



Kennecott Utah Copper

## **Land Management and Biodiversity Information Brief**

**October 2009**

**Being good stewards of our property is an important part of our contribution to sustainable development and our commitment to being good neighbors to our local community.**

### **About us**

At Kennecott, sustainable development is important to our success as a producer of copper, molybdenum, gold, silver, and sulfuric acid, and to the social and financial investment we have made in our stakeholders and surrounding communities. We accept the common definition of sustainable development which is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

While sustainable development cannot be achieved by one organization on its own, we believe that our business can make an important contribution to the ongoing, global transition to sustainable development. The minerals and metals we produce contribute to society's needs, creating wealth to support community infrastructure, healthcare and education programs, and delivering financial dividends for our shareholders. Our activities also provide the means and opportunity to develop new approaches to solving the world's environmental and human development challenges, such as climate change.

### **The importance of land management and biodiversity**

For more than a century, we and our predecessors have been mining and exploring for minerals, which by its very nature disturbs the land. This long history of exploration and mining has left us with some big challenges. Today, we, in conjunction with Kennecott Land, manage about 93,000 acres, of which less than half has been disturbed for mining purposes over time. We consider a number of different impacts when planning for and implementing land management practices, such as the impacts of our operation, wildlife habitat, and future uses of our property. Non-mining lands provide habitat for a variety of wildlife and plant species, as well as aesthetic vistas for the surrounding communities. In some cases, the lands previously used for mining purposes are now serving new beneficial uses, such as the Kennecott Land's mixed-use development called [Daybreak](#).

## **Demonstrating leadership**

We recognize that, if not managed appropriately, some aspects of our activities have the ability to detract from sustainable development, such as options for the future use of water and land; impacts on local communities; and greenhouse gas and other air emissions from our operations and the use of our products. As a result, we aim to balance the complex interaction of environmental, economic and social factors that are fundamental to our business success by implementing processes such as comprehensive land management. With regard to direct impacts on the land, we are committed to minimizing the current and future impacts that our operations have on the environment and returning the land, where possible, back to its natural state.

## **Measuring our performance**

### **Q: What guides Kennecott's land management practices?**

**A:** Our land management practices are governed by Rio Tinto's [Land Use Stewardship Standard](#) (LUSS). Through the implementation of the standard, we develop management plans, programs and procedures to ensure sustainable stewardship of land we own and manage. The LUSS is significant as the standard applies primarily to land that is not used directly for mining, processing or ancillary activities.

### **Q: Does Kennecott have a formal approach to managing its property?**

**A:** Yes. Given our large landholding and long-term development horizon, we have a need to develop a comprehensive plan to manage land use. To address this need, we worked with Kennecott Land to develop a Land Use Management Plan (Plan) that sets the overarching land use goals and objectives (see below.) The Plan was developed with cross functional executive oversight from Kennecott Utah Copper, Kennecott Land, and Rio Tinto, and systems and procedures were developed for each plan objective to ensure consistency.

### **Q: What does the Plan include?**

**A:** Our comprehensive Plan, developed in 2006, includes goals and objectives that align with our sustainable development principles. The Plan establishes a framework for planning, implementation and operations, performance measurements, and audits. To ensure the Plan is successfully implemented, we have a senior management team and steering committee with representation from Kennecott Utah Copper and Kennecott Land to manage the Plan.

The high-level Plan goals include:

- Enhancing value for shareholders while remaining consistent with business goals;
- Optimizing environmentally sustainable populations; and
- Maximizing community value today and for future generations.

**Q: What are some examples of specific land management activities that have been implemented?**

**A:** Many land management activities are being implemented such as reclamation activities, deer and elk management, grazing practices, and vegetation control. Some examples include:

- We are implementing a noxious weed management program in coordination with Salt Lake County and the Bonneville Cooperative Weed Management Areas.
- We are implementing a wildland fire prevention program.
- We continue to work with the Utah Department of Wildlife Resources (UDWR), local universities, NGOs, and other stakeholders to better understand wildlife and their habitat and to identify potential impacts from our activities.

For more information about these and other projects, please see the Continued Improvement section below.

**Reducing our impact**

**Q: How does Kennecott approach land reclamation?**

**A:** Land reclamation means returning land that has been disturbed by mining activities to a meaningful, post-mining land use such as wildlife habitat, residential use, or agricultural use. We believe it is important to reclaim the land that has been disturbed by mining to the extent practicable. For example, between 2000 and 2008, 95% of the 5700-acre south tailings impoundment was reclaimed and currently provides wildlife habitat. Similarly, at Bingham Canyon Mine, approximately 50 acres of recently placed waste rock in lower Bingham Canyon will be reclaimed near the end of 2009.

