



Status of Bighorn Sheep in California, 2011

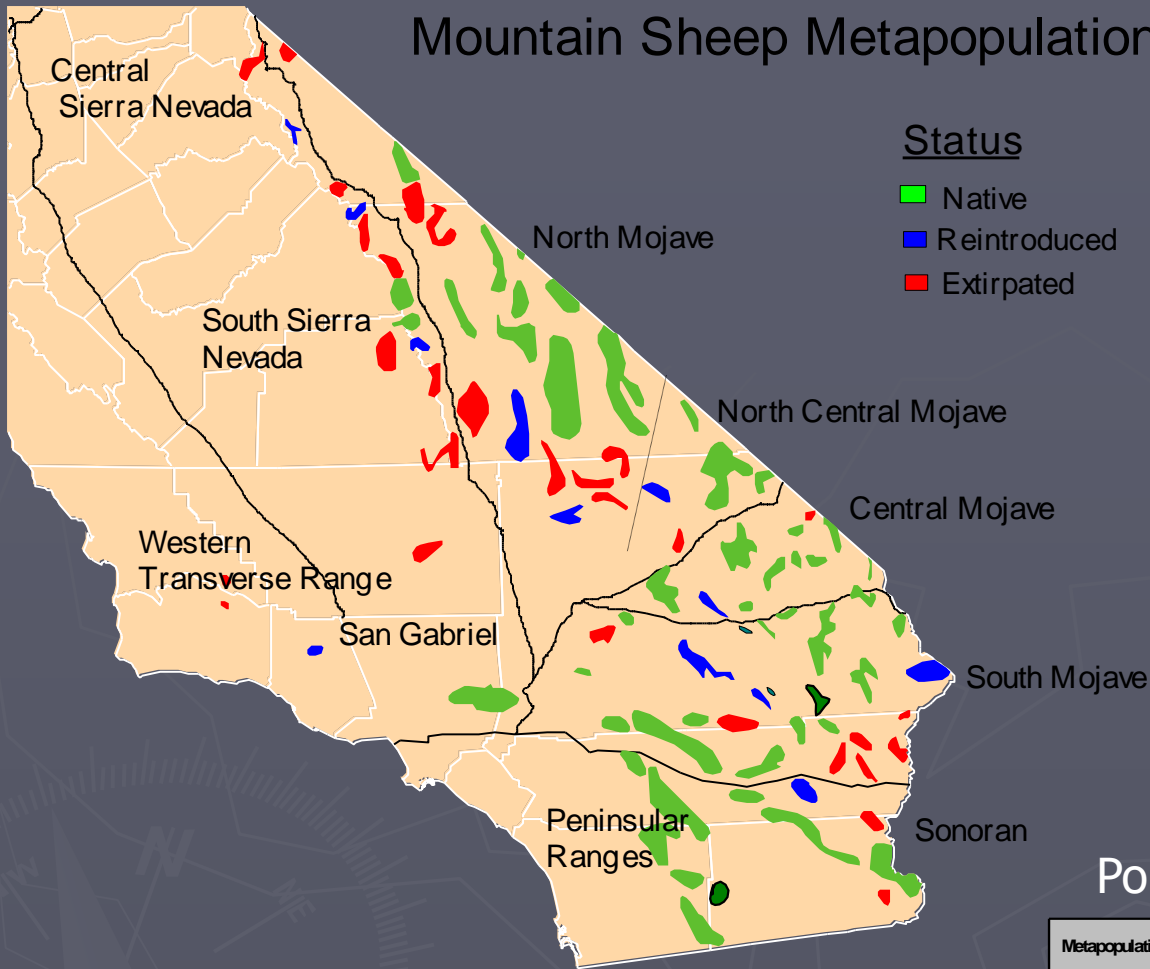


2000 Desert Bighorn Council Meeting Bullhead City, Arizona

HUMAN INDUCED **MIRGATION** AND HOMING BEHAVIOR OF A DESERT BIGHORN RAM IN THE WHIPPLE MOUNTAINS, CALIFORNIA:
or "HERMAN, **TEE** TRAILER PARK RAM"



