Slide 1

Conservation

Lecture 25

Slide 2

Learning Outcomes

- Conservation and Preservation
- Control of Introduced Species
- Habitat Restoration

Slide 3

Conservation

- Areas of land with restricted land uses
- Aimed to conserve natural resources
- SF Watershed
- National Forests
- National Parks
- Resources conserved for later use
- Forestry
- Hunting/ Fishing

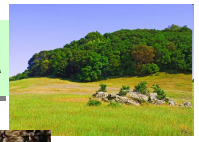
Slide 4

Preservation

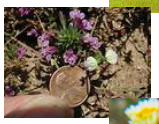
- Areas of land set aside for endangered or threatened species or habitats
- Other land uses prohibited
- Federal
- Wilderness Areas
- State/County Parks
- Organizations
- Mid Peninsula Regional Open Space District
- 26 preserves

Slide 5

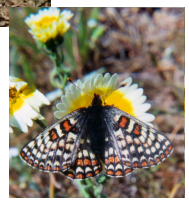
Edgewood County Park



- Established in part due to presence of San Mateo Thornmint and Bay Checkerspot Butterfly



- BOTH limited to serpentine soils
- Limited range of both reduced by habitat destruction
- Development
- Off-road vehicles
- Pollution
- Non-native species



Slide 6

Control of Invasive Species

- Weeding
- Selective
- Requires correct identification
- Labor intensive
- Weed Warriors
- Save The Bay - Saltmarsh

Slide 7

Control of Invasive Species

- Mowing
- – kills annual grasses before seeds formed
- Medusa Head Grass
- Not selective – native species also mowed

Slide 8

Control of Invasive Species

- Grazing
- Similar to grazing
- effective against annual grasses
- Browsing kills woody plants and promotes grasses
- Goats browsing on Russian Olive
- Leaves have higher nitrogen content than grasses

Slide 9

Control of Invasive Species

- Biological Control
- Saltcedar, *Tamarix ramosissima* introduced from Central Asia
- SW USA and S California
- No native pests
- Replaced native riparian trees along creeks and rivers
- Lowers water table
- 50-250 insect species feed on *Tamarix* in Asia and Europe

Slide 10

Control of Invasive Species

- Introduced insects must only feed on intended species
- Species identified
- Trials conducted on target species, crops, and native species
- Mediterranean tamarisk beetle
- *Diorhabda elongata*
- Released in Western Texas 2003

Slide 11

Control of Invasive Species

- Controlled burns
- Russian Ridge 2007
- Control dense stands of Harding Grass and Yellow Star thistle
- Reduce build up of thatch
- http://www.openspace.org/plans_projects/casestudy.asp
- Results (2008)
- Increased diversity of wildflowers
- 19 species

Slide 12

Habitat Restoration

- Where physical environment has been altered by human activity
- Draining wetlands
- Where balance of native species has been altered
- Introduced species
- Extirpation of native species
- Intervention is required to restore habitat to (near) original state

Slide 13

Habitat Restoration

- Mori Point
- Golden Gate National recreation Area
- Coastal Bluffs
- Freshwater marshes
- Habitat for endangered San Francisco Garter Snake
- Red-legged Frog

Slide 14

Habitat Restoration

- Mori Point
- Alter drainage to create ponds
- Remove trash and pollution
- Remove introduced species
- Plant native species
- Create elevated boardwalks and trail system for visitors
- http://baynature.org/videos/mori-point-restoration

Slide 15

Habitat Restoration

Save San Francisco Bay

Slide 16

Habitat Restoration

1. Remove trash
2. Remove invasive species
3. Plant native species
4. Maintenance and monitoring
5. Education
6. Fundraising

- Save the Bay