

Standard Operating Procedures for the Salvage, Transportation, and Care of Cacti and Yucca on BLM Land

Introduction: Salvaging cacti and yucca from projects that will permanently disturb public land is standard policy in the Ely District Office. The following summarizes the necessary procedures for salvaging plants from public lands in the Ely District Office. This document was developed to guide project managers of BLM-authorized actions in the evaluation, removal, transportation, and care of desert plants that are impacted by the project. Types of actions that may require salvage of desert cacti and yucca include, but are not limited to, rights-of-way, recreation and public purpose lands, detention basins, leases, and gravel pits. Because salvaging desert plants is time-consuming and expensive, the following guidelines will be used for determining which plants require salvaging:

- all barrel cactus must be salvaged;
- all cottontop cactus must be salvaged;
- all hedgehog cactus must be salvaged;
- all *Sclerocactus* sp. (pincushion cactus) must be salvaged;
- all yucca between 1 foot and 6 feet, including Joshua trees, Mojave yucca, banana yucca, soaptree yucca must be salvaged;
- Yucca over 6 feet tall do not have to be salvaged (salvage is expensive and they have high mortality);
- all other cacti over 1-foot tall or over 1-foot wide (including prickly pear, pencil cactus, etc.) must be salvaged;
- cacti and yucca less than one-foot tall and cholla cacti over 3 feet tall (staghorn, silver, etc.) do not need to be salvaged. Chollas over 3 feet tall are expensive to salvage and fall apart easily.

The BLM reserves the right to dispose of cacti and yucca within the project area through vegetative sales, negotiated or at auction. The BLM will either dispose of said plants prior to salvage activities or clearly mark which plants will be reserved by the BLM for sale.

Authority: Salvaging desert vegetation in Nevada is regulated by the State of Nevada Division of Forestry (NDF) under the statutes NRS 527.050 - 527.110. The BLM is authorized to salvage vegetation on public lands under 43 CFR 5400 and BLM Manual 5000-1 (10/28/91).

Evaluation: Prior to any disturbance, the project site must be surveyed for yucca and cacti by a qualified biologist paid for by the project proponent. Succulents meeting the above criteria that are healthy enough for transplant will be marked. The surveyor must provide a list of numbers of yucca and cacti by species that will be salvaged. A copy of the evaluation needs to be forwarded to the BLM forestry and wildlife biology staff.

Salvage procedures: Prior to any disturbance, the cacti and yucca which will be impacted will be appropriately salvaged. Succulents not salvaged will be broken up and windrowed as vertical mulch or made available for sale by the BLM. Cooler months are best for salvage, but removal can occur at any time of the year. Yucca and cacti are very shallow-rooted and thus easy to remove. Cacti do not require being planted immediately. One or two week's drying-time will

decrease the chance for root infection, especially if the roots become damaged during digging. Yuccas do require immediate transplanting. In particular, Joshua trees are sensitive to being moved. Barrels and Joshua trees require that the north side of the plant be identified and marked, using flagging or other marking. These two species need to be planted in the same orientation as they were originally growing in order to survive. Orientation is not as important for other succulents. A front-end loader or other heavy equipment is necessary for the larger plants. Clonal (clumped) yucca can be salvaged as separate plants with great success (each has its own root system). **Before transporting the plants, the contractor must get a shipping permit from BLM.**

For Temporary Relocation: In areas of temporary disturbance, salvaged plants will be replanted in temporary plant storage sites. Location of the temporary plant storage sites will be provided by the Construction Contractor on a site-specific basis. These areas shall provide ease of care and maintenance for the plant material as well as provide protection from construction activities until final planting. Plant storage will be near the project site and within the rights-of-way close to watering truck routes, if possible. In these areas salvaged plants will be replanted in vertical trenches that have a depth of 18 inches or greater. Yucca will be planted with 1-foot spacing. All succulents, approved by the BLM or other qualified biologist for salvage, will be dug bare root and replanted. Yucca species will be replanted within 24 hours. All barrel cacti will be planted with the same north orientation as they originally grew. Small cacti will be stockpiled separately from larger plants/clusters and watered thoroughly one time upon being transplanted in a stockpile area. The contractor may determine how to properly care for the plants while they are at the temporary plant storage site, but a survival rate of 60% of all salvaged individuals one year after final replanting is required. Stockpiled plants will be moved back as close to their original location as possible.

For Permanent Relocation: Succulent plants that were removed from temporary use areas are stored during construction and will be replanted in the same general location (as possible) at the proper compass orientation as they were found. Succulent plants removed from permanent use areas will be moved only once and also be located in pre-approved location as close as possible to original conditions and similarly oriented. All salvaged plant material will be replanted in natural patterns. Large yucca will be carefully removed from the ground, taking care to not damage stems, roots or the base of the plant, and will be replanted in groups of three or more for a natural effect. A one year post final planting survival rate of 60% is required. Contractors are left to determine proper planting and watering techniques to ensure a minimum survival rate of 60%. The BLM will provide guidance if requested, but will not be responsible for failure to achieve a 60% survival rate one year post final planting.

Compliance Checks: The BLM will evaluate whether proper salvage has been done for a project and determine the survival rate one year after final planting. Cost recovery charges for lost or destroyed cacti and yucca will be applied at fair market value in addition to charges assessed for mortality rates greater than 40%. In addition, staff time and vehicle costs for non-compliance will be added. Any claims of extraordinary circumstances leading to survival rates less than 60% will be made in writing to the authorized officer. The authorized officer will approve or deny the request and this decision will be final.