Mountain Sheep Metapopulations



Manage population systems and habitats regionally (over large areas)

Population Inventory

Metapopulation	0	<25	25-50	51-100	101-150	151-200	201-300	>300
Peninsular	2	1	3	2	1	0	0	0
Sonoran	2	0	1	3	0	0	0	0
S. Mojave	7	5	5	5	3	0	0	0
C. Mojave	0	2	5	1	0	1	0	0
C.N.Mojave	1	0	0	4	0	0	0	0
N.Mojave.	3	3	3	7	0	1	0	0
Sierra Nevada	9	1	2	2	0	0	0	0

Population Inventory

Metapopulation	Population	¹ Population Status	Population Class	Size	Data Source /Year of Most Recent Data
Peninsular Ranges	Carrizo Canyon	N ³	101-150		CDFG 2004 ^{5,6}
	Vallecito	N	101-150		CDFG 2004 ^{5,6}
	South San Ysidro	N ³	25-50		CDFG 2004 ^{5,6}
	North San Ysidro	N ³	25-50		CDFG 2004 ^{5,6}
	Coyote Cyn.	N ³	25-50		CDFG 2004 ^{5,6}
	Santa Rosa, E. of Hwy 74	N ³	201-300		CDFG 2004 ^{5,6}
	Santa Rosa, W. of Hwy 74	N ³	51-100		J. DeForge ⁷
	San Jacinto	N	25-50		S. Ostermann ⁷
San Gabriel	San Gabriel	N	201-300		CDFG 2004 ⁵
Western	San Rafael	R	25-50		CDFG 2002 ⁵
Transverse Range	Caliente Peak	E	0		No new data
Sonoran	W. Chocolate (Gunnery)	N	101-150		CDFG 2004 ⁵
	E. Chocolate (Colorado R.)	N	51-100		CDFG 2004 ⁵
	Orocopia/Mecca Hills	N	51-100		CDFG 2004 ⁵
	Chuckwalla	A	25-50		No new data
	Cargo Muchacho	E	0		No new data
	Palo Verde	E	0		No new data
	South Mojave	Newberry/Ord	N ³	25-50	
Rodman		E	0		C. Gallinger 2003 ⁹
Bullion		R	<25		No new data
Sheephole		A	51-100		CDFG 2004 ⁵
San Gorgonio		N	51-100		CDFG 2004 ⁵ ; T. Anderson ⁹

