

CHAPTER 5: MONITORING

Some monitoring is required by the Coconino Forest Land Management Plan (CFLMP), as amended; by requirements established through lawsuits and court orders; and by reasonable and prudent measures required by Biological Opinions of the US Fish and Wildlife Service.

REQUIRED MONITORING

Cultural Resources

Project administrator must ensure that all ground-disturbing activities receive archeological surveys and clearances prior to implementation.

Rangeland Management and Understory Vegetation

- 1) Monitor East Clear Creek, Leonard Canyon, and livestock exclosures for unauthorized use.
- 2) Utilization monitoring (Coconino Forest Land Management Plan, Amendment 11). Conducted with permittee to determine pasture moves during grazing season. Also conducted at the end of the growing season with permittee to determine overall pasture utilization.
- 3) Range Administration. Ongoing throughout the grazing season, and critical when cattle are in sensitive pastures to ensure cattle are not in Leonard Canyon, East Clear Creek, Dines Tank Exclosure, Knolls Pasture, rested pastures, other exclosures, and other sensitive areas when identified by one of the District resource staffs. Ensure required improvements are in place before cattle enter restricted pastures.
- 4) Monitor “key areas” in restricted habitat and meadows in owl habitat and in goshawk PFAs on an annual basis, to ensure that specified utilization standards are followed (CFLMP). Monitor utilization levels in those key areas after livestock leave in the fall. (see wildlife #3).

Wildlife

- 1) Southwestern Willow Flycatcher: Monitor potential habitat to determine if habitat reaches suitability. When suitability is reached, conduct flycatcher surveys to determine occupancy. If flycatchers are found within five miles of the allotment, follow protocols to trap brown-headed cowbirds and exclude grazing within two or five miles as required. This monitoring was required as a “term and condition” of “reasonable and prudent measures” for ongoing grazing of the Buck Springs Allotment (USDI 1999), and will be carried forward as required

- monitoring for the new AMP unless amended by the US Fish and Wildlife Service.
- 2) Bald Eagle: Establish a 300 foot radius around identified bald eagle roosts where mineral and salt supplementation and gathering of livestock will be excluded (CFLMP).
 - 3) Mexican Spotted Owl and Northern Goshawk: Continue to monitor “key areas” in restricted habitat and meadows in owl habitat and in goshawk PFAs to ensure that specified utilization standards are followed (CFLMP). Monitor utilization levels in those key areas after livestock leave in the fall.

Aquatic Resources

- 1) Monitoring of habitat conditions and fish populations will continue through the efforts of Forest Service personnel and the Arizona Game and Fish Department. The monitoring of aquatic insect (macroinvertebrate) abundance and species diversity will also occur on sites selected within the watershed.
- 2) In conformance with Regional Direction (June 2, 1997), inventories of spinedace habitat will continue as a part of the overall management for the species.
- 3) Regional Direction (Regional Forester, June 2, 1997) also specifies the establishment of permanent monitoring sites for the collection of long-term datasets. These datasets will provide trend information on fish population and community structure viability and habitat parameters for the spinedace and other native fish. This measure has been a “term and condition” for the implementation of a “reasonable and prudent measure” for ongoing grazing of the Buck Springs Allotment (USDI 1999, p.72).
- 4) The Forest Service shall monitor livestock when they occupy the North Pasture to ensure that cattle are not entering habitat occupied by Little Colorado spinedace in Yeager Canyon; the North McClintock pasture to ensure that cattle are not entering Dane Canyon; and any other pasture that may be found to contain occupied habitat.

Soil and Water

- 1) Implementation of the Best Management Practices will be accomplished through construction activities completed by the permittee and the Forest Service.
- 2) Monitoring of the soil and water BMP’s will be done through contract administration and the AOI (the AOI will specify what pastures can be used based on the structures completed within the pastures).

Additional required monitoring of riparian areas will be accomplished by utilization measurements within riparian area key areas as designated in MSO monitoring.