# Using Sheep for managing nonnative grasses for Stephens' Kangaroo Rat



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### Introduction

Background Management Tools and Strategies Results Future Thoughts Summary



#### SKR HCP Boundary Modification - 06/2007

#### **Tools of the Trade**

#### PROS:

Mowing – large scale / precise Burning – moderate cost / precise Grazing – free / large scale / public perception Herbicide – broad spectrum / precise

#### CONS:

Mowing – potential for wildfire / high initial and ongoing costs Burning – AQMD restrictions / public perception Grazing – imprecise / time consuming for resource manager Herbicide – relatively expensive / public perception / may affect natives

"It's the poor carpenter who blames his tools!"

#### **Goals and Objectives**

- Is grazing an effective long term treatment for reducing non-native grass cover?
- Could domestic sheep graze in a manner to mimic historic antelope?
- Could we manage grasses on a large landscape scale effectively using sheep?

1) Develop your vision / goal for the land.

2) Develop a grazing rotation map.



3) Decide on logistical constraints, e.g. Transporting and off loading, shepherd's living quarters, water sources, holding pen, lambing area,

4) Identify an area to pull the sheep back to if the grass growth is slow.

4) Grass will grow really fast once the weather warms and there is sufficient moisture.

5) Pull the sheep at the first sign of native forbs setting seed.

## Grazing Map







#### Logistics and Support Vehicles



Grazing begins when the grass is about 6-8inches, usually about January or February

#### 1-2 days held in corral

Allows monitoring of any "foreign" weeds

Insist that the producer <u>tell</u> the shepherd that you are the boss on where and how to move the sheep.



 <u>Corral and Water</u>
 move often = more moderate disturbance over a wide area

less frequent = severe disturbance / small area

\* sheep only need water if the forage is dry (late spring)

YEAR	# SHEEP	ACRES	SEASON
2009	500	200	Summer
2010	1,200	500	Winter
2011	5,000	1000	Winter
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2012	1,200	500	Spring
2016	1200	1000	Winter/Spring
2010	1200	1000	Winter/ Spring
2017	1200	1200	Winter/Spring
2010	2000	1000	
2019	2000	1200	winter/Spring



sheep movement = hold back or push?

### **2010** UCR Vegetation Monitoring

Spring 2010 – 1<sup>st</sup> year of grazing

 Grazing did not reduce exotic grass cover, but it reduced grass height and therefore was effective at reducing grass productivity.

Grazing also increased native forb cover from about 1 to 3%, with the greatest positive response from *Amsinckia menziesii* that is not grazed by sheep.

The abundane of native species declined in grazed plots, possibly because sheep preferentially grazed some native forb species.

### Results

#### BEFORE





#### AFTER

#### 2011 Vegetation Survey



# AFTER – 2 years of grazing

#### Non-native grass percent cover



## **SKR Monitoring**

RCHCA

#### Lake Mathews Grid Locations



YEAR	SKR	# of grids
2010	3	10
2015	55	5
2017	62	5

#### Great Valley Phacelia in Grazed Areas



















### Thoughts for the Future

Would stacking treatments be beneficial?
Ex: late spring fire followed by winter grazing

• Is restoration the goal or is a functional habitat okay?

 Can native grazers be re-introduced in reserves if enough acreage is available by creating partnerships.

 Partners need to <u>selflessly</u> <u>coordinate</u> towards common goals.

Burned Spring Grazed Winter

#### **Burned Spring**

## SUMMARY

- 1) Develop your vision / goal for the land
- 2) Use any and all tools available to achieve your vision
- 3) Think large scale / agricultural scale
- 4) Do NOT come to rely on any single treatment
- 5) Change course if necessary
- 6) Do not let the fear of the unknown prevent action

# Lake Mathews – February 1951

#### Partnerships

Bureau of Land Management
USFWS
CDFG
CalFire
UC Riverside
Waste Management Inc.
MWD

# **QUESTIONS?**

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