Population Size Class Summary

Desert Bighorn Sheep – California 2011

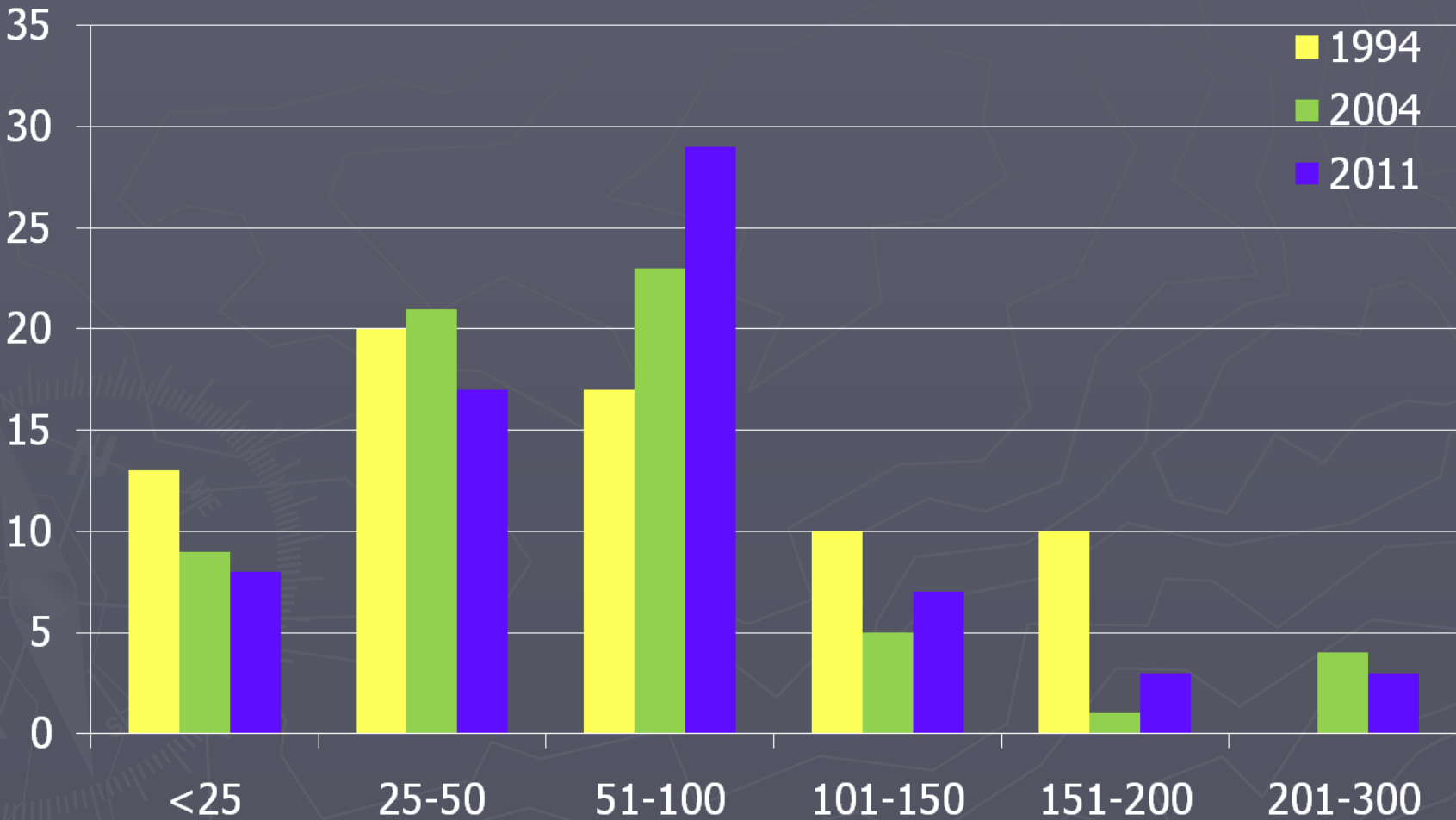
Metapop.	0.0	<25	25-50	51-100	101-150	151-200	200-300	300-400
Peninsular	0.0	1.0	0.0	5.0	2.0	0.0	1.0	0.0
San Gab.	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0
W. Trans.	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Sonoran	2.0	0.0	1.0	2.0	1.0	0.0	0.0	0.0
S. Mojave	5.0	4.0	5.0	5.0	3.0	2.0	0.0	0.0
C. Mojave	0.0	0.0	4.0	2.0	0.0	1.0	1.0	0.0
C.N.Mojave	1.0	0.0	1.0	4.0	0.0	0.0	0.0	0.0
N.Mojave.	2.0	2.0	3.0	6.0	0.0	0.0	1.0	0.0
S. Sierra	5.0	0.0	2.0	4.0	0.0	0.0	0.0	0.0
C. Sierra	2.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
NE_CA	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	25.0	8.0	17.0	29.0	7.0	3.0	3.0	1.0

Bighorn Sheep Population Estimates

Region	Low	2011 Median	High	2004 Median	1994 Median
Peninsular Ranges	659	891	1124	731	404
Sierra Nevada	306	465	624	330	163
Mojave, Sonoran, San Gabriel	3010	4077	5144	3412	3061
Total	3975	5433	6892	4473	3628

Based on population size classes (2011)

Population Size Class Profile



Opportunities

- ▶ Bighorn Sheep Coordinator – Regina Abella
- ▶ Bighorn Sheep Integrated Management Plan
- ▶ Bighorn Sheep Summits (CA WSF, SCBS)
- ▶ Large Mammal Advisory Committee
- ▶ Big Game Fund Advisory

