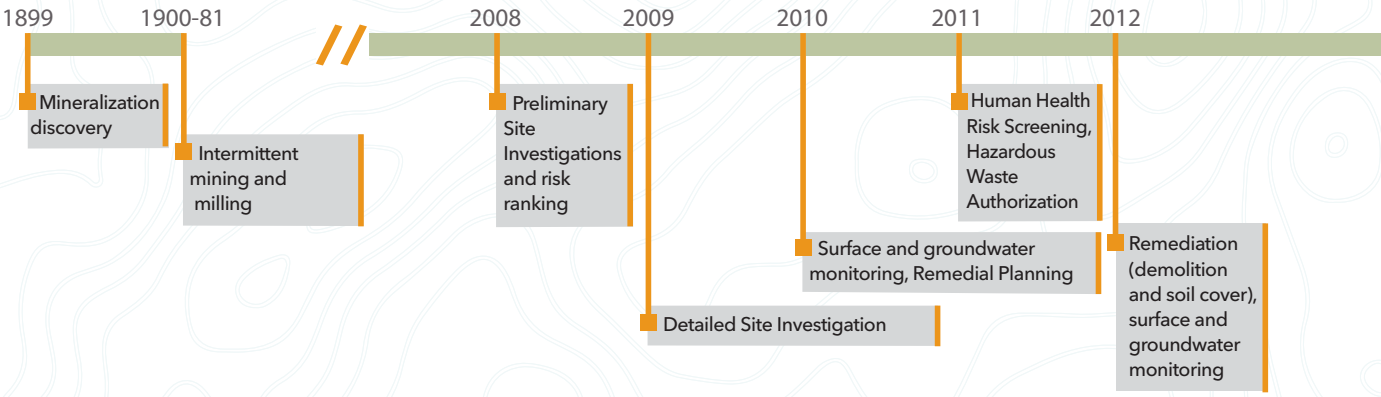
59° 44′ 22″ N, 133° 30′ 50″ W

The Atlin Ruffner mill and tailings site is located approximately 28 km northeast of Atlin. Lead, zinc, silver, copper, cadmium, and gold were mined and milled intermittently from 1900 until 1981. Remediation works were undertaken in August and September of 2012 including building demolition and site capping with one metre of gravel cover over the contaminated areas. The site capping required an approval under the Hazardous Waste Regulation, due to leachable lead concentrations. Groundwater monitoring wells were installed in July 2009.

In 2013, monitoring found drainage from the former tailings area that did not comply with the Hazardous Waste Regulation approval. In 2014, using an adaptive management approach, an action plan to address the non-compliance was developed, primarily focused on water management. Additional studies were done and a water diversion system for the adit drainage, groundwater interceptor above the tailings, and tailings cover was designed in 2016.

A contractor was procured in early 2017 and construction of the water management features began in May once the site was clear of snow. The first step was installing a permanent bridge at the Trident Creek crossing to facilitate ongoing access to the site. The adit drainage was temporarily diverted to allow installation of the adit drainage pipeline. An automatic siphon pump to provide intermittent flushing that prevents ice buildup controls the adit drainage pipeline inflow. Interceptor trenches with perforated pipes were constructed on the base of the slope above the tailings and sedimentation ponds. Both the adit drainage and interceptor pipes prevent shallow groundwater from entering the tailings. They divert the water to a downstream discharge point where the water re-infiltrates into the ground.

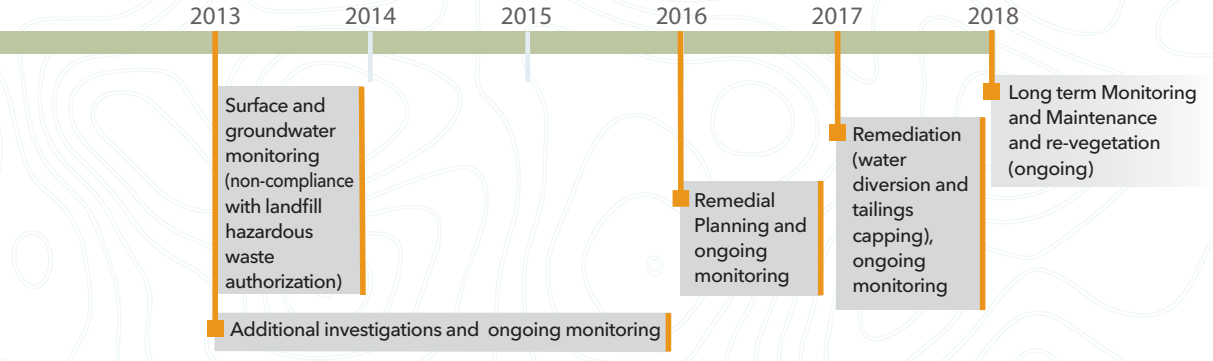
Atlin Ruffner Timeline Highlights



In 2014, using an adaptive management approach, an action plan to address the non-compliance was developed, primarily focused on water management.

In addition to the piping, impermeable liners were installed on top of the tailings and sedimentation ponds and covered with sand and gravel for protection. These measures prevent surface water including snowmelt from infiltrating the tailings. The liners are tied into the infiltration trenches.

Additional repairs to the original sand and gravel cap over the contaminated areas will be completed in 2018; along with ongoing monitoring and seed collection to facilitate future re-vegetation with locally adapted native species. Monitoring and maintenance will be carried out over the long term.



REMEDIATION

BRALORNE-TAKLA

55° 34′ 07″ N, 125° 23′ 26″ W

The Bralorne-Takla site is a former mercury mine that operated for nine months during World War II and is thought to be one of only three mercury mines in Canada. It is located within the Takla Lake First Nation traditional territory, approximately 180 km north of Fort St. James, and approximately 37 km east-northeast of the community of Takla Landing.

