

# Horseshoe-Copper Creek

## Coordinated Resource Management Plan

### *Draft Goals and Objectives*

### Riparian and Aquatic

***Riparian Goal #1: Protect, restore and enhance native riparian habitats towards their natural potential***

- a. High species diversity and native plant composition***
- b. Diverse structural composition that enhances stream channel resiliency to disturbance and climate change***
- c. Increased connectivity between habitat patches***

Objective 1: Maintain or improve the vegetative community structure and function.

Objective 2: BLM - Maintain or improve Agua Fria River PFC rating from Functional at Risk ratings to FAR with upward trend or PFC.

Objective 3: BLM - Maintain Proper Functioning Condition (PFC) condition of Bishop Creek. FS - Maintain or improve riparian conditions in Bishop Creek.

Objective 4: BLM - Improve PFC in Indian Creek from Functional At Risk (FAR) to FAR upward trend.

Objective 5: BLM - Improve PFC in Silver Creek from Functional at Risk downward trend to upward trend. FS- Maintain or improve riparian conditions in Silver Creek.

Objective 6: Maintain or increase stream bank cover at 50% in the *Agua Fria River* by 2025.

Objective 7: BLM- Maintain or increase stream bank cover (both woody and herbaceous cover) above 80% in *Silver Creek* by 2025. FS-Achieve 80% canopy in riparian systems where there is potential in Silver Creek.

Objective 8: BLM-Maintain stream bank cover above (both woody and herbaceous cover) 20% in Indian Creek by 2025.

Objective 9: Maintain green line composition in the Agua Fria River with a native perennial herbaceous cover of >20%.

Objective 10: BLM-Maintain green line composition in *Silver Creek* with a native perennial herbaceous cover of >70%. FS –Maintain or improve green line composition where potential exists in Silver Creek.

Objective 11: BLM and FS-Reduce or eliminate the distribution and abundance of invasive plant and animal species and reduce their impact on native riparian ecosystems.

Objective 12: BLM-Maintain a diverse array of age classes (15:15:15 Seedling, mid-size, and large size).

***Riparian Goal #2: Protect and improve water quality and quantity***

Objective 1: Manage soil and plant conditions to support infiltration, storage, and release of water that are in balance with climate and landform.

Objective 2: Protect and enhance stream and spring base flows, where feasible to support native fish, wildlife, invertebrates and riparian plant communities.

Objective 3: Strive to meet or maintain water quality standards (ADEQ).

Objective 4: Maintain in-stream flows as quantified by median monthly flow.

Objective 5: Maintain vegetative cover to slow runoff, increase infiltration, and decrease soil erosion.

## Uplands

***Uplands Goal #1: Restore and maintain native plant communities and vegetation types (semi-desert grassland, chaparral, Sonoran desert scrub and juniper woodland)***

- a. Maintain each vegetation community towards its ecological site potential for ground cover, plant composition, diversity, structure and function influenced by natural and prescribed disturbance regimes.***
- b. Maintain ecological processes to support healthy biotic populations and communities.***

Objective 1: Maintain desirable upland plant communities and wildlife forage and hiding cover.

Objective 2: BLM - Each vegetation community is maintained within its natural range of variation and plant composition/structure/function. FS - maintain or improve the diversity of key upland plant species.

Objective 3: BLM-Manage wildland (natural and prescribed) fire to meet desired plant communities in the watershed consistent with Upland plant community objectives.

Objective 4: BLM-Manage for heterogeneous landscape in the watershed with mixed fire regime classes and seral states.

Objective 5: BLM-Reduce accelerated runoff, erosion, and sedimentation within the watershed to minimize impacts to aquatic habitats.

Objective 6: Develop habitat management objectives for grassland bird species.

Objective 7: Following major disturbance (e.g. fire, drought), live vegetation cover will be increased to within 50% of desired plant community and/or fire recovery goals (plants per M<sup>2</sup>) are met.

Objective 8: Following major disturbance (e.g. fire, drought), basal cover will be maintained or improved for ecological recovery over a long term time frame (5-10 years).

