Teck

# Our Approach to Water Stewardship


Elk Valley, Canada, 2019.

### Which Teck sites does this document apply to?

This document summarizes our approach to managing water stewardship. This document applies to all Teck-controlled sites and projects, inclusive of contractor activities. This does not include operations in which Teck has/had an ownership interest but is not the principal operator.

**Water stewardship performance information:** See our **Annual Sustainability Report**, available for download on our website.

## Background

Water stewardship is critical in the mining industry because the processing of mined materials is not possible without the use of water. This use can also potentially affect water quality, which in turn can affect other water users in the watershed if not managed appropriately. Mining operations can demonstrate leadership in water stewardship by using water efficiently, by protecting water quality and by working with communities to collaboratively manage a shared water resource.

Teck recognizes that access to water is a human right, and that water is essential to stakeholders in the watersheds where we operate. Communities with whom we share watersheds care about clean water for physical and spiritual health, quality of life, economic well-being and ecosystem health, and we share these values. Responsible water management is fundamental to maintaining trust in the watersheds where we operate.

We work to incorporate water stewardship into our business planning through the implementation of our Water Policy and our Water Governance framework so that we effectively manage the quantities of water we use and the quality of water as it leaves our operations and legacy properties. Effective and efficient water management is a priority to meet regulatory requirements and for our stakeholders.

## Governance and Accountability

### Accountability and Resourcing

The Board of Directors, through its Safety and Sustainability Committee, broadly oversees health, safety, environment and community policies, systems, performance and auditing, including implementation of Teck's sustainability-related standards (Sustainability Standards) and our Water Policy and Water Governance framework.

The following senior leaders at the corporate level are involved in implementing water stewardship:

- The Senior Vice President (SVP), Sustainability and External Affairs reports directly to the President and Chief Executive Officer and is responsible for sustainability, health and safety, environment, communities, and Indigenous relations, including water stewardship
- The Vice President, Environment, reports to the SVP, Sustainability and External Affairs and oversees compliance with environmental standards for projects, operations and our legacy properties, and regularly reviews environmental performance risks and strategic issues, including those related to water

At each of our operations, we have a designated team leading Teck's work in water stewardship. These employees are responsible for monitoring water-related activities and incidents, and for using the results to inform and implement improved water stewardship practices. See Our Approach to Business and Sustainability for more details on our sustainability governance structure.

### Policies and Standards

Our Code of Sustainable Conduct outlines our commitment to sustainable development; efficient and responsible use of energy, water and other resources; waste management; and responsible material use.

Teck's Sustainability Standards outline the framework for the identification and effective management of sustainability risks and opportunities, including those related to water stewardship, and define a process for continual improvement.

We have a Water Policy, approved by Teck's Board of Directors, and a Water Governance framework to ensure we implement consistent and effective water stewardship across Teck. Our Water Policy outlines our commitment to apply consistently strong and transparent water governance, to manage water at operations efficiently and effectively, and to collaborate to achieve responsible and sustainable water use. It defines the company-wide approach we use to manage the risks and realize the opportunities related to water.

Our Water Governance framework includes requirements to ensure:

- Qualified individuals are involved in water activities
- Water risks and opportunities are identified and managed
- Water considerations are integrated into business planning
- Water expertise is developed, and knowledge is shared across the organization
- Mechanisms are in place for evaluating and reporting on water performance
- Water metrics and targets are set appropriately
- Water balance and management plans are maintained
- A cross-functional water team is developed and maintained across our sites
- Industry best practice is established and implemented in operation maintenance and monitoring

### Memberships, Partnerships and External Commitments

We work with various local, national and international organizations and programs to support improvements in water stewardship across the industry:

- International Council on Mining and Metals (ICMM): A global industry association that represents leading international mining and metals companies who are required to implement the ICMM Principles, the Position Statements and the Performance Expectations, which include criteria related to Water Stewardship.
- Mining Association of Canada (MAC)—Towards Sustainable Mining (TSM): A Canadian industry association that promotes the development of the country's mining and mineral processing industry, works with governments on policies applicable to the sector, and promotes the value that mining brings to the economy and daily life of Canadians while operating responsibly using the Towards Sustainable Mining Protocols. The criteria includes the TSM Water Stewardship Protocol.
- The Copper Mark: A multi-metals assurance framework developed by the International Copper Association to promote responsible practices and to demonstrate the contribution of the transition minerals industry to the United Nations Sustainable Development Goals. The Copper Mark criteria includes criteria related to management and conservation of fresh water.
- International Organization for Standardization (ISO) 14001: An international standard that specifies the requirements for an environmental management system that organizations use to manage environmental responsibilities in a systematic way to enhance environmental performance.
- International Network for Acid Prevention (INAP): A network that drives leading practice in acid and metalliferous drainage risk management so that mining companies can operate sustainably in their respective environments across the asset life cycle; this is achieved through industry-led collaboration, knowledge development and sharing
- UN Global Compact Water Action Platform (CEO Water Mandate): A commitment to adopt and implement the mandate's strategic framework and its six core elements for water management

## Approach to Managing Water

We work to be a leader in water stewardship by moving towards collaborative water management practices that focus on sustaining and restoring water resources. Our approach to water management is based on three pillars: protecting water quality, improving water management and use efficiency, and engaging collaboratively within our watersheds.

### Identifying Water Risks and Opportunities

Water risks and opportunities are used to inform decision-making at each of our sites throughout exploration, development, operation and closure, and at the corporate level to inform strategic planning activities. Each operation completes a water risk and opportunity assessment, and priority risks are used by each operation and business function to maintain and biannually update their risk registers in accordance with a standardized risk management system approach to identifying and assessing all risks. We employ a variety of techniques and tools to assess water-related risks, including internal company knowledge and tools, water-risk guidance, and tools such as the World Resources Institute's Aqueduct tool.

At the company level, water is integrated into a comprehensive, company-wide, strategic-level risk assessment process. The Board of Directors' Safety and Sustainability Committee and the Health, Safety, Environment and Community (HSEC) Risk Management Committee include water risks as part of their scope. We also use qualified water professionals and independent third-party review processes to guide and review our decision-making related to water.

## Protecting Water Quality

Teck aims to manage and monitor water quality, including priority substances of concern, at each operation in compliance with applicable standards, regulations and permits. We undertake aquatic life and ecosystem assessments that use scientifically rigorous evaluations and projections for ecosystem health.

Our practices include frequent monitoring of existing and reference conditions, and planning for future conditions, so that we can manage the risks and realize the opportunities related to water. As part of our practices, we report on water quality measurements and trends to relevant authorities, and adaptively manage our activities. We are also implementing a source control program, to assess and advance innovative technologies, and to prevent and minimize our impact on water quality, including ways to either minimize or inhibit altogether metal leaching and acid rock drainage from mined materials.

Each location has specific water considerations that depend on the local context. We monitor and report on our water stewardship activities and performance in our Annual Sustainability Report and on our website. Making this information broadly available helps advance community knowledge and understanding and can accelerate the pace of progress and innovation.

Our monitoring activities include regular water quality sampling of surface water and groundwater, and monitoring of aquatic health. The results are typically reported annually by professional scientists and reviewed by external experts. Teck's water-related impacts are assessed as part of permit applications and environmental impact assessment processes, which are generally publicly available through agency websites.

## Improving Water Management and Use Efficiency

We continuously work on optimizing our water use, thereby minimizing our consumption of fresh water. We focus on reducing our intake of freshwater and on maximizing the reuse of water to increase water availability for others near our operations in water-scarce regions.

We use water primarily for material processing and transport activities, cooling and dust control. A portion of the water we use is consumed through entrainment in our products or tailings, or through evaporative processes. The water we withdraw is obtained primarily from where our operations interface with surface water and groundwater systems; however, we are transitioning to seawater sources in water-scarce regions such as northern Chile.