Mining was done by underground methods, with mercury ore (cinnabar) crushed and roasted onsite in a wood-fired rotary kiln. The heat vaporized the mercury which was collected and cooled in condensing tubes until it formed liquid elemental mercury. The liquid mercury was collected in steel flasks. The mine wastes, processing equipment, and other material remained on site until the remediation began.

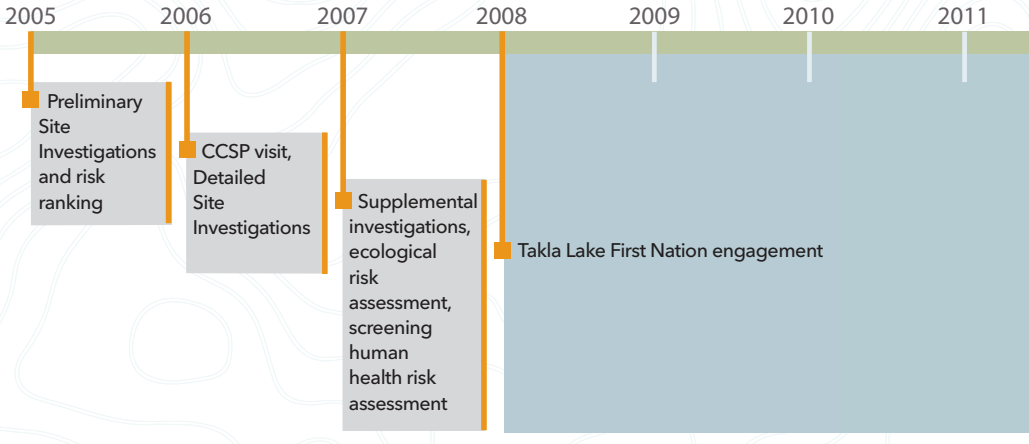
The primary contaminants of concern associated with the mine waste were mercury, antimony, arsenic and cadmium. Additionally, chromium, copper, molybdenum, nickel, selenium and zinc found in mine waste exceeded regulatory standards. Other metals and contaminants of concern identified in soils around the main mine and mill areas include lead, manganese, tin and petroleum hydrocarbons.

Methyl mercury, which is produced from inorganic mercury by bacteria, was detected in groundwater and surface water samples at concentrations approaching or exceeding guidance values for protection of aquatic life. Liquid elemental mercury was found on some of the mill equipment and in soil on-site.

Investigations started in 2005 then halted between 2009 and 2012 as a relationship was built between the CCSP and the Takla Lake First Nation. From 2012 onward, every field visit included at least one Takla Lake First Nation member.

After extensive investigations to characterize the type, location, and extent of contaminated material on site, a joint remedial planning process was undertaken with Takla Lake First Nation. The remedial option was selected jointly by the Province and the Takla Lake First Nation. The selected remedial plan included the removal of all hazardous wastes (liquid mercury,

Bralorne-Takla Timeline Highlights



asbestos, soils with leachable metals), and the construction of two covered landfills for the remaining contaminated material that contains mercury, antimony, arsenic, cadmium and other metals and hydrocarbons. The two mine openings were capped with concrete covers and the site was planted with native species.

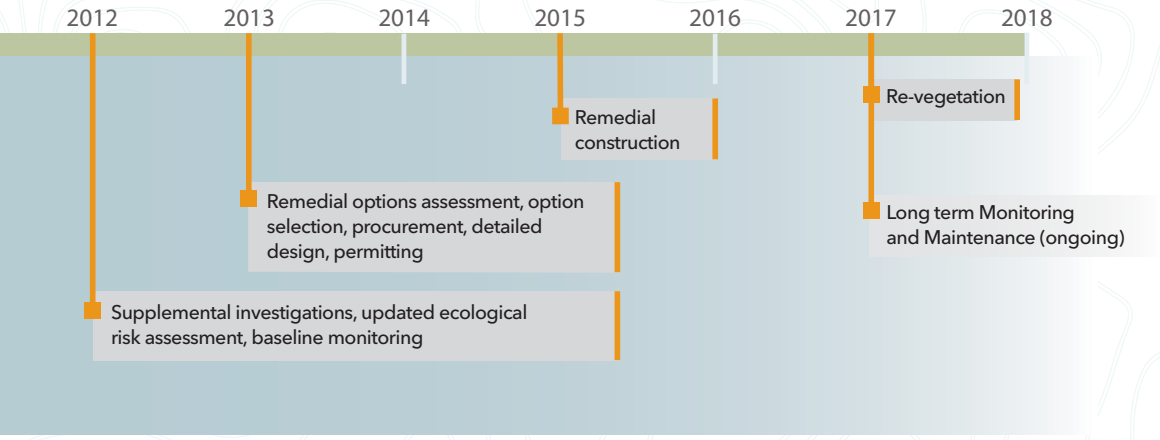
Upon completion of the detailed design for the landfills, construction began in late July 2015. The construction was overseen onsite by professional environmental monitors, including two members of Takla Lake First Nation. In addition, the remediation contractor used labourers and equipment from the Takla Lake First Nation community. Construction was slowed by some unexpected conditions, such as a higher volume of liquid mercury under the equipment, and took two seasons to complete. Revegetation of the site with native species including two native seed mixtures, arctic lupine, black gooseberry, thimbleberry, willow, lodgepole pine, hybrid white spruce, and subalpine fir, was completed in spring 2017.

After extensive investigations to characterize the type, location, and extent of contaminated material on site, a joint remedial planning process was undertaken with the Takla Lake First Nation.

Ongoing monitoring includes regularly scheduled inspections of the cover, monitoring vegetation growth, and sampling surface and groundwater.