Objective 9: Fuel loads are maintained below levels that are considered hazardous

Objective 10: BLM Clayey Upland study sites:

- a. Maintain foliar cover of tobosa between 15-45% OR increase foliar cover of tobosa by 5% of LHE conditions within 3 years re-look at data and consider basal cover objective
- b. Maintain bare ground between 15-30%
- c. Maintain basal cover of perennial plants between 4-10%
- d. Maintain litter between 25-45%

Objective 10: BLM Volcanic Uplands study sites:

- a. Maintain foliar cover of perennial grasses and subshrubs between 15-30% OR improve foliar cover by 5% of LHE conditions within 3 years
- b. Maintain bare ground between 5-55%
- c. Maintain basal cover of perennial vegetation between 2-5%
- d. Maintain litter between 10-40%
- e. Decrease mean foliar cover of non-native invasive species

Objective 11: BLM Volcanic Hills, Clayey:

- a. Maintain foliar cover of perennial grasses and subshrubs between 20-30%
- b. Maintain bare ground between 5-20%
- c. Maintain basal cover of perennial vegetation between 2-5%
- d. Maintain litter between 10-45%
- e. Reduce Snakeweed by 5-10%
- f. Decrease mean foliar cover of non-native invasive species

Objective 12: BLM Granitic Hills:

- a. Maintain foliar cover of perennial grasses and sub-shrubs between 10-30%
- b. Maintain bare ground between 10-50%
- c. Maintain basal cover of perennial species between 1-5% OR Increase basal cover of perennial species by 1% within 3 years
- d. Maintain litter between 20-50%

Objective 13: BLM Clayey slopes:

- a. Maintain foliar cover of perennial grasses and sub-shrubs between 15-30%
- b. Maintain bare ground between 3-35%
- c. Maintain basal cover of perennial species between 3-8%
- d. Maintain litter between 15-65%
- e. Reduce large shrub component of plant community by 5%

Objective 14: Pronghorn neonate fawn hiding cover: Maintain vegetation cover 8-18 inches high during the fawning season from the late March through June each year in key

fawning areas to minimize predation loss; and commensurate with ecological site potential

***Uplands Goal #2: Maintain and improve ground cover and soil conditions within the natural range of variability.***

- a. Efficiently retain water where appropriate***
- b. Reduce erosion, runoff rates and sediment loading, and increase soil/ground and vegetative cover***

Objective 1: See upland goal 1, all objectives for addressing Uplands goal 2.

Objective 2: Maintain ground cover in the form of plants, litter, or rock presence in pattern, kind and amount sufficient to prevent accelerated erosion for the ecological site; or ground cover is increasing as determined by monitoring over an established period of time

Objective 2: Ground cover and erosion rates are appropriate to soil type, climate, landform and ecological site and TEUI.

***Uplands Goal #3: Manage the aquifer and associated watershed to increase aquifer volume, in stream flow, and recharge rates***

Objective 1: See Upland Goal 1 all objectives and Riparian Goal 2.

## **Invasive and Non-native Flora and Fauna**

***Invasive and Non-native Goal #1: Restrict, reduce or eradicate non-native and/or invasive flora and fauna***

Objective 1: Native woody/invasive species cover and composition is consistent with the ecological site potential.

Objective 2: Native flora and fauna species remain dominant over non-native species in most areas.

## **Wildlife**

***Wildlife Goal #1: Manage for habitat conditions that sustain viable populations of native wildlife species***

- a. Protect, restore and enhance native wildlife habitats and connectivity***
- b. Ensure that sufficient food, water, cover and space are available***

Objective 1: Distribution and cover of woody species meet the habitat requirements of key wildlife species (e.g., mule deer, white-tailed deer, grassland birds, and pronghorn) considering site potential. Strive for a mix of successional stages/mosaic.

Objective 2: Reduce pronghorn population fragmentation as a result of tree and shrub encroachment and other habitat modifications.

Objective 3: Maintain or improve water use, distribution and availability for wildlife and livestock.

Objective 4: Ensure available water within 1 mile of key antelope fawning areas.

***Wildlife Goal #2: Conserve and restore historic and extant native wildlife populations including the conservation of sensitive, T&E species, species of greatest conservation need, and the ecosystems upon which they depend.***

Objective 1: Increase endangered species population levels to support species recovery plans towards delisting.