Challenges

- ▶ State budget restrictions and hiring freeze
- ▶ Economy & declining fundraising tag revenue
- ▶ Green Energy Projects
- ▶ Golden Eagle Surveys - Spring

Bighorn Sheep Guidelines and Integrated Management Plan

DRAFT - Bighorn Sheep Guidelines and Integrated Management Plan

9/21/2007 – Blue text = comments from Tom Stephenson

Section 1 - Introduction

Purpose

Data sources used

Natural history of sheep / and history in CA

(Get N. American sheep range boundaries from Shackleton, 1997

Caprinae – Western States General Bighorn Map)

Include brief discussion on taxonomy and recent taxonomic revision.



Management Areas

Ownership boundaries

Wilderness Areas

Critical Habitat designations

Section 2 - Range

Current

Source areas – genetic diversity

Methodology for new sheep range map –

Specify that this applies to Desert Bighorn sheep. For SNBS, used expert opinion and habitat suitability model. Mention range in northern CA.

There have been many advances in Geographic Information Systems technology and digital data since the first digital version of the bighorn sheep range map. We wanted to use this new technology to objectively create a new bighorn sheep range map, basing the map on specific criteria and rules.

The new version was developed using the 30 meter Digital Elevation Model (DEM) data from United



States Geological Survey (USGS).

Slope information for the entire study area was derived from the DEM and then regrouped into slope values less than 10% and slope values greater than or equal to 10%. Due to computer processing limits, areas under a certain size were removed.



To create the clusters of topographic area that comprise the sheep ranges, the existing sheep range data was buffered by 10 kilometers and then intersected with the selected slope surface.



The resulting selection was then buffered 1 kilometer, to capture any additional areas sheep would