Both the contamination of the land and the extraction of materials from their territory in wartime activities impacted the Takla Lake First Nation. In July 2017, they hosted a closure ceremony including on-site speeches, activities and a traditional potlach. The project team had the privilege of attending.

The ceremony was a powerful event and a chance to celebrate with the whole community, especially youth and elders. Guests were seated with the Cariboo clan and invited to dance. The gift giving extended for hours and showed overwhelming generosity. A video, including interviews, tells this story and is available at https://youtu.be/wveuqfL1-c4.



REMEDIATION

BRITANNIA MINE

49° 36′ 40″ N, 123° 08′ 28″ W

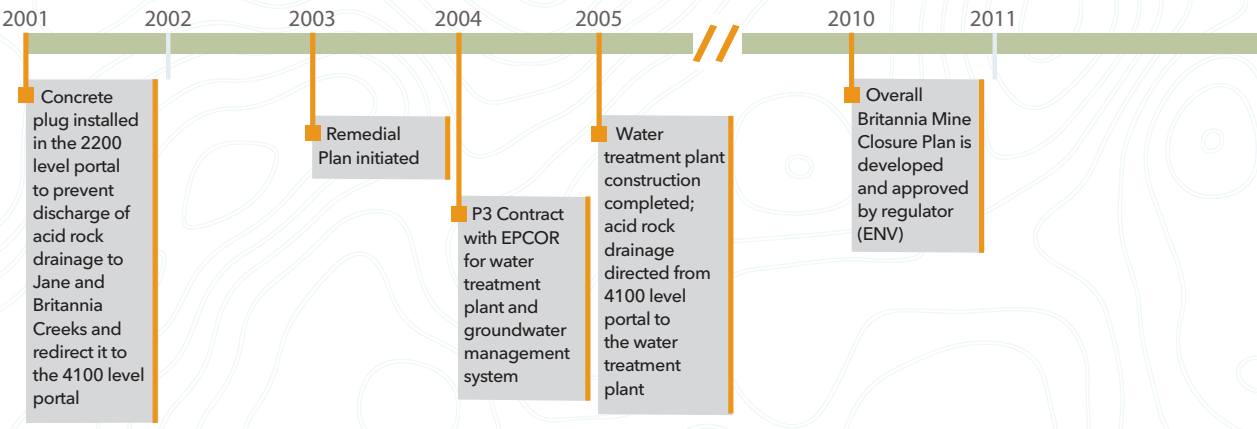
The former Britannia mine site, located 45 km north of Vancouver, next to Howe Sound was considered one of the largest point sources of metal pollution discharging to surface water in North America. Prior to remediation, the majority of the contaminated discharge at Britannia originated when surface water (in the form of precipitation and melting snow), flowed through the mine and reacted with mineralized rock in the mine workings. The reaction between exposed ore, air and water creates acid rock drainage which contains elevated levels of heavy metals including copper, zinc and cadmium and is highly acidic.

Site investigation and remediation work at the site began in 2001. A concrete plug was installed in the upper mine workings to divert acid rock drainage from the 2200 foot level of the mine to the 4100 foot level.

Major technical studies including a water treatment feasibility study were completed. Initial surface water drainage works to divert clean surface water away from the mine workings followed along with remediation of 'hot-spots' of contaminated soils. The Jane Basin open pit complex of the mine was authorized to be used as a disposal site for contaminated soil and waste products from a proposed water treatment plant.

In 2004 a public-private partnership was formed with EPCOR Water Services Ltd. to design, build, finance and operate a water treatment plant. In 2005 construction was completed on the water treatment plant and groundwater management system. Acid rock drainage from the 4100 foot level portal was then directed to the water treatment plant, where metal concentrations and acidity is reduced to approved regulatory levels before being discharged to Howe Sound. The groundwater management system captures contaminated groundwater near the foreshore, which is pumped to the water treatment plant for treatment before discharge.

Britannia Timeline Highlights



A long-term program to monitor environmental conditions in Howe Sound and the Britannia fan area was then implemented to assess the effectiveness of remedial initiatives. Further technical studies to improve surface water drainage and storm water quality began. Numerous site safety improvements were made, including capping and closing several mine shafts, adits and portals.

Between 2010 and 2011 an overall Britannia Mine Closure Plan was developed and surface and groundwater investigations began at Jane Creek and the 2200 level of the mine. An extensive sampling and environmental monitoring program was initiated for the Furry Creek watershed.

The success of the remediation work at Britannia is clearly visible. In recent years, trout have returned to Britannia Creek and nearby Thistle Creek and pink salmon have been observed in the lower reaches of Britannia Creek.

In 2012 iron scaling restricted the groundwater management system's force main pipe and resulted in a comlete shutdown of the system. Acid cleaning was undertaken to remedy the issue. The Beta Portal/Furry Creek remediation project began to address the point source discharge of heavily impacted surface water to Portal Creek and Furry Creek from Beta Portal. The selected remedial option is to re-inject the mine water from Beta Portal back into the mine workings for eventual treatment at the water treatment plant.

