

## Appendix E

### Recommended Graham Beardtongue Conservation Measures

These conservation measures are specific to traditional oil and gas energy development. Measures relevant to oil shale and tar sand development will be developed at a later date as definitive biological information concerning *Penstemon grahamii* becomes available and the nature of the impacts of tar sand and oil shale energy developments become better known (USFWS 2007).

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat prior to any ground disturbing activities to determine if suitable Graham beardtongue habitat is present.
2. All surface-disturbing activities having potential direct or indirect impacts on proposed critical habitat are prohibited.
3. Within suitable habitat, site inventories will be conducted to determine occupancy. Inventories:
  - a. Must be conducted by qualified individual(s) and according to BLM and Service accepted survey protocols,
  - b. Will be conducted in suitable and occupied habitat<sup>4</sup> for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15<sup>th</sup> to May 20<sup>th</sup> in the Uinta Basin; however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),
  - c. Will occur within 300' from the centerline of the proposed right-of-way for roads,
  - d. Will include, but not be limited to, plant species lists and habitat characteristics, and
  - e. Will be valid until April 15<sup>th</sup> the following year.
4. Design project infrastructure to minimize impacts within suitable habitat<sup>2</sup>:
  - a. Limit new access routes created by the project,
  - b. Roads and utilities should share common right-of-ways where possible,
  - c. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible,
  - d. Place signing to limit off-road travel in sensitive areas, and
  - e. Stay on designated routes and other cleared/approved areas.
5. Within occupied habitat<sup>4</sup>, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:
  - a. Follow the above (#3) recommendations for project design within suitable habitats, ,
  - b. Construction activities will not occur from April 15<sup>th</sup> through May 30<sup>th</sup> within occupied habitat,
  - c. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,
  - d. Designs will avoid concentrating water flows or sediments into occupied habitat,
  - e. Minimize the disturbed area through interim and final reclamation.

6. Occupied Graham beardtongue habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of well pads shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.
7. Reinitiation of Section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Graham beardtongue is anticipated as a result of project activities.

Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.