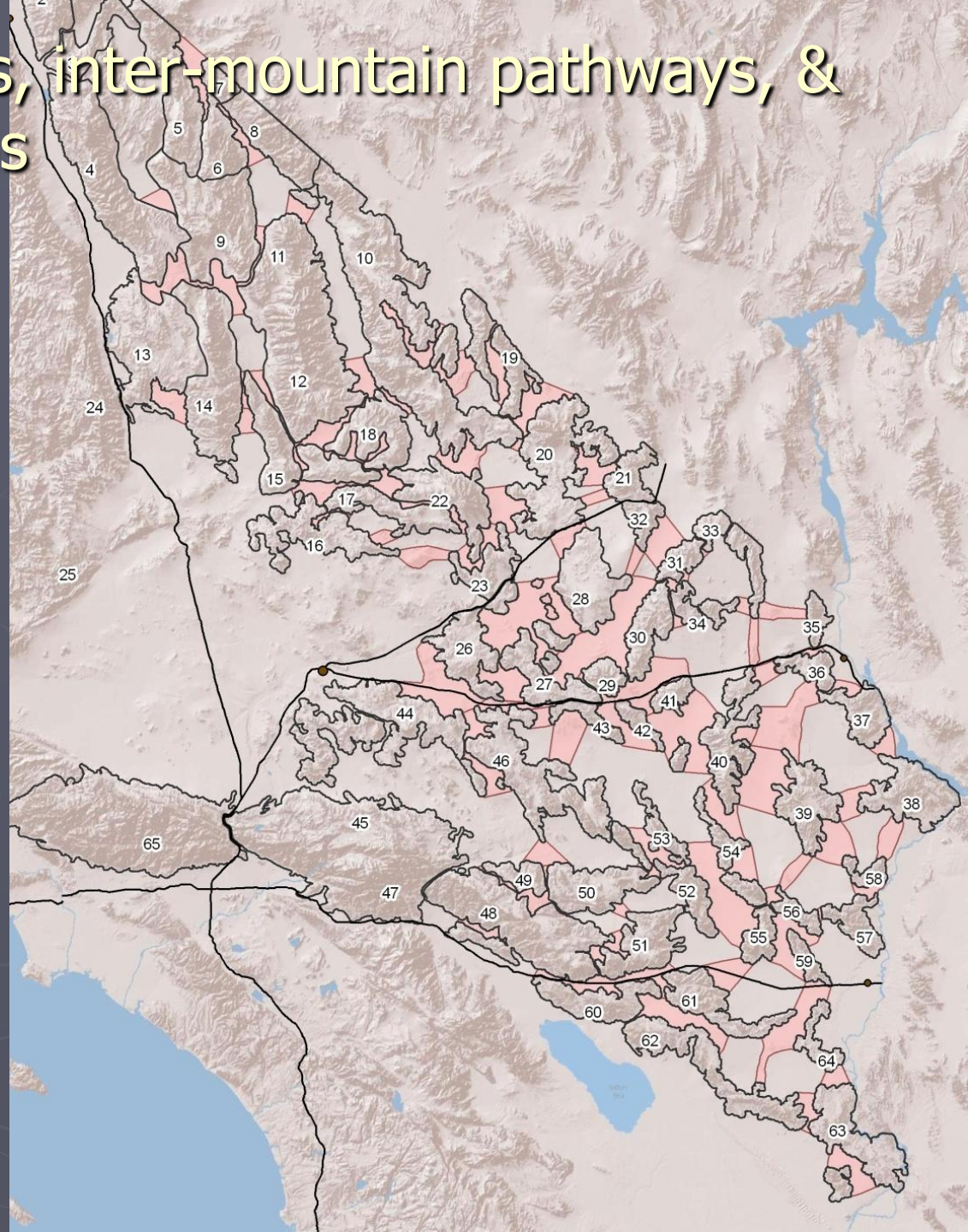


potentially occupy.

Title = Final Desert Bighorn Sheep Range Map

Comprehensive plan for future sheep management
(priorities/opportunities/work plan)