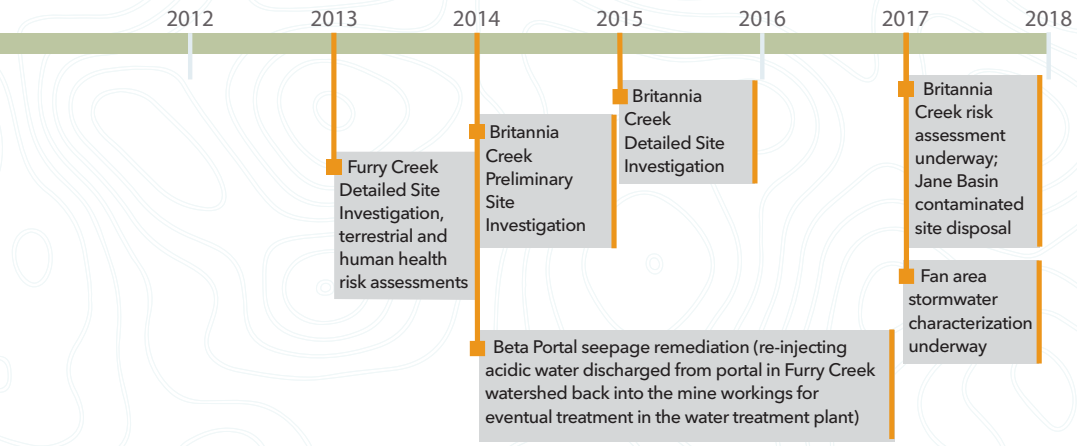
In 2014 and 2015 hydrochloric acid was successfully used to remove the blockage in the groundwater management system's force main. Terrestrial ecological risk assessment work was completed for the Furry Creek area. Exploratory drilling completed at Beta Portal confirmed the optimal location for the re-injection of impacted water.

Preliminary Site Investigation, data gap analysis, habitat survey and conceptual site model for the Britannia Creek watershed was completed in 2014. Britannia Creek Detailed Site Investigation and terrestrial risk assessment work followed and the fan area site investigation work continued.

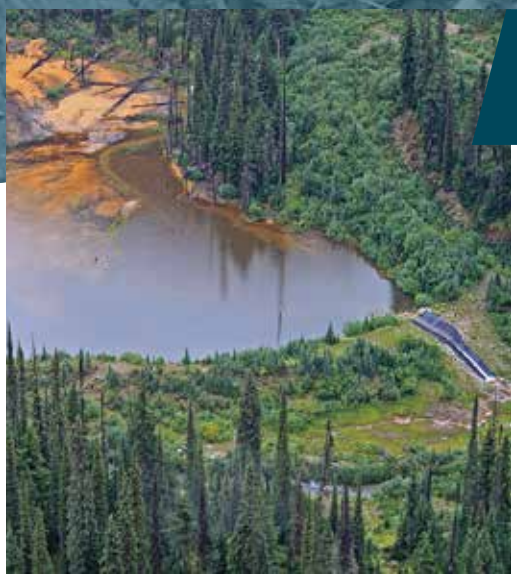
The groundwater management system is now fully operational and a plan is in place to prevent further iron scaling. The final Beta Portal re-injection system design and construction is complete. This essentially eliminates the metal loadings from Portal Creek to Furry Creek. Monitoring is ongoing to ensure the system continues to operate as intended and to assess groundwater and surface water quality after completion of the diversion.

Extensive sampling in support of the Britannia Creek terrestrial and aquatic risk assessments has been completed. Comprehensive fan area storm water flow and chemistry characterization work is now completed.

The CCSP continues to work towards a risk-managed closure of the Britannia mine. The success of the remediation work at Britannia is clearly visible. In recent years, trout have returned to Britannia Creek and nearby Thistle Creek and pink salmon have been observed in the lower reaches of Britannia Creek. The historically impacted ecological communities continue to rebound, as the abundance and diversity of shoreline organisms improves. The Britannia Beach community is also enjoying an economic resurgence from a recent increase in residential and commercial developments.



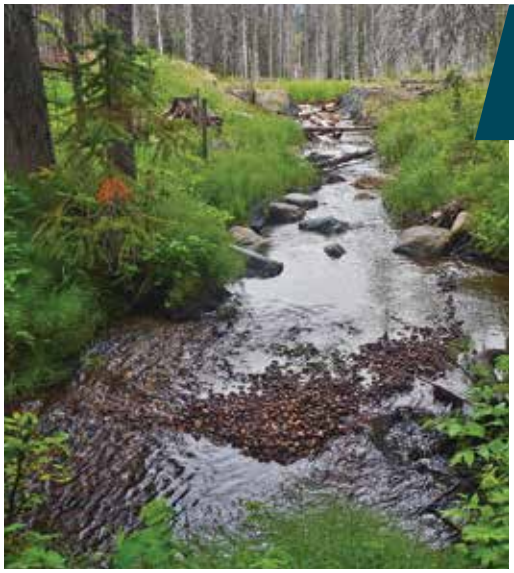
// LONG-TERM MONITORING + MAINTENANCE



MT. COPELAND

49° 36′ 40″ N, 123° 08′ 28″ W

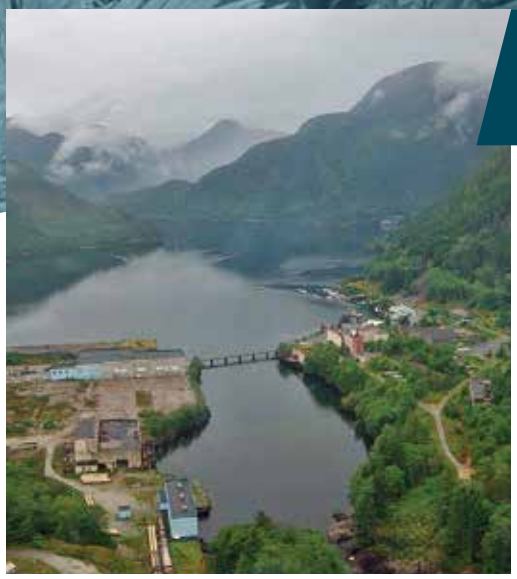
The former Mt. Copeland mine near Revelstoke has not operated since 1974. Inspections have been carried out since 2006 to identify environmental and geotechnical issues at the site. There is a fish-bearing creek below the tailings dam that is vulnerable should the tailings dam fail. Geotechnical upgrades and remedial work to the tailings dam have been conducted since 2008 to reduce the risk of dam failure. Inspections were conducted annually for the 8 years following the 2008 construction activities. Tears in the liner (believed to be from wildlife activity) were repaired in 2013, 2014 and 2015. Erosion next to the spillway was repaired in 2012 and 2014. In 2016, geotechnical drilling and sampling, a survey, and remedial activities (vegetation and tree removal) were conducted. A stability analysis in 2017 found that under the current conditions, the slopes of the Mount Copeland tailings dam are meeting the Canadian Dam Association stability requirements.



