

Attachment 2

**Bureau of Land Management New Mexico Farmington Field Office
Detailed Survey Protocols for Special Status Plant Species**

Attachment 2

Bureau of Land Management New Mexico Farmington Field Office Detailed Survey Protocols for Special Status Plant Species

These survey protocols are required to identify Brack's cactus locations associated with proposed projects on public lands managed by the Bureau of Land Management (BLM) Farmington Field Office (FFO), New Mexico.

BLM requires a survey for all proposed surface-disturbing activities within mapped Special Status Plant Species (SSPS) suitable habitat. The FFO biologist with sensitive plant responsibilities, in coordination with the project lead, will determine whether the proposed action will affect suitable habitat for SSPS. The survey protocols are intended to provide the BLM with information to analyze the direct, indirect, and cumulative impacts on SSPS habitat.

PERSONNEL QUALIFICATIONS

Individuals conducting Brack's cactus surveys must have (1) a minimum of one year of experience conducting sensitive plant surveys; (2) demonstrated experience in Brack's cactus identification (eg., prior work history or academic experience); and (3) GPS skills to document survey routes and SSPS plant and habitat locations. The FFO will maintain a list of qualified contractors who meet these requirements.

SURVEY DIRECTION

A. Survey Timing

- a. Proposed projects adjacent to existing Rights of Ways (ROWs) or infrastructure (for example, project has no cross country and minimal habitat disturbance), surveys can occur year-round as long as plants and habitat are visible throughout the Proposed Project Area (PPA) (no snow on ground).
- b. Proposed projects not adjacent to existing ROWs and infrastructure will require surveys from April 15 to September 30.
- c. Within any established HCA, surveys will be conducted during the flowering and fruit season of May 1 – July 30.

B. Survey Buffer

- a. Survey Buffers
 - i. PPA surveys should place more emphasis on habitat rather than individual plants. Surveys will map and describe the habitat throughout the area of disturbance and buffer areas. This description should include: soil type, elevation, aspect, associated vegetation and general characteristic of the area.
 - ii. Surveys will be conducted using approximate 2-3-meter transects (~1 meter each side of transect line). In areas of high crypto-biotic soil or fragile slopes, walk on rills and other areas where trampling would cause the least amount of impact.
 - iii. PPA = A buffer distance of 30 meters from edge of proposed disturbance is part of the potential impact area and needs to be considered in avoidance and minimization (Footprint plus 30m).

- iv. Surveys and reports will be verified by BLM biologist/botanist for quality. This verification may include field checks by FFO biologist to ensure information in biological survey report (BSR) is accurate.

C. Survey Protocol

The objective of the survey is to determine the presence, quality and distribution of SSPS habitat prior to initiating ground-disturbing projects. The surveys should include the proposed action's direct, indirect and cumulative effects on SSPS. Survey results should help modify the proposed project design, NEPA alternatives, and to identify any proposed mitigation actions.

PPA refers to the specific area in which impacts may occur to SSPS suitable habitat in association with a proposed activity. The project area includes the project footprint plus the buffer surrounding the project footprint, described in Section B. The project area may include linear features (e.g., ROWs) and/or polygons (e.g., well pads, facilities).

1. Surveys are conducted by walking transects (as described in B), spaced approximately 2-3 meters apart across the project area (project footprint and buffer) throughout all areas of suitable habitat. Map habitat components all areas within PPA (as described in B (a) (i))
2. If contractor determines surveyed habitat is unsuitable for the target species, provide an explanation for making this determination.
3. Adjust survey timing if adverse weather conditions may prevent surveyors from determining presence or distribution of SSPS.

D. Data on Survey Routes and Brack's Cactus Locations

GPS data is required for all surveys for SSPS according to the instructions that follow.

1. All occurrences of individual SSPS or population cluster of plants, found within the surveyed area must be mapped with a GPS unit. The datum for GPS will be NAD 83, Zone 13, as appropriate. The location, expressed in x (or easting) and y (or northing) coordinates, and additional site/attribute data must be provided in electronic file format.
2. Map habitat throughout project and describe the quality of habitat from to display where the best SSPS suitable habitat is located with the PPA.

