ARIZONA'S CONSERVATION DISTRICTS

District Conservation Action Plans

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Part 3

CHAPTER 3
DESIRED CONDITIONS AND NEEDED PRACTICES

General Statement of Desired Future Conditions for District Lands and Resources, and Description of Practices to Achieve Those Conditions

DESIRED FUTURE CONDITIONS

This chapter should include a description of the generally desired conditions for different situations.

- On rangelands, this will involve describing the general species and/or life form composition for different vegetation types and the acceptable levels of soil protection that will ensure sustainable production of resource benefits

- On farmlands, this may involve describing the conditions necessary to improve or maintain soil health to maximize crop production in a sustainable system.

Desired conditions at this level of planning are broad statements oriented to ecosystem processes, not specific objectives for a specific farm, ranch, or other management unit.

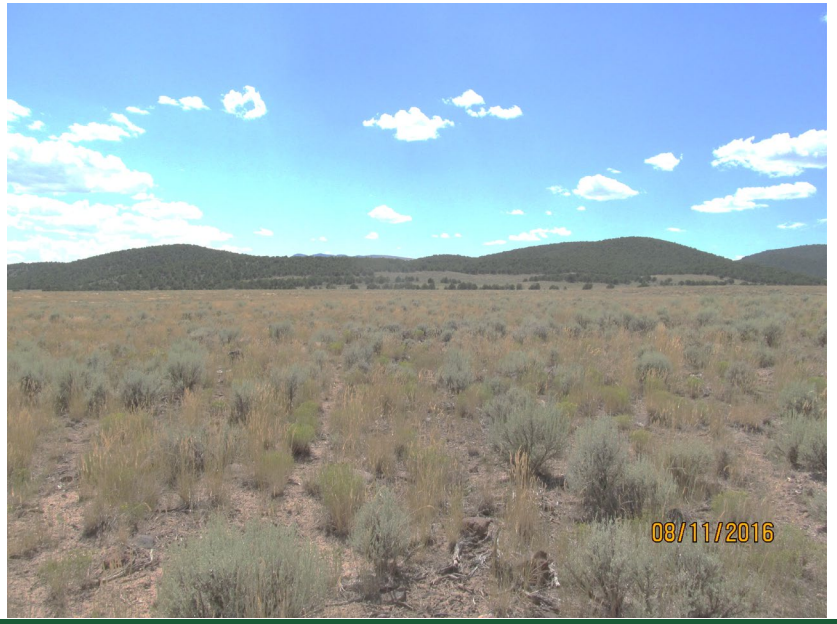
EXAMPLE OF A DESIRED FUTURE CONDITION DESCRIPTION FOR SEMI-DESERT GRASSLANDS

The vegetation of the semi-desert grasslands was historically dominated by mainly warm season perennial grasses and forbs with shrub cover ranging from 0-30% depending on site characteristics. Reduced perennial grass cover, increased abundance of annual plants, and shrub invasions or increases have led to reduced soil protection, increased runoff and soil erosion, and reduced value for livestock forage and habitat for some wildlife species. These changes have occurred as a result of unmanaged grazing, lack of fire and other causes. The type has also been widely invaded by introduced grasses (Lehmann lovegrass). (See Chapter 2 for more detailed description.)

The desired condition for these grasslands may vary depending on ecological sites but would generally be to maintain a grassland or grass – steppe aspect where the dominant vegetation is composed of perennial grasses and forbs with shrubs either lacking or making up a small percentage of the vegetation. Plant cover and litter should be adequate to prevent accelerated soil erosion. Annuals, both native and introduced, would be of minor importance except in exceptionally wet seasons. Where Lehmann lovegrass or other introduced perennial grasses are well established, they would meet the requirements for desired conditions. The desired mix of grasses, forbs, and shrubs would vary somewhat depending on management objectives, i.e., forage for livestock or habitat for specific species of wildlife.

Semi-desert grassland approaches desired condition after brush management

Sagebrush grassland in desired condition after brush management and seeding native grasses



PRACTICES NEEDED

For each vegetation type, include a description of the type of practices needed to produce or maintain the desired condition.