Objective 2: Increase special status species population levels to prevent listing

Objective 3: Attain the vegetation structure, plant species diversity, density, and canopy cover to constitute suitable habitat where appropriate for yellow-billed cuckoos through active and passive management (See riparian goals and objectives).

Objective 4: Conserve and restore native fish populations and habitats, including designated critical habitat for T&E species (see riparian and upland objectives).

***Wildlife Goal #3: Identify and reduce direct and indirect stressors on wildlife and their habitats where desirable and reasonable.***

Objective 1: Maintain wildlife population dynamics as directed by AGFD wildlife strategic action plans

Objective 2: Reduce recreation impacts to pronghorn fawning activities.

## **Cultural**

***Cultural Goal #1: Manage heritage resources of Perry Mesa as a prehistoric cultural landscape to avoid damage or alteration of sites and their relational and environmental context.***

Objective 1: Apply protective measures whenever potential or existing impacts to cultural resources are discovered.

Objective 2: Obtain 100% inventory of cultural resources survey for Perry Mesa Historical District.

Objective 3: Volunteers and partners, including citizen scientists and youth, have clear opportunities to contribute to progress implementing on-the-ground projects.

***Cultural Goal #2: Use cultural history of land use practices to inform current land use practices.***

Objective 1: Archaeological research results are used in stakeholder and manager efforts to interpret current and achieve desired ecological conditions.

***Cultural Goal #3: Improve the understanding of prehistoric and early historic human use of Perry Mesa.***

Objective 1: Develop and implement an integrated and applied archaeological and ecological research program to study extensive agricultural systems and their relationship to current and desired ecological conditions.

***Cultural Goal #4: Reduce vandalism including looting.***

## **Livestock Grazing**

***Livestock Grazing Goal #1: Maintain or improve an ecologically and economically sustainable ranching operation***

Objective 1: Manage allotments and facilities for the mutual benefit of both wildlife and livestock.

Objective 2: Implement grazing system which provides rest periods in each pasture that will allow plants to regrow, regain vigor, produce seed and establish new plants when climatic conditions are favorable

Objective 3: Provide better distributed, permanent, reliable and wildlife-friendly water so that the ability to move cattle in response to ecological conditions) is not limited by availability of water.

Objective 4: Reduce time spent chasing stray cattle (due to infrastructure failure).

Objective 5: Strive for a 90% survival rate of calves

Objective 6: Strive for calving in the months of Feb, March, and April.

Objective 7: Grazing Management Plan that permits for appropriate rest/rotation and flexibility-need more work on this one for the group to understand.

Objective 8: Humanely manage livestock using low stress handling techniques.

## **Collaborative Adaptive Management**

***Collaboration Goal #1: Provide opportunities and build capacity for collaborative, adaptive management to develop and implement management decisions.***

Objective 1: Gain better understanding of trends and potential future impact from urbanization, habitat fragmentation, increased recreation, groundwater depletion, climate change, etc.

Objective 2: Key actions are implemented with a design that promotes learning (eg, prescribed fire with paired plots)

Objective 3: Develop and foster partnerships- within each of the key resource areas for the purposes of addressing the CRMP goals and objectives.

## Recreation and Education

***Recreation and Education Goal #1: Promote sustainable wildlife and outdoor-related recreation, education, and outreach.***

Objective 1: Motorized uses comply with existing laws and regulations

Objective 2: Increase educational programming associated with Watchable Wildlife and responsible recreational use.

Objective 3: Provide for sustainable consumptive use of wildlife by people (hunting) and non-consumptive (observing wildlife).

Objective 4: Provide an undeveloped, primitive, self-directed visitor experience and a landscape setting including areas w/o provisions for motorized and mechanical access.

***Recreation and Education Goal #2: Provide multi-level visitor experience of heritage resources while maintaining semi primitive recreation throughout most of the planning area, and respecting American Indian traditional and contemporary uses***

Objective 1: Provide opportunities for visitors to experience archeological sites through a variety of sustainable and responsible activities while maintaining the integrity of the sites

Objective 2: Providing access to sites at levels not to degrade intrinsic value.