APPENDIX A: SPECIES SPECIFIC RECOMMENDATIONS

These reasonable recommendations are derived from the best available science and represent preferred management actions to protect wildlife and wildlife habitats where oil and gas development is occurring.

GREATER PRAIRIE CHICKEN

- Consult with CDOW at the earliest stage of development to review detailed maps of greater prairie chicken seasonal habitats and to help select development sites.
- Conduct comprehensive development planning that provides a clear point of reference in evaluating, avoiding, and mitigating large scale and cumulative impacts.
- No surface occupancy within 0.6 mile of any active or inactive (within past 10 years) greater prairie chicken leks.
- Avoid oil and gas operations within 2.2 miles of active leks and within greater prairie chicken nesting and early brood-rearing habitat outside the 2.2 mile buffer. Select sites for development that will not disturb suitable nest cover or brood-rearing habitats within 2.2 miles of an active lek, or within identified nesting and brood-rearing habitats outside the 2.2 mile perimeter.
- Where oil and gas activities must occur within 2.2 miles of active leks, conduct these activities outside the period between March 1 and June 30.
- Restrict well site visitations to portions of the day between 9:00 a.m. and 4:00 p.m. during the lekking season (March 1 to May 15).
- Establish company guidelines to minimize wildlife mortality from vehicle collisions on roads.
- Avoid surface facility density in excess of 10 well pads per 10-square mile area (one well pad per section) in greater prairie chicken nesting and early brood-rearing habitat (within 2.2 miles of active leks).
- When surface density of oil and gas facilities exceeds 1 well pad/section, initiate a Comprehensive Development Plan (CDP) that includes recommendations for off-site and compensatory mitigation actions.
- Phase and concentrate all development activities, so that large areas of undisturbed habitat for wildlife remain and thorough reclamation occurs immediately after development and before moving to new sites. Development should progress at a pace commensurate with reclamation success.
- Implement the species appropriate Infrastructure Layout and Drilling and Production Operations Wildlife Protection Measures found in Section II B. and Section II D. of this document.
- Locate compressor stations at least 2.2 miles away from greater prairie chicken active and historic (within last 10 years) lek sites. When compressor stations must be sited within 2.2 miles of greater prairie chicken active and historic (within last 10 years) lek sites, locate compressor stations farther than 0.6 mile (3200 feet) from greater prairie chicken lek sites.
- Use topographical features to provide visual concealment of facilities from known lek locations and as a noise suppressant.

- Muffle or otherwise control exhaust noise from pump jacks and compressors so that operational noise will not exceed 49 dB measured at 30 feet from the source.
- Utilize a central generator to feed the entire field via underground electrical lines.
- Design tanks and other facilities with structures such that they do not provide perches or nest substrates for raptors, crows and ravens.
- Install raptor perch deterrents on equipment, fences, cross arms and pole tops in greater prairie-chicken habitat.
- Bury new power lines and retrofit existing power lines by burying them or installing perch guards to prevent their use as raptor perches.
- Design wastewater pits to minimize retention of stagnant surface water.
- Treat waste water pits and any associated pit containing water that provides a medium for breeding mosquitos with Bti (*Bacillus thuringiensis v. israelensis*) or take other effective action to control mosquito larvae that may spread West Nile Virus to wildlife, especially grouse.
- In consultation with CDOW, replace any permanently impacted, disturbed, or altered sand sagebrush habitat within identified nesting and brood rearing range through enhancement of existing or marginal sand sagebrush habitat or reclamation of altered or converted habitat within or immediately adjacent to mapped nesting or brood rearing habitat.
- Implement the species appropriate reclamation guidelines found in Section II G. of this document.
- Use early and effective reclamation techniques, including an aggressive interim reclamation program, to return habitat to use by greater prairie-chicken as quickly as possible.
- Restore greater prairie chicken habitat with native grasses and forbs conducive to optimal greater prairie chicken habitat and other wildlife appropriate to the ecological site.
- Use one of several approved CP-4D (greater prairie chicken) seed mixes, based on soil type, available from Farm Service Agency or Natural Resources Conservation Service, or other seed mixes approved by CDOW.
- Do not plant buffalo grass, blue grama and sideoats grama in greater prairie chicken habitat as they will eventually dominate the resulting stand and will not provide greater prairie chicken habitat.
- Restore appropriate native shrub species to disturbed sites.
- Do not use non-native grasses or shrubs in greater prairie chicken habitat reclamation.
- Reclamation of breeding habitat should include a substantially higher percentage of forbs than other areas.
- Utilize native and select non-native forbs and legumes in seed mixes as they are a vital component of brood-rearing habitat. Dryland adapted varieties of alfalfa and yellow sweet clover should be the primary non-native forbs used.