This portion should be tied back to the resource concerns identified in Chapter 2. The practices needed may be fairly specific if the resource concerns analysis contains enough detail to support that. For example, if Chapter 2 describes mesquite invasion on loamy upland and clay loam upland ecological sites, then the practices to control mesquite can be fairly specific. On the other hand, if Chapter 2 only says that there has been conversion of grassland to woodland (pinyon-juniper) on several thousand acres, then the needed practices cannot be specifically identified because they may vary depending on slope, soil depth, species of juniper, etc. In this case, only a general statement about needed practices can be made here.

DESCRIBE THE PRACTICES AND GUIDELINES FOR THEIR USE

This portion could be included in the description of desired conditions of each vegetation type and the resource concerns identified there, but it might better be a separate section to avoid too much repetition, since some of the same practices will be applied in different vegetation types.

This description should be kept brief. The practices can be more fully described in an appendix. These descriptions should include guidelines on constraints and precautions in the implementation of the practices, e.g., due to slope, weather conditions, soil depth or rock content, etc.

The AACD website will have official NRCS descriptions of many of the common practices that can be downloaded and also some general guidelines for their use.

NRCS Resource Concerns vs Practices	Practice Code	Sheet & Rill Erosion	Wind Erosion	Classic Gully Erosion	Concentration of Salts or Other Chemicals	Ground-water Depletion	Naturally Available Moisture Use	Inefficient Irrigation Water Use	Sediment Transported to Surface Water	Elevated Water Temp	Emissions of Particulate Matter (PM) and PM Precursors	Plant Productivity and Health	Plant Structure and Composition	Plant Pest Pressure	Wildfire Hazard From Biomass Accumulation	Terrestrial Habitat for Wildlife & Invertebrates	Inadequate livestock water quantity, quality & distribution
Brush Management (ac)	314	X				X	X		X			X	X	X	X	X	
Channel Bed Stabilization (ft)	584			X					X	X	X		X	X			
Conservation Crop Rotation (ac)	328	X	X				X	X	X		X	X		X			
Cover Crop (ac)	340	X	X				X	X	X		X	X	X	X			
Critical Area Planting (ac)	342	X	X	X					X			X	X	X		2	
Dam (no)	402			X		X			X								X
Dust Control on Unpaved Roads and Surfaces (sf)	373		X						X		4						
Early Successional Habitat Development -Mgt (ac)	647											X	X	X		X	
Fence (ft)	382	X										X	X			X	
Firebreak (ft)	394														X		

DESCRIBING DESIRED FUTURE CONDITIONS FOR FARMLANDS

Desired future conditions on farmland is somewhat different than for rangelands because we are not dealing with native vegetation, or at least not that which grows naturally as on rangelands. The farmer has almost complete control over what kinds of vegetation are grown on cultivated land.

Desired future condition descriptions for farmland should be based on descriptions of types of crops and crop rotations and types of management (soil preparation, pest control, etc.) that should be used to improve or maintain the long-term sustainability of crop production on the land.

As a general statement in the Conservation Action Plan this may be a description of the principles of management for soil health (which are on the AACD website). More specific plans for individual farms would take into consideration specific crops or management practices that are adapted to the soil and climate for that farm.

PRINCIPLES OF MANAGING FOR SOIL HEALTH

- Keeping soil covered to reduce water loss, reduce soil temperature, and reduce erosion hazard.
- Minimize soil disturbance by reducing tillage, moderate grazing, and proper application of pesticides and fertilizers.
- Increase diversity of plant life forms and growth patterns.
- Maintaining live plants to sustain soil organisms which contribute to soil health.
- Integrating livestock grazing to help retain nutrients in the soil and reduce fertilizer need.

As on rangelands, these desired conditions are the guidelines for sustainability of land productivity which is the basic goal of conservation. Decisions on crop types and management practices should be governed by these principles.

Descriptions of the applicable farming practices to reach desired conditions should be described in the same way as for rangeland areas.

SUMMING UP

Introduction – States the purpose, goals and objectives of the plan

Chapter 1 – Provides a general description of resources and other features of the District

Chapter 2 – Identifies and describes resource concerns, causes and extent

Chapter 3 – Describes desired conditions and the practices needed to reach or maintain them