However, currently, we do not plan to reclaim some areas due to environmental considerations, such as many of the taller waste rock slopes that face the Salt Lake Valley. To regrade these slopes at this time, we would need to push existing waste rock out several hundred feet toward the valley covering not only natural areas which provide wildlife habitat, but also critical water pollution prevention structures at the base of these dumps. Suitable plant growth material is not readily available to cover the regraded slopes so that vegetation could be established. The larger footprint would increase the amount of precipitation that infiltrates the dumps, increasing the amount of acid rock drainage that we need to manage. The aesthetic benefit of regrading the waste rock does not justify the potential detriment to the environment.

**Q: How many acres are disturbed and reclaimed on Kennecott property every year?**

**A:** The amount of land we disturb and reclaim every year fluctuates based on our mining plans. To assure adequate progress of our reclamation efforts, we track total land disturbed and develop reclamation plans that specify when reclamation will occur to maximize the efficacy of our reclamation efforts while taking into account current and future business plans as well as the budget. Our budget for reclamation also fluctuates from year to year based on our reclamation plans.

For example, in 2008, 24 acres were newly disturbed for mining-related purposes while 293 acres were reclaimed. This included land that was reclaimed for final closure and now only requires care and maintenance. Generally, land that is reclaimed for final closure will have received some sort of surface treatment (e.g. stabilized, covered with topsoil and seeded) and may be re-vegetated. We publicly report the amount of land we disturb and reclaim on an annual basis, which can be found in our [annual sustainable development reports](#) (formally known as our Social and Environmental report.)

**Q: How does Kennecott approach land remediation?**

**A:** Land remediation refers to the cleanup of land that has been contaminated or disturbed. Prior to Rio Tinto's purchase of Kennecott in 1989, predecessors mined and smelted in the Oquirrh Mountains leaving behind wastes. Most of these companies that produced the wastes have long been out of business. We now own almost all of the historic mine properties along the Oquirrh Mountain Range where these wastes were deposited.

Consequently, cleanup work has been a constant activity for us since the early 1990s. To date, the company has spent more than \$400 million to clean up historic mining wastes and install pollution source control measures. The cleanup efforts resulted in approximately 26 million tons (16.25 million cubic yards) of mining wastes being isolated, excavated, relocated, disposed of and/or permanently stabilized in place. Approximately 10 million tons (6.25 million cubic yards) of clean materials have been excavated to support the cleanup work. Additionally, more than 3,340 acres of land have been restored, reclaimed or revegetated, including approximately 1,000 acres of new wildlife habitat or open space. More than 120,000 trees, as well as several thousand acres of shrubs, forbs and grasses have been planted.

Notably, our cleanups have met or exceeded regulatory requirements and, we believe, fulfilled community expectations. This work was performed in coordination with the US Environmental Protection Agency (USEPA) and the Utah Department of Environmental Quality (UDEQ), as well as with review by other interested parties. (For more information, please see our 2008 reclamation report).

**Q: What is an example of how Kennecott has converted land previously used for mining to a new beneficial use?**

**A:** The Daybreak development is example of how successful remediation efforts on land previously used for mining purposes can lead to new beneficial uses. The South Jordan Evaporation Ponds (25 ponds covering 530 acres) were historically utilized for mining purposes between 1936 and 1965. Ponds constructed on this site in 1983 and 1984 for flood water management ceased operation in 1986. Excavation of pond material was initiated in the mid-1990s and completed during 2003-2007.

Under the direction and management of Kennecott Land, this innovative environmental remediation effort (where the evaporation ponds once were) has resulted in the successful Daybreak Community, a mixed-use Community ultimately encompassing 4,126 acres with entitlement for 20,000 residential units. Today, the Daybreak Community is living proof of a sound sustainable vision integrated with innovative mine

land remediation. (Click [here](#) for more information about Daybreak and Kennecott Land's vision.)

**Q: What is biodiversity?**

**A:** Biodiversity is a complex term, which means different things to different people. To us, biodiversity refers to the variety of life on earth - the different animals, plants and micro-organisms, their genes and the ecosystems of which they are a part.

**Q: How does Kennecott approach protecting biodiversity?**

**A:** We, like our parent company, are committed to protecting biodiversity. Specifically, we have a goal to have a “Net Positive Impact (NPI)” on biodiversity. In order to achieve NPI, we must understand what biodiversity we have. We are incrementally assessing what habitats are present, what species occupy these habitats, and the optimal conditions in which we can manage them. In accordance with the goals and objectives in the Plan, we will use this information to develop a separate biodiversity action plan in 2010 that will be integrated into the Plan to assess habitat conditions, measure impacts, plan improvements, and manage short- and long-term uses for the land. We are currently working with our parent company and conservation planners to develop and implement this approach.