Mapping of herd units, inter-mountain pathways, & unoccupied mountains



Desert Bighorn Sheep Hunting Program

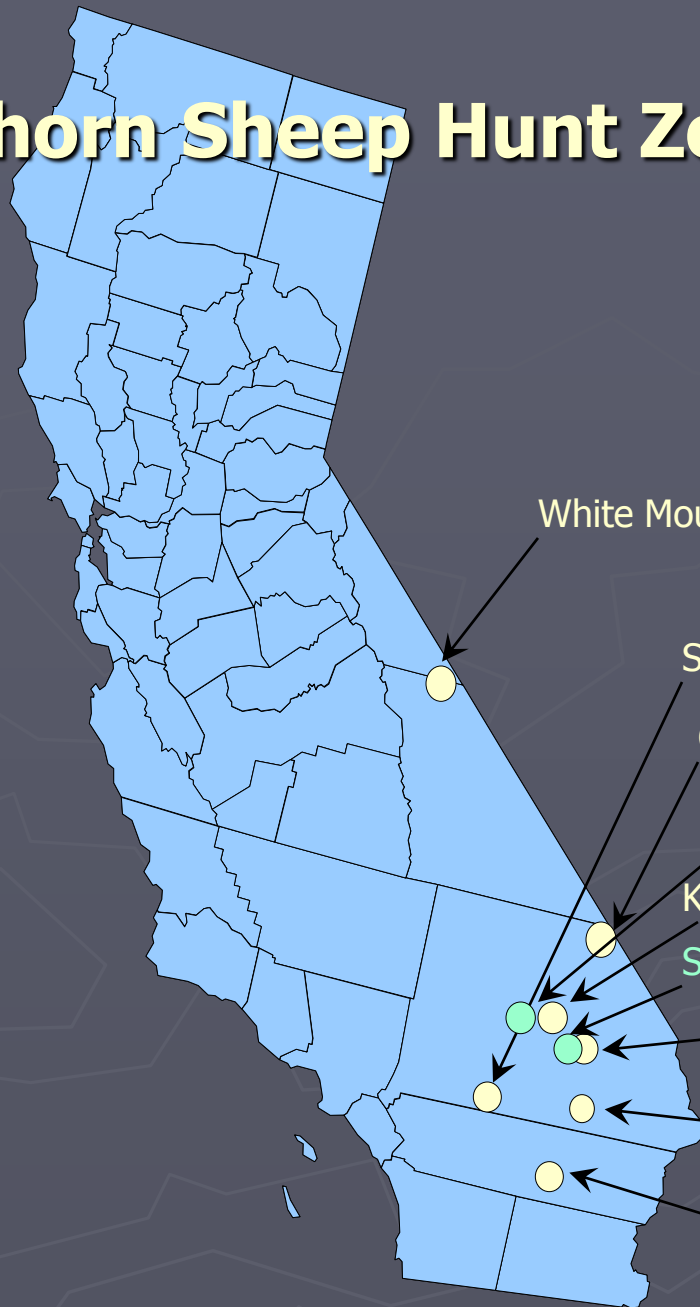
► Biennial Helicopter Surveys

- Purpose to monitor population size, trend (ewes)
- Establish tag allocations (< 15% mature rams)
- Count data adequate for 1-2 year population projection (Dr. Mary Conner)
- Importance of standardized survey protocol
- Photographic protocol to document observed groups
- Cost

Desert Bighorn Sheep Harvest

- ▶ 2011 = 25th year of hunting season
- ▶ Total of 318 tags allocated
- ▶ Total Harvest = 291 (92% hunter success)
- ▶ Program has generated \$3,850,000
- ▶ 22.5% of rams (> 166 B & C)

Desert Bighorn Sheep Hunt Zones



White Mountains (Zone 7)

San Geronio Wilderness (Zone 5)

Clark/Kingston Mountains (Zone 3)

Cady Mountains (proposed Zone 9)

Kelso Peak/Old Dad Mountain (Zone 2)

South Bristol Mountains (proposed Zone 8)

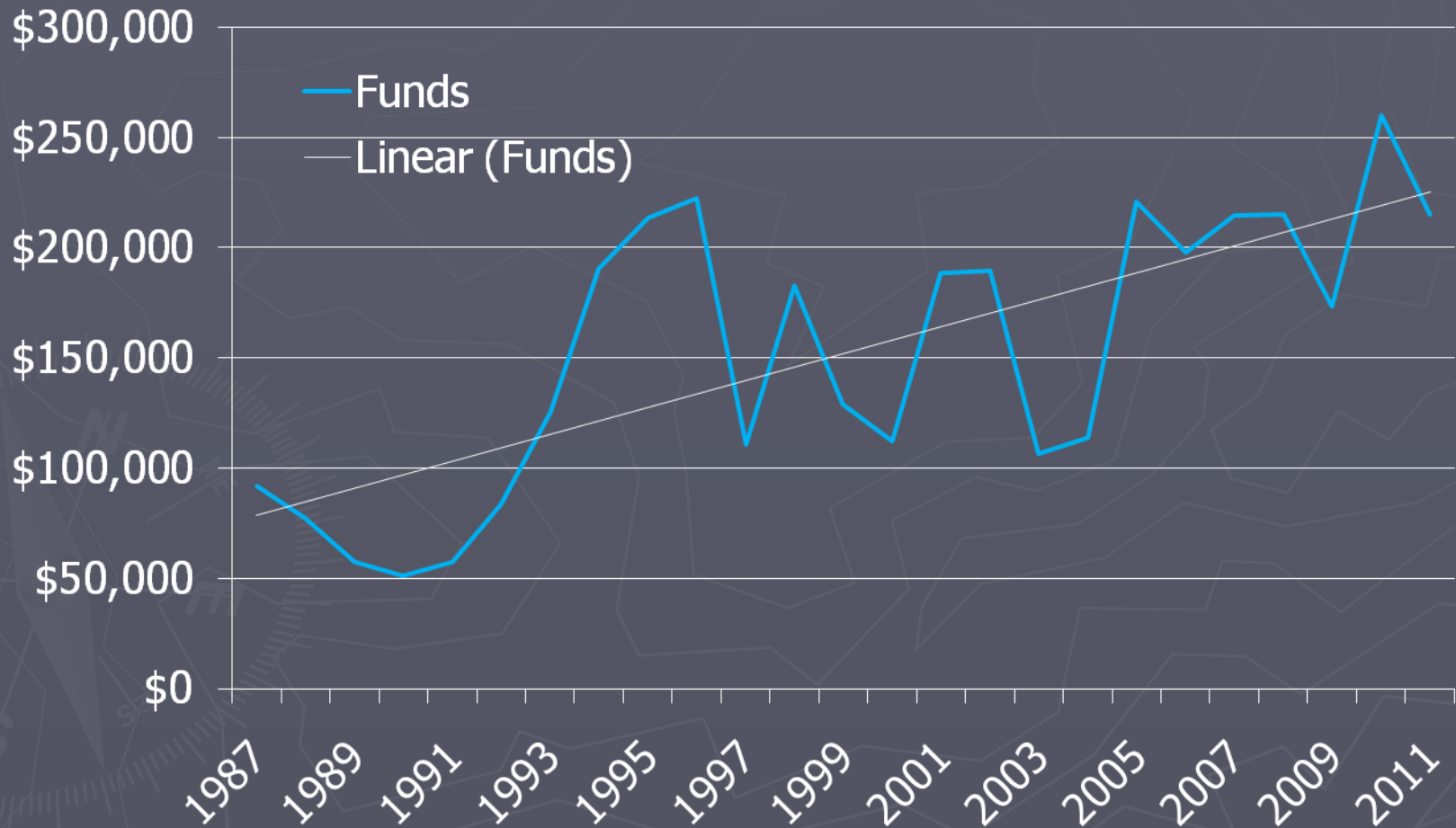
Marble/Clipper Mountains (Zone 1)

Sheep Hole Mountains (Zone 6)

Orocopia Mountains (Zone 4)

Hunt Program Revenue

Fundraising & drawing fees



Disease Issues

- ▶ Respiratory disease – lamb mortality/low recruit – Peninsular Ranges, White Mountains
- ▶ Contagious ecthyma – Sierra Nevada, South Bristol Mountains
- ▶ Psoroptes ovis – San Bernardino Mountains
- ▶ Undiagnosed hair loss = Anza Borrego SP

In Memoriam

Kevin O'Conner



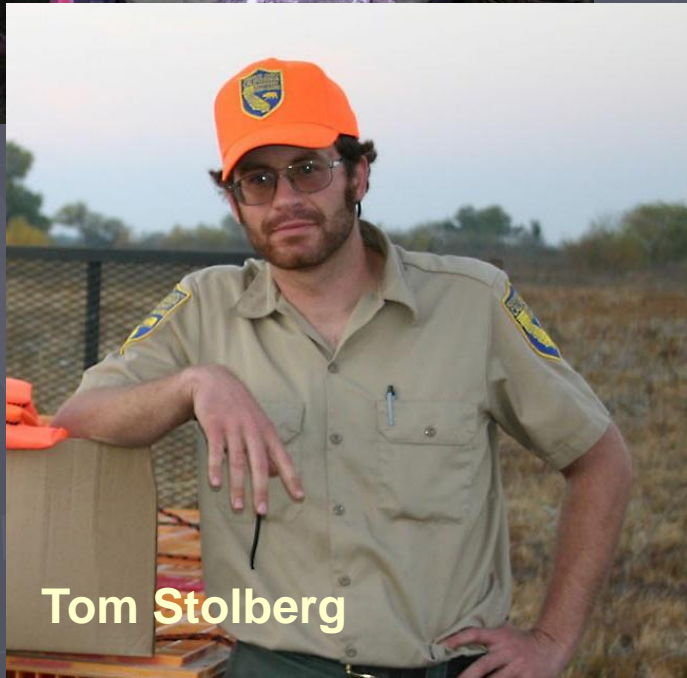
Mike Donovan



Clu Cotter



Tom Stolberg



January 2010

Changes Implemented in Large Mammal Programs:

- ▶ Large Mammal Advisory Committee (LMAC) to ensure priority, well planned projects
 - Project development/approval process
- ▶ Required helicopter safety certification to include wire-strike training
- ▶ Automated Flight Following (AFF)
- ▶ New requirements for helicopter plan approval





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