We discharge a significant proportion of our water withdrawals without use and, where practical, we discharge this water as close as possible to the withdrawal location. The water we discharge is monitored and treated if necessary. We operate in jurisdictions with existing stringent water quality standards and use local standards to determine treatment requirements and to assess compliance. We classify and report on water types in accordance with industry-specific requirements defined by ICMM. Much of our discharge undergoes primary treatment, with a significant portion of water also undergoing tertiary treatment.

Each operation maintains a Water Management Plan (WMP). Annually, we update WMPs in conjunction with the update of each operation's water balance. The plans describe how the operation fits into the local watershed and its associated regulatory context. WMPs also describe how we manage water now and, in the future, to:

- Contribute to meet our water goals
- Provide direction and strategies to address water management risks and opportunities
- Define how water performance will be monitored and reviewed

Site-wide water balances at each operation provide an understanding of water inputs, consumption, and reuse/recycle and discharge volumes at each operation. We use water balances as a decision-making tool to assess water management alternatives, to evaluate an operation's water management performance and to provide water data for our company-wide reporting.

## Groundwater

We monitor and model local groundwater resources to determine rates of drawdown and to ensure long-term protection of these water sources. Forecasts of future availability and use are developed to guide decision-making and to ensure the aquifers are protected for the benefit of local water users in the future.

## Water Stewardship in Water-Stressed Regions

Our Carmen de Andacollo and Quebrada Blanca operations are located in regions where water is scarce. Viable water use and supply options are considered when planning projects and assessing potential expansions or extensions.

A broad range of scenarios is developed and assessed, including, for example, the use of desalinated water at our Quebrada Blanca Operations.

At Carmen de Andacollo Operations, Teck is a member of the Pan de Azúcar Mesa Hídrica, a regional group of stakeholders for the management of common water issues. Teck was also central to the creation of the Culcatán Mesa Hídrica, which are multi-stakeholder forums to manage water in water-stressed areas.

## Acid Rock Drainage

Acid rock drainage (ARD), also known as acid and metalliferous drainage,[1] is the outflow of acidic water containing elevated metal concentrations from exposed rock surfaces. ARD can occur at mining operations in locations where rocks containing certain minerals are exposed to oxygen. It has the potential to occur in waste rock, tailings and exposed surfaces in open pits. At Teck, ARD potential is thoroughly evaluated in the exploration and feasibility design stages, and appropriate plans, controls and water management infrastructure are put in place for construction, operation and closure. We design and operate for closure, and consider the potential for ARD generation and required mitigation measures, at every step of project development. The evaluations completed at the Environmental Assessment (EA) stage are contained in publicly available EA documents submitted to regulatory authorities.

Teck has a source control program in place, with a mandate to ultimately build mine waste facilities that significantly slow down or inhibit ARD (and leaching of metals) so that water treatment is not required. This is done through collating of best practice information, assessing innovative technologies, and providing our practitioners with an evaluation framework and toolkit to prevent and minimize our impact on water quality, including metal leaching and ARD from mined materials. Where prevention is not possible, we collect and treat ARD in a responsible manner that protects human health and the environment.

We follow the Global Acid Rock Drainage (GARD) Guide and embed key learnings and preventive strategies on a site-specific basis. The GARD Guide was developed by INAP; Teck is a founding member of INAP and maintains active leadership on the INAP Board of Directors and Operations Committee.

Our project development process incorporates project charters, which include subject matter experts within Teck, calibrated by consulting specialists, who establish site- and project-specific gating criteria based upon the principles of the GARD Guide, for example, testing frequency, nature of testing, monitoring techniques, and treatment options where source control alone is not sufficient.

Teck continues to be an industry leader in ARD planning, prevention, evaluation and treatment. Starting with the industry's first treatment plant for ARD (Sullivan Mine, now closed), and from our source control work to our innovative water treatment technology development such as saturated rock fills, to our applied research and development efforts, we are taking steps towards a future where there will be no legacy ARD issues. Our leadership role with INAP, the international body seen as the global leader for ARD knowledge and mitigation, has enhanced our peer-to-peer sharing of experience and our ability to do joint projects. Information on recent projects and overall program information are provided on the INAP website.