EMERALD GLACIER

53° 42′ 46″ N, 127° 14′ 26″ W

The CCSP undertook remediation of the former Emerald Glacier Mill and Tailings site in the summer of 2013. This site is located approximately 80 km southwest of Houston near Sweeney Lake, at an elevation of approximately 975 metres above sea level. Areas with high metal concentrations were covered with a one-metre thick, compacted glacial till cover. A containment berm was integrated into the cover design to isolate the covered tailings from a nearby, unnamed fish-bearing creek. The former mill water supply reservoir was decommissioned, returning the drainage to conditions similar to pre-mining. Since 2013, post-remediation monitoring has been underway to assess the success of the remedial works. The physical condition of all features is inspected and water samples are collected from the creek and groundwater monitoring wells. Based on the inspection results, additional re-vegetation was carried out in 2016. In 2017, ongoing monitoring was reduced from twice a year to once a year.



OCEAN FALLS

52° 21′ 01″ N, 127° 41′ 32″ W

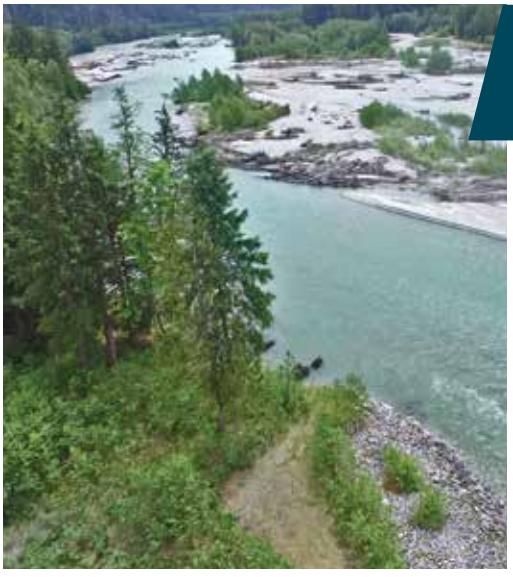
Ocean Falls is approximately 470 km northwest of Vancouver and 64 km west of Bella Coola. The former Ocean Falls pulp and paper mill operated from 1912 to 1980. Asbestos abatement and demolition of the former pulp and paper mill was completed in 2010. The main objective was to reduce the risks to human health and safety associated with the buildings. Two landfills were constructed on site for the disposal of asbestos and general non-hazardous demolition waste. The landfills were closed in 2010.

A site inspection conducted in 2017 found the landfills in good condition, covered by long grasses and alder. Drainage channels are flowing well and landfill profiles and grades appear similar to 2016 photographs.

MOWSON POND

50° 54′ 30″ N, 122° 45′ 04″ W

The former Mowson Pond site, located near Gold Bridge, was a mercury ore processing facility between 1963 and 1966. In 2013, remaining structures were demolished and metal contamination, including mercury, was remediated. Waste rock, calcines, ore and contaminated soil were consolidated and covered. Hazardous waste and scrap metal were removed from the site and properly disposed. During a site inspection in June 2017, there was evidence of vegetation on the engineered cover with no signs of sloughing, cracking or instability. The retaining wall below the landfill did not show signs of cracking or movement.

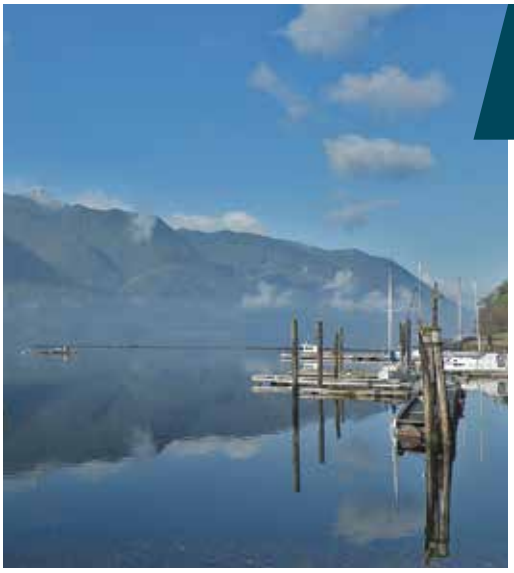


PITT RIVER LANDFILL

49° 37′ 42″ N, 122° 39′ 30″ W

A former logging camp and a municipal landfill from 1978 until 1991, the Pitt River Landfill is located on the east bank of the Upper Pitt River about 10 km upstream from Pitt Lake. Originally the waste fill was set back a significant distance upland of the river but because the river changed course over time, by 2005 it was eroding the edge of the waste fill. In 2005, the waste contents were excavated and removed off-site, and the site backfilled and re-vegetated. A riprap erosion barrier was constructed to protect the land and a nearby salmon hatchery from further erosion.