**Continued improvement**

Moving forward, we are committed to development and application of innovative and responsible approaches to managing our property. Our objective is to manage land with minimum disturbance and to reclaim disturbed land as soon as practicable and to prevent future contamination issues.

In addition, we aim to be a leader in protecting biodiversity. We are taking incremental steps to achieve NPI, and our previous and current projects show our contribution to biodiversity protection. Over time, we have embarked on a number of different projects related to land management and biodiversity. The following are some examples of what we are doing:

Inland Sea Shorebird Reserve (ISSR): We were active in converting acreage once dominated by over-grazed lands, salt evaporation ponds and illegal dumps into a 3,670-acre shorebird and waterfowl reserve along the south shore called the Kennecott Inland Sea Shorebird Reserve (ISSR), which is part of the south shore of Great Salt Lake (GSL). The ISSR was created under a mitigation plan developed in partnership with the U.S. Army Corps of Engineers to offset the loss of 1,000 acres impacted when the company expanded its tailings impoundment in 1996. Bird use has increased from 40 to more than 150 species. An estimated 120,000 shorebirds and waterfowl use the ISSR each year. The ISSR, part of a larger ecological unit Gilbert Bay, was accepted in 2004 as a BirdLife International and National Audubon Important Bird Area. (See <http://www.audubon.org/> for more information.) Gilbert Bay is now as part of a global network of places recognized for their outstanding value to bird conservation. (For more information about the ISSR, click [here](#).)

Birdlife International Partnership: To highlight the importance of birds in our global ecosystem, all Rio Tinto business units participate in a project called “Birds and the Environment” developed between Rio Tinto and BirdLife International. The aim of the project is to encourage interest in watching and monitoring birds by employees and their families at and around Rio Tinto’s sites worldwide. Through this partnership we aim to assess the status of birds and their habitats around the group, and forge long term links with the global BirdLife network. For more information about this global partnership, click [here](#).

Annul Great Salt Lake Bird Festival: We are a charter member of the Bird Festival, which started in 1997. During the Festival, we invite members of the community to visit the ISSR and other parts of Kennecott property to learn about biodiversity and the importance of using birds as biological indicators of the health of ecosystems, such as on GSL.

Mountain lion research in the Oquirrh Mountains: The Utah Division of Wildlife Resources (UDWR) uses the mountain lion population inhabiting the eastside of the Oquirrhs for research purposes. Specifically, the state places radio and global positioning system (GPS) collars on the adult cats on our property. This allows wildlife managers to observe and research mountain lion communities living in the Oquirrhs, and use this population as a baseline to manage and observe changes in other populations around the state. This opportunity has helped us and UDWR better anticipate issues related to interactions between animals and humans as land uses change. It also indirectly helps us understand deer populations and movements.

Ten years of shorebird surveys near Great Salt Lake: We have been working with UDWR for more than ten years to conduct migratory shorebird surveys on GSL adjacent to the ISSR. The research helps contribute to the overall understanding of GSL and the migratory movement of birds, as well as bird-use patterns on GSL and ISSR. These surveys help inform GSL shorebird and water managers. State agency officials as well as trained volunteers participate in the annual surveys. This cooperative activity has helped forge strong relationships between Kennecott, the state, NGOs (such as the local Audubon groups), and the broader community.

Long-term deer and elk habitat observations: Working with UDWR, we help conduct plot surveys to study long term habitat conditions for deer and elk in the Oquirrh Mountains. This is part of UDWR’s statewide range surveys to determine the availability of food for deer and elk. These data provide a better understanding of the health of the range, herd-to-habitat balance, as well as the identification of habitat enhancement opportunities.

Invasive weed control and habitat improvement: Part of our land management goals is to improve habitat on our property by addressing invasive weeds. We have established a comprehensive weed management plan to enhance habitats and to control the spread of noxious weeds affecting our property. Because of the large size of our property, we are focusing on controlling weeds in smaller management areas. We are currently treating weeds at our main operation entrances. We are using “biocontrol” methods (such as

beetles, weevils, and goats that eat the plants) on approximately 12 sites, and use herbicides as well. We work with a variety of community partners, including the Bonneville and South Shore Cooperative Weed Management Areas, to obtain grants to complete work in the broader management area. Another benefit of the partnership is that we are able to share equipment.

We are also active in watershed stabilization. Working with some key community partners in 2009, we planted about 300 willows to stabilize a creek bank, and to provide habitat for nesting and migratory birds as well as to help keep downstream habitat waters clear.