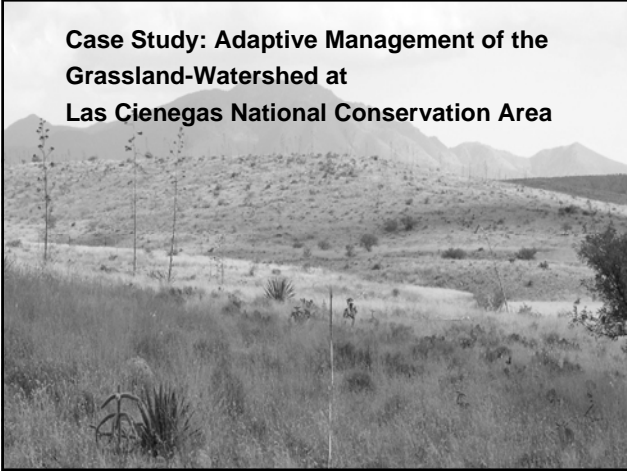


**Case Study: Adaptive Management of the
Grassland-Watershed at
Las Cienegas National Conservation Area**



Relevant Management Decisions

**Las Cienegas
Resource Management Plan**

Vary authorized livestock use annually based
on assessment of range conditions

Continue flexible rest-rotation livestock mgmt

Implement an integrated vegetation treatment
program to meet desired vegetation objectives

**Step 1: Stakeholder
Involvement**



Las Cienegas National Conservation Area Stakeholders

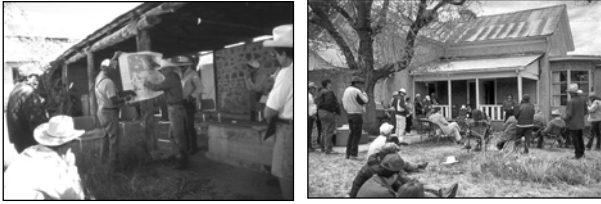
Nine federal, state, and local agencies

Twenty organizations and businesses
including ranching, recreation, and
environmental interests

Individual participants from twelve
Arizona communities

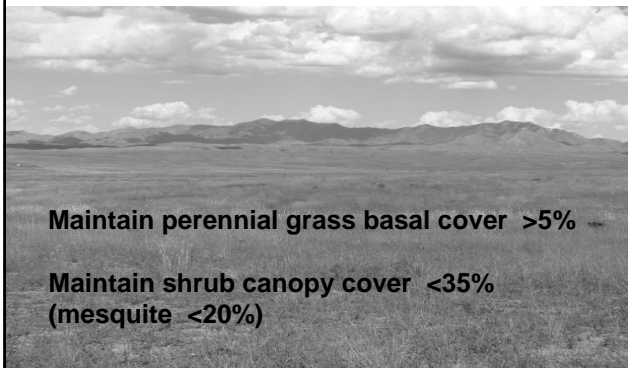
Options for Continued Stakeholder Involvement

- Empire Ranch Foundation
- Cienega Watershed Partnership
- Sonoita Valley Planning Partnership
- Biological Planning Process



Step 2: Objectives

Additional Objectives



Desired Plant Communities

Maintain / achieve a high similarity index to historic climax vegetation on at least 80% of the ecological sites

Maintain / achieve less than 30% bare ground cover in grassland communities

Wildlife Habitat Objectives



Pronghorn: on loamy bottom, loamy hills, and limy hills ecosites, maintain 10-18" cover during April-June in key fawning areas

Grassland Sparrow: on loamy bottom ecosites, maintain 6-8" grass height, less than 25% bare ground, and less than 10% shrub cover

Step 3: Alternative Management Strategies

Flexible Grazing Management



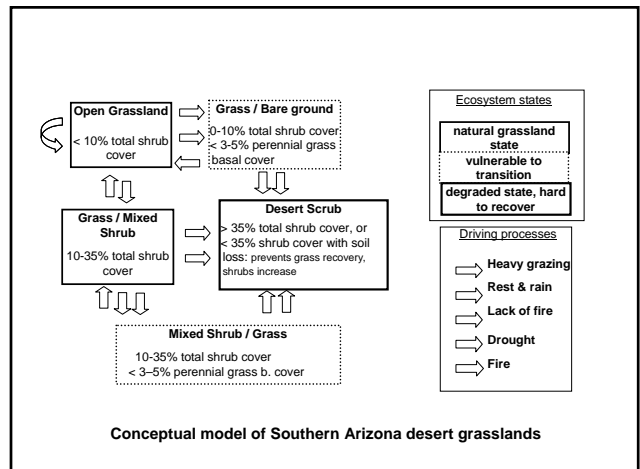
Mechanical Vegetation Treatments



Prescribed Fire



Step 4: Models



Step 5: Monitoring

Monitoring Protocol	Grassland Variable Estimate	Addresses Management Objective?
Point Cover	Substrate cover including bare ground, litter cover Change in perennial grass cover, composition	Yes
Dry Weight Rank	Similarity Index; percent similarity to historic climax	Yes
Pace Frequency	Combination of density and dispersion of plant species	No
Line-intercept Cover	Shrub cover by species	No Critical threat

Citizen Stewardship

Invaders of the Sonoran Desert Region a project of the Arizona-Sonora Desert Museum

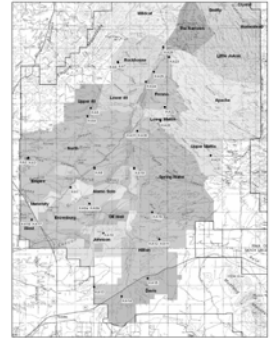
MWS
Master Watershed Steward

Master Watershed Stewards

Step 6: Decision Making and Learning

Biological Planning Process

- Collect Monitoring Data
- Review Data 2x/year
- Technical Team
- Biological Team
- Adjustments to Grazing and other activities as needed



Steps 7-9: Follow up Monitoring, Assessment and Iteration



Benefits of Adaptive Management Process

Builds trust, encourages a solution-oriented approach to address potential conflicts over grazing.

Decision-making based on resource information instead of emotions.

Increased knowledge of grazing effects to improve resource management.

Access to different perspectives & expertise.

Ability to go beyond the vegetation to consider wildlife use/needs.