

## Whither the rangeland? Trends in rangeland conversion in California over a quarter-century



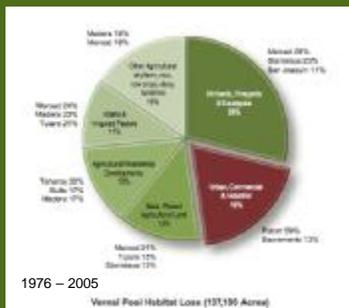
Jaymee Marty, Dick Cameron and Robert Holland

## Threats to Rangelands

- Rangelands are threatened in a number of ways
  - climate change
  - invasive species
  - inappropriate livestock grazing
    - Most immediate and irreversible threat: conversion*
- Vulnerability assessment launched to characterize patterns and causes of rangeland conversion as well as future threat of conversion
- Goal of study: inform strategies beyond direct protection (acquisition)

## The Threat of Conversion

68% of vernal pool habitat was converted to agricultural land uses (Holland 2008)



## Study Objectives

- Document how much rangeland conversion has taken place in the last 25 years within the CRCC Priority area
- Assess the current land use of the converted land
- Use this information to inform land use planning decision making, policy formulation and conservation strategies for rangelands

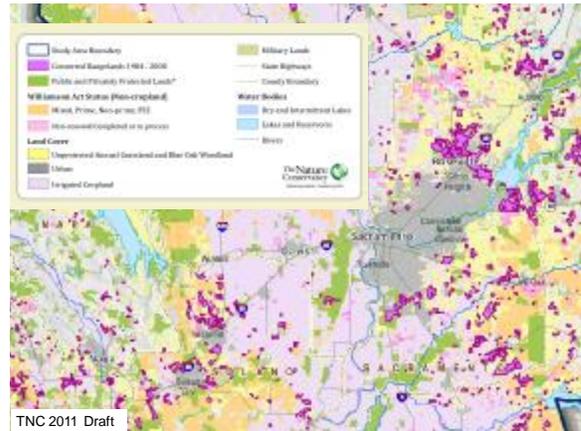
## Methods

- Used CRCC priority area as study area boundary (35.4 million acres in 33 counties)
- Used Dept. of Conservation's FMMP dataset to identify converted grazing land (FMMP, 1984 – 2008)
- Selected all polygons that were grazing land in the first time period and not in the second
- Used aerial photo interpretation to assign current land use to converted land

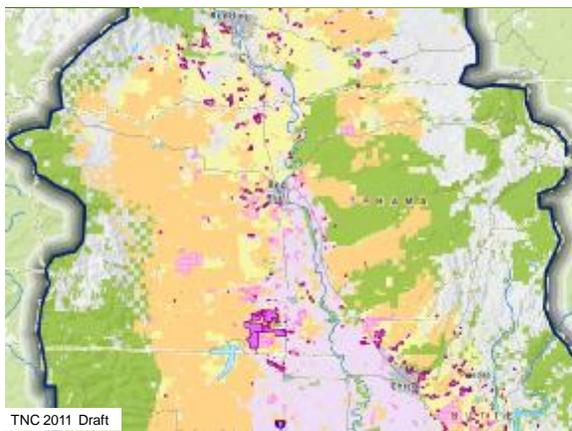
## Methods (cont'd)

- Assessed degree to which the remaining rangeland was protected by assembling land conservation status data (fee, easement ownership)
- Also assessed status of voluntary non-permanent protection using lands enrolled in the Williamson Act

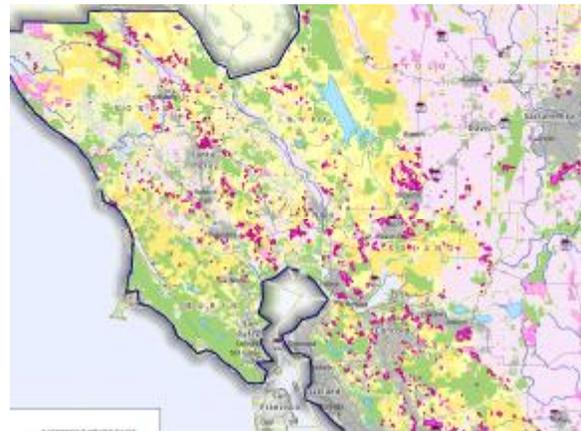




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## Conclusions

- Direct protection remains an important strategy for conserving rangelands
  - Also an effective climate change adaptation strategy for California
  - Not many Lassen Foothills opportunities left
- Decisions to convert aren't just happening ranch by ranch—Agribusiness has big money and big plans for rangelands
- Williamson Act protects ag. lands in general but does not protect rangelands from being converted to other ag. types

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## NEXT STEPS

- Publish the initial study results
- Additional analyses
  - Consequences of conversion for:
    - Connectivity
    - Ecosystem services (Water, diversity, food production)
    - Impacts to wildlife/habitat from hardening of agriculture
- New strategies for rangeland protection
  - Analyze recent land transactions/WA contract cancellations to see where the next big conversion will take place
  - Work with new landowner to minimize impacts/mitigate appropriately
  - Strategic mitigation opportunities for large projects
  - Get more \$\$ for direct protection

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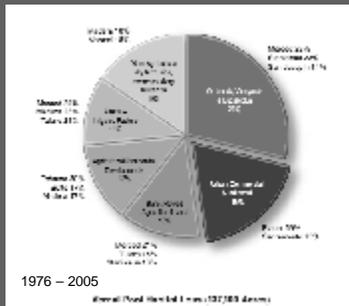
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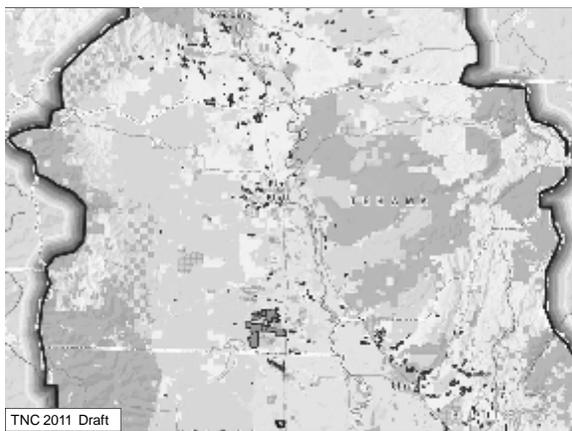
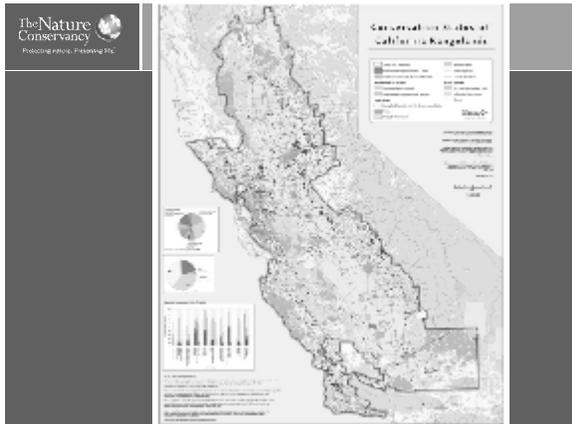
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