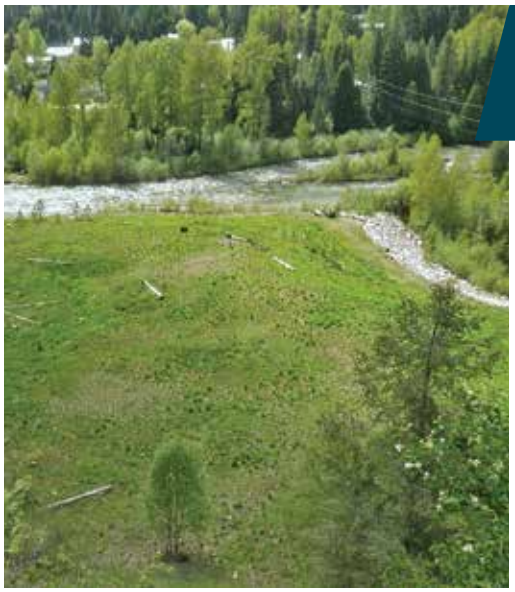
Long-term monitoring and maintenance has indicated that enhancement of the riprap erosion barrier is necessary due to further changes in the course of the river over the last 12 years. Erosion barrier repairs are scheduled to begin in 2018.



PORT ALICE

50° 22′ 57″ N, 127° 26′ 57″ W

CCSP is managing two waste disposal areas: a landfill located at a former Bunker-C spill and a fenced drum disposal area, near Port Alice. The two landfills are next to Victoria Lake Service Road in wooded areas. They are related to historic activities associated with the Neucel Specialty Cellulose Mill. Following remedial activities in 2010, monitoring has been ongoing.

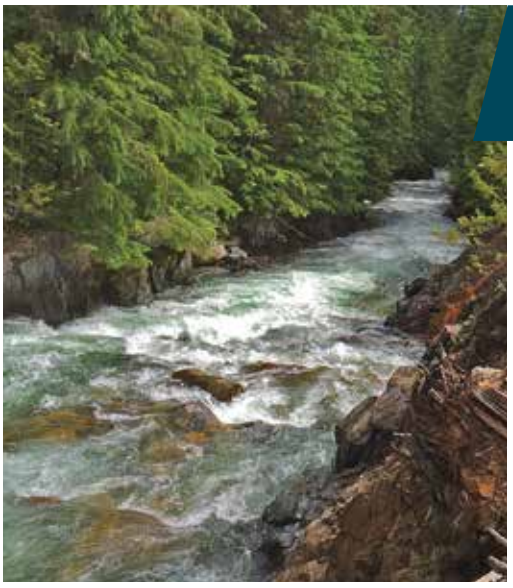


YANKEE GIRL

49° 17′ 31″ N, 117° 11′ 04″ W

The former Yankee Girl mine operated south of Nelson, near the community of Ymir, from the late 1800s until the 1950s. Tailings deposited on the banks of the Salmo River and Ymir Creek contained elevated concentrations of heavy metals including lead, zinc, cadmium, and arsenic. In 2009, the CCSP consolidated the site's large volume of mine tailings into a single area, treated them with lime, and added an impermeable cover. Additionally, it created a flood erosion barrier, an engineered wetland that reduces metal concentrations through natural processes, and site-wide re-vegetation.

Since 2009, long-term monitoring and maintenance indicates that the remedial work continues to provide a safe recreational area for the local community and the environmental improvements from the work have been maintained. In 2017, the erosion barrier was inspected to ensure it continues to function effectively.

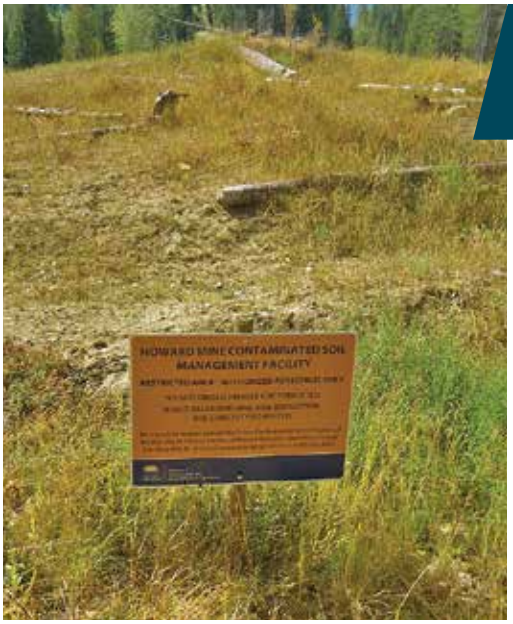


CORK-PROVINCE

49° 54′ 29″ N, 117° 04′ 30″ W

The former Cork-Province mine produced zinc, cadmium, gold, and silver from 1900 to 1966, which left a mass of mine tailings near Keen Creek, a secondary potable water source for the nearby town of Kaslo, north of Nelson. The tailings impoundment was at risk of failing and endangering Keen Creek. In 2008 and 2009, the tailings were moved to a new location upland and away from the creek. The new tailings impoundment was covered with a metre of soil and the entire site was replanted.

Long-term monitoring and maintenance following the work continues to show that the remedial program has removed the risk of tailings release. Monitoring has showed some disturbance of the tailings impoundment by people using the general area (e.g. road work, ATVs). Repairs were made and signage was installed in fall 2017.



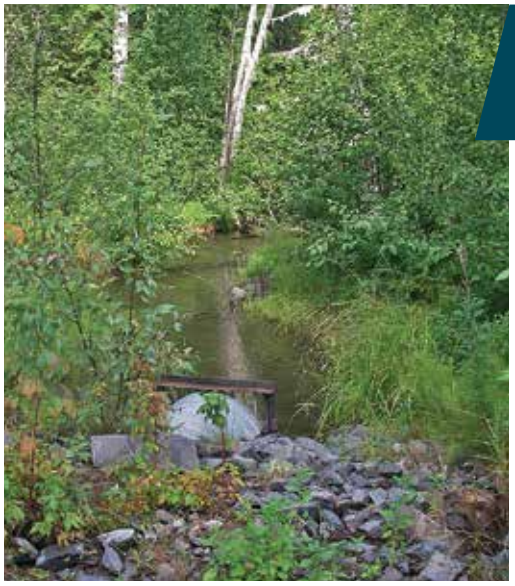
HOWARD

49° 15′ 46″ N, 117° 12′ 32″ W

The former Howard mine was located about 30 km south of Nelson, and operated between 1937 and 1938. Investigations identified a former ore processing mill and acidic mine wastes within and adjacent to the Salmo River. To address the potential human health and environment risks associated with the mine wastes, a remediation plan was developed and executed in 2014.

Remediation work consisted of excavating and consolidating approximately 6,000 m^3 of mine wastes into an upland regulatory-approved landfill within the former footprint of the mine milling operations. The landfill was covered with an engineered liner and one metre of clean soil, shaped to prevent erosion and surface water ponding. The excavated areas were backfilled with clean soil and protected with an engineered erosion barrier, which included fish habitat enhancement features.

A long-term monitoring and maintenance program was initiated in the summer of 2015 and includes a comprehensive water sampling program, vegetation monitoring, and geotechnical and environmental inspections of all engineering features. All of this is to ensure the remedial works continue to operate as originally designed.



TWO MILE CREEK

55° 19′ 06″ N, 127° 35′ 18″ W

The former Two Mile Creek tailings and associated mill site are located along Two Mile Creek, a few kilometres from Hazelton. A preliminary environmental investigation of the Two Mile Creek tailings and associated sediment and surface water, indicated elevated concentrations of several metals and metalloids relative to applicable environmental quality standards in samples collected from the site. During the 2006 program, Two Mile Creek was observed to be flowing over areas of exposed tailings and potentially eroding these contaminated materials into the creek. Downstream of the site, Two Mile Creek is used as a source of drinking water and irrigation water for the Village of Hazelton and Gitanmaax Band communities.

Remediation, completed in 2008, involved removing tailings materials from the Two Mile Creek floodplain and placing it into an adjacent quarry with a geotextile cover.

Following completion of the remedial activities, a post construction monitoring and sampling program was put in place to assess water quality in Two Mile Creek. Monitoring began as monthly, was reduced to annually, and is now ongoing semi-annually.

Program Site Statistics

AS OF MARCH 2018:

High Priority Sites Investigated—87

Lower Priority Sites—48

Sites Remediated—19

High Priority Sites under Investigation/Remediation—15

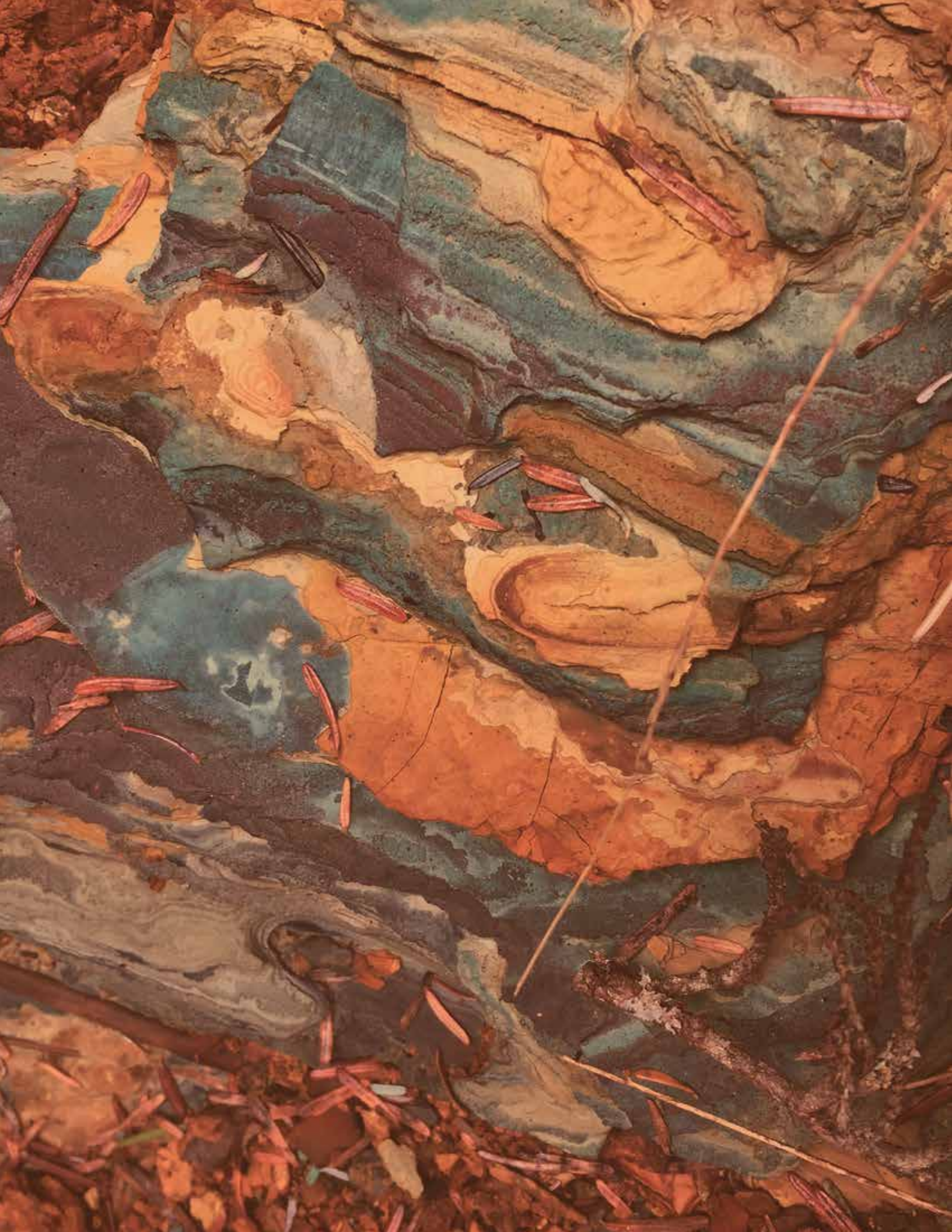
Since the CCSP began in 2003, we have undertaken investigations at 87 Crown contaminated sites. Of these, we have completed remediation on 19 sites. Additional investigation and remediation are ongoing at 15 contaminated sites. Risk ranking has identified 48 sites as Lower Priority Sites where no immediate action is required.

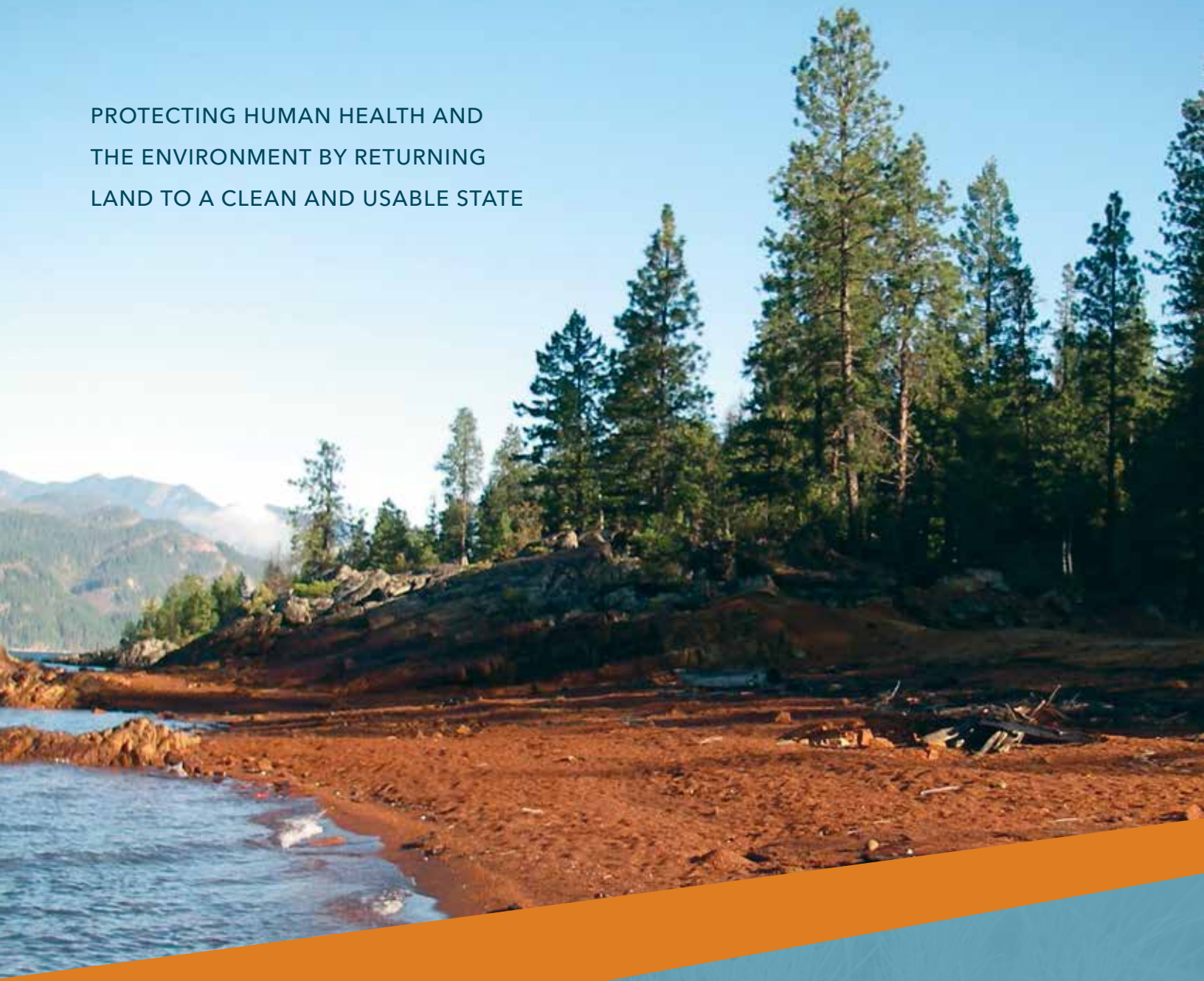
Key activities among the remediated sites include:

- Managing acid mine drainage through water treatment;
- Excavating contaminated industrial sites;
- Moving, encapsulating, and re-vegetating mine tailings piles that have leached metals into surface and groundwater;
- Diverting and rechanneling surface water that has eroded or threatened to undermine contaminated sites;
- Removing contaminated soils and refuse from substandard landfills and placing them in approved disposal facilities.

AT A GLANCE– CCSP HIGHLIGHTS SINCE 2016

The Program has continued to refine leading edge Risk Ranking Methodology. The CCSP started using a drone to assist in contaminated site investigations and remediation. A closing ceremony in July 2017 celebrated completion of the Bralorne-Takla mine remediation and the beginning of site long-term monitoring and maintenance. Remediation of the Atlin Ruffner mill and tailings site will be completed in 2018, leading into long-term monitoring and maintenance of the site. The ongoing investigation and remediation work towards a risk-managed closure of the Britannia mine continues as a CCSP priority.





PROTECTING HUMAN HEALTH AND
THE ENVIRONMENT BY RETURNING
LAND TO A CLEAN AND USABLE STATE

CROWN CONTAMINATED SITES PROGRAM
Crown Land Opportunities and Restoration Branch
Ministry of Forests, Lands, Natural Resource Operations and Rural Development

BRITISH COLUMBIA