Placer County Conservation Plan

PCCP and Climate Action Planning

Purpose: The purpose of this presentation is to provide a background on Placer County's conservation planning efforts and how they can be integrated with climate action planning to the benefit of both initiatives.

Aitken Ranch Conservation Easement

Placer County Conservation Plan

PCCP – A Cooperative Effort

PCCP Participating Agencies:

- Placer County
- Placer County Water Agency
- City of Lincoln

