

Lithium Americas' Commitment to Land Reclamation for a Greener Future

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The rapid transition to a green, electric-based energy future is leading to an increasing need for battery materials. Demand for lithium is soaring, mostly driven by the commitment to switch from combustion engines to electric vehicles. According to **Benchmark Minerals**, by 2040, lithium demand will increase 14 times current levels. This market must be fulfilled responsibly to ensure the whole battery lifecycle, from mining to recycling, is improving our environment for future generations.

Lithium Americas is committed to responsible production, including implementing reclamation practices at the earliest economically and technically feasible on areas that are no longer required for operations. For Thacker Pass, we planned for both concurrent and end of life reclamation well before construction commenced.

RESPONSIBLE RECLAMATION

Reclamation is the process of returning land impacted during the mining process back to a pre-mining state.

Reclamation involves working together with regulators, policymakers, surveyors, biologists, wetland specialists, soil scientists, engineers and more, to preserve natural, organic soils and ultimately use that material to replant impacted areas with approved contouring, seeds and vegetation.

The benefits of land reclamation include:

- Natural ecosystems, habitats and biodiversity
- Blending disturbance with the surrounding natural topography to minimize visual impacts
- Protecting water quality by controlling surface runoff and reducing erosion

- Limiting fugitive dust emissions by growing plants on impacted areas, which also helps convert carbon dioxide into oxygen
- Improving soil fertility and productivity

Effective reclamation begins with early planning and preparation, and also requires quality topsoil, which is collected on site and stored whenever new areas are cleared. Valuable topsoil (also known as growth media) is stockpiled for later use. Once an area is ready for reclamation, the area is contoured, or shaped and sloped to blend in with the surrounding landscape. The previously stockpiled growth media is then spread on top. And finally, the area is revegetated by adding an approved seed mix that is hydroseeded into the ground.

Hydroseeding is a common reclamation method for sloped landforms. Hydroseeding consists of mixing seeds with water, mulch to provide insulation, and a tackifier that helps the seed stick to the slope and the mulch. A dye is sometimes used to give a visual indication of areas that have been seeded. Fertilizers may also be added. The seed mixture is then sprayed onto the reclaimed slopes.

CONCURRENT RECLAMATION

Concurrent reclamation is when reclamation occurs in planned sequences throughout the mine's life. The shallow open pit at Thacker Pass (less than 400 feet deep) allows for block mining and concurrent reclamation. Each block will be mined for seven years, and then backfilled as mining progresses to the next block. Thacker Pass broke ground in the spring of 2023 and the growth media from the process plant area has been stripped and stockpiled for future reclamation use. In order to preserve the stockpiles for later use and minimize dust, these areas have been hydroseeded and new plant growth has begun. Also, the newly completed **Quinn pipeline** and highway turnout areas have also been hydroseeded and reclaimed.

ADVANCING SOLUTIONS: GREAT BASIN SAGEBRUSH RESTORATION FUND

In 2017, Lithium Americas and the University of Nevada, Reno (UNR) Foundation established the **Great Basin Sagebrush Restoration Fund** (GBSR Fund).

The purpose of the GBSR Fund is to advance research and development towards improved, cost-effective restoration of degraded sagebrush rangelands. The team assembled by lead researcher Dr. Stringham includes esteemed colleagues from UNR and other institutions with diverse backgrounds in plant community and landscape ecology, bioengineering and wildlife biology. These experts are collaborating to engineer efficient, technology-driven solutions to rangeland rehabilitation. To date, Lithium Americas has contributed over \$250,000 to the GBSR Fund.

Currently, the GBSR Fund is researching and developing coated seed technology for use in mine site reclamation

and rangeland restoration. Brigham Young University and UNR are developing technology that coats individual seeds with a polymer coating, which has been shown to improve seed germination, aid in drought tolerance and increase plant establishment efficacy.

The GBSR Fund intends to share this knowledge through peer-reviewed publications, technical reports, workshops and conferences to provide resource managers, mine and energy operators,

conservationists and ranchers with improved rehabilitation techniques to maximize returns on rehabilitation investments.

SEEDING AS NATURE INTENDED

The seed mix used at Thacker Pass is specifically adapted for the clay soils at site and formulated to enhance the wildlife habitat in the area. The mix is based on known soil and climatic conditions and was selected to establish a plant community that will support post-mining land use. The specific mixture of seed contains appropriate species for the northwestern Nevada environment, species that are proven to be robust for revegetation, as well as native species found in plant communities prior to disturbance.

The Thacker Pass seed mixture includes the following:

- Wyoming Big Sagebrush (species: *Artemisia tridentata* spp. *Wyomingensis*)
- Four-wing Saltbush (species: *Atriplex canescens*)
- Squirreltail (species: *Elymus elymoides*)
- Sandberg's Bluegrass (species: *Poa secunda*)
- Crested Wheatgrass (species: *Agropyron cristatum*)
- Blue Flax (species: *Linum lewisii*)
- Scarlet Globemallow (species: *Sphaeralcea coccinea*)
- Western Yarrow (species: *Achillea millifolium*)

NATURE TESTED, REGULATORY AUTHORITY APPROVED

The seed mix for Thacker Pass has been approved by the Bureau of Land Management (BLM) and Nevada Division of Environmental Protection / Bureau of Mining Regulation and Reclamation (NDEP / BMRR).

To learn more about how to participate and/or contribute to the GBSR Fund, please contact Lithium Americas, at info@lithiumamericas.com.