GPS data to collect:

3. Individual point locations or polygons for population clusters
4. Polygons to differentiate quality of habitat
5. Survey route - using the tracking option on the GPS
6. Survey boundary polygons

The fields listed below must be included in the GPS data dictionary (NMSO will provide schema for data dictionary). To facilitate incorporation into the field office/NMSO GIS database, use the fields for point and polygon data below with the same formatting and spelling as shown below, until NMSO provides a schema:

1. **Com_Name** (String)- Species common name (i.e., Brack's Cactus)
2. **Sci_Name** (String) - Scientific name, include genus and species (i.e., *Sclerocactus cloverae* ssp. *brackii*)
3. **Quantity** (String) - Include this information if plants are counted (ex. 5)

4. **Site_Notes** (String) - Optional, additional information about the occurrence (ex. ALF03 patch 40 feet x 60 feet; few, scattered SCCL5; SCCLB clump of 3 mature plus 2 seedlings)
5. **Surv_Date** (Date) - Date of data collection (ex. 6/12/2016)
6. **Surv_Name** (String) - Name of individual surveyor(s) (ex. Joe Smith)
7. **GPS_type** (String)- Make and model of GPS unit (ex. Garmin 76CSx, Trimble Juno, Magellan Mobile Mapper)
8. **Proj_Notes** (String) - Shall include project name, proponent, and surveyor or company name (ex. Survey for Well or pipeline name, Lybrook area, Consultant's Company Name)
9. **Photo_ID** (String) - A unique photo identifier (ex. filename of any photo associated with that specific location)

E. Reporting

A survey report must be prepared and submitted electronically to the FFO. The report must contain the following information:

1. Date(s) of the survey.
2. Names of all personnel involved in the survey(s).
3. Descriptions of the (1) general area, including plant communities, topography, soil types, and/or geologic formations; (2) occupied habitat, including the point or polygon identified plus a 10-meter buffer around the point or polygon to determine the acres of occupied habitat.
4. Survey metrics including (1) transect widths that were walked; (2) the size of the project area and buffer width that were surveyed (provide any specific details if deviations from the survey requirements were necessary).
5. GIS Shapefiles: provide a shapefile/map of all areas surveyed including areas where no SSPS were found. This shapefile may be either the 1) survey route or track lines (preferred) or; 2) a polygon around the survey route/tracks lines. The purpose of providing these shapefiles is to document areas surveyed and relative survey intensity, areas with negative surveys, and areas not considered potential habitat, such that they can be stored in a GIS database for future reference.
6. Habitat Impacted: provide the number of acres or suitable habitat (by quality type, if possible) that would be directly or indirectly impacted by the proposed project. The unit of measurement should be clearly specified.
7. Additional Observations: provide a discussion or explanation about any additional observations noted during the survey and a general assessment of plant vigor (e.g., significant noxious weed presence, evidence of grazing impacts to Brack's cactus, evidence of disease or predation (e.g., rabbit herbivory, evidence of impacts from recreational activities, etc.).
8. All the GIS information listed above (including metadata).
9. Document the presence of SSPS with at least one high-quality photograph of the plant/community and one of the occupied habitat. If areas of the project were determined to provide potential habitat, but no cacti were found during the survey, include photographs of these habitats as well.
10. If SSPS are found, complete a Natural Heritage New Mexico "Plant Element Occurrence Field Form" and submit to NHNM, along with shapefiles of the locations. This form is available on the Natural Heritage New Mexico (NHNM) website. A copy of the field form will be included in the report.

G. Glossary

Suitable Habitat: Habitat areas plus buffer that contain individual SSPS (=occupied habitat), as determined by field surveys, and exhibit the specific components or constituents necessary for plant persistence. [Prime suitable habitat for Brack's cacti: yellow/tan hills grassland, open shrubland, and woodlands; valley grassland and open shrubland; dry wash grassland; and mesa top grassland. Moderate suitable habitat for Brack's cacti: mesa top open shrubland and woodlands; gray/white hills woodlands

and open shrubland; red hills woodlands; valley dense shrubland; and dry wash woodlands and open shrublands].

Occupied Habitat: Area within suitable habitat that is physically occupied (currently or within the past 10 years) by the plant, Suitable habitat map is based on habitat that is currently or historically occupied.

Project area (PPA): The specific area in which impacts may occur to SSPS suitable habitat in association with a proposed activity. The project area includes the project footprint plus the 30m buffer surrounding the project footprint, described in section B. The project area may include linear features (e.g., rights-of-way) and/or polygons (e.g., well pads, facilities).

Minimizing Impacts: limit the degree or magnitude of the impacting action and its implementation on SSPH suitable habitat.