**POPULATION BASED RECOVERY**

**•**NUMBER OF VIABLE SITES (RECOVERY UNITS)

•SEEDBANK — STABLE? INCREASING FECUNDITY?

•TIME PERIOD

**THREATS BASED RECOVERY**

**• “**PROTECTED”

•NO NET LOSS/NO FRAGMENTATION

•MANAGEMENT PLANS

1. RODENTS
2. POLLINATORS

•ANSWER KEY QUESTIONS

**RECOVERY METRICS-THREE CASE STUDIES**

•TWIN LAKES Recover criteria

ACREAGE DENSITY

1. ½ Acre (historical source) – 1000 plants – 4 out of 10 years (per population trend analysis)
	1. From now to Target
2. Seeds?

MANAGEMENT PLAN – CMA

 Question: Designate as a Preserve?

•ARANA\* Gulch Recovery criteria

1. Protected in Perpetuity

\*Genetics = Separate recovery unit

MANAGEMENT PLAN

1. Area C has lower density than others in seeds and adults
2. Historic fencing pattern

NEED HELP – BATCH Soil Seed Bank

•WATSONVILLE AIRPORT recovery criteria

500,000 plants – stable > increasing

Persistant acreage density (%Potential vs. actual)

\*\*\*Note: there can be no permanent easement \*\*\*

 —floating easement?

 —X out of Y years?

•HELD RESPOSIBLE—FOSSORIAL ANIMAL CONTROL — CMA?

**FUNDING HELP**

**•**WCB

1. PURCHASE
2. MANAGEMENT
3. SUPPORT FROM CDFW

•CNPS RARE PLANT TREASURE HUNT

1. MONITORING?

•SECTION 6

1. TRADITIONAL, $75-300K
2. NON-TRADITIONAL — LAND ACQUISTION EASEMENT/LAND TRUST

•USFWS DISCRETIONARY RECOVERY $$$

•COUNTY FISH AND GAME COMMISSION

•USFWS COASTAL PROGRAM

1. ON GROUND HELP

•USFWS RECOVERY ACTION TEAM, $5K

**RESEARCH QUESTIONS**

Question: Where is the repository of information for SC Sunflower?

**•**LONGEVITY OF RAY SEEDS

•BIOLOGY OF RAY SEEDS

•RADIUS RAY VS DISC SEEDS

•HABITAT VEGETATION DESCRIPTION

•DISCRIMINATE @ SUCCESS FOR INTRODUCED POPULATIONS

•GENETIC ANALYSIS

•POLLINATION

•HISTORIC RECORDS—GIS Data

•RESEARCH SOIL PROFILE/HABITAT DESCRIPTION IN GEO REPORT

**FOLLOW UP ITEMS**

•SOMEONE WITH PERMITS TO POSSESS

•SOMEONE TO GROW SEED — VELZY UCSC

•SEED GENE BANK STATUS? — follow criteria

•ATTRIBUTES TABLE FOR MONITORING DATA

1. DEMOGRAPHY
2. FECUNDITY
3. SEED BANK
4. ACREAGE
5. DENSITY

•PERMIT WOODS COVE?

•MAINTAIN LIST OF NEGLECTED SITES — PROPERTIES FOR SALE