## Engaging Collaboratively Within Our Watersheds

Access to clean and sufficient water by others in the watersheds where we operate is important to us and to our stakeholders. When implementing our water management practices, we consider and engage with other water users in the watersheds to promote water stewardship.

As part of this process, we are incorporating the approach defined in ICMM's guide to catchment-based water management to identify, evaluate and respond to water-related risks and opportunities in our watersheds.

## Managing Employee and Community Feedback

Teck provides feedback mechanisms at every operation and project and in every exploration region to specifically ensure that those who want to provide feedback on our business practices—whether it's a comment, question, concern, complaint or compliment—can do so easily and, if they wish, anonymously. See Our Approach to Relationships with Communities for more details on how we manage community feedback and grievances.

## Managing Incidents Related to Water

We actively monitor and manage all incidents related to our activities, including those related to health and safety, communities and the environment. Sites are expected to follow up on all incidents identified to understand the impacts and to implement corrective actions wherever possible, with more significant incidents potentially subject to root cause investigation. We report any significant incidents[2] related to water in our Annual Sustainability Report and share learnings from Teck across the mining industry.

## Our Targets and Commitments

Our sustainability strategy outlines our goals in relation to continuously improving water stewardship at our operations.

### Strategic Priorities:

- Transition to seawater or low-quality water sources for all operations in water-scarce regions by 2040
- Implement innovative water management and water treatment solutions to protect water quality downstream of all our operations

[1] The definition of ARD that Teck uses is from the Internal Network for Acid Prevention (INAP) Glossary of Terms used in Metal Leaching and Acid Rock Drainage Work.

[2] Teck uses a risk management consequence matrix to determine incident severity, which includes environmental, safety, community, reputational, legal and financial aspects. "Significant incidents" includes incidents assessed as Level 4 or Level 5 based on our risk matrix and guidance.

**Goals:**

- By 2025, design all development projects in water-scarce regions with a seawater or low-quality water source
- By 2025, implement new source control or mine design strategies and water treatment systems to further advance efforts to manage water quality at our operations

For more information on sustainability strategy goals, see the Sustainability Strategy section of our website.

We report on our performance against these indicators and our progress towards Water Stewardship goals on an annual basis in our Sustainability Report.

## Assurance Related to Water

Teck takes an effective, efficient, risk-focused and integrated approach to assurance activities, which ensures internal controls are appropriately designed and operating effectively. These assurance activities include:

- Risk assessments and control verification at sites and in business units
- Sustainability internal audits and mid-term effectiveness reviews conducted at sites by Teck's Sustainability Assurance team
- Corporate annual internal audits conducted by Teck's Assurance and Advisory team
- External assurance by independent auditors for relevant regulatory and voluntary membership requirements

Following each of these processes, applicable management teams use the results to inform future actions and Teck's five-year planning process.

**Assurance Related to Water**

| Type | Organization | Items Reviewed |
|---|---|---|
| Internal | Teck (risk-based sustainability audits) | • Adherence to regulatory and permit requirements<br>• Effectiveness of controls based on risk profile<br>• Sustainability Standards |
| Internal | ISO 14001 internal audits | • Components of the environmental management system at each certified site |
| Internal | Teck's Corporate Water Group | • Assessment of operational water management activities relative to our Water Governance framework |
| External | International Council on Mining and Metals: Sustainability Report Assurance and Performance Expectations | • All operations—Water withdrawals for use<br>• Principle 6: Pursue continual improvement in environmental performance issues, such as water stewardship, energy use and climate change<br>• Performance Expectation 6.2: Water Stewardship |
| External | Mining Association of Canada: Towards Sustainable Mining assurance | • TSM Water Stewardship Protocol |
| External | The Copper Mark | • Issue area 17—Freshwater Management and Conservation |
| External | ISO 14001 External Audit | • Components of the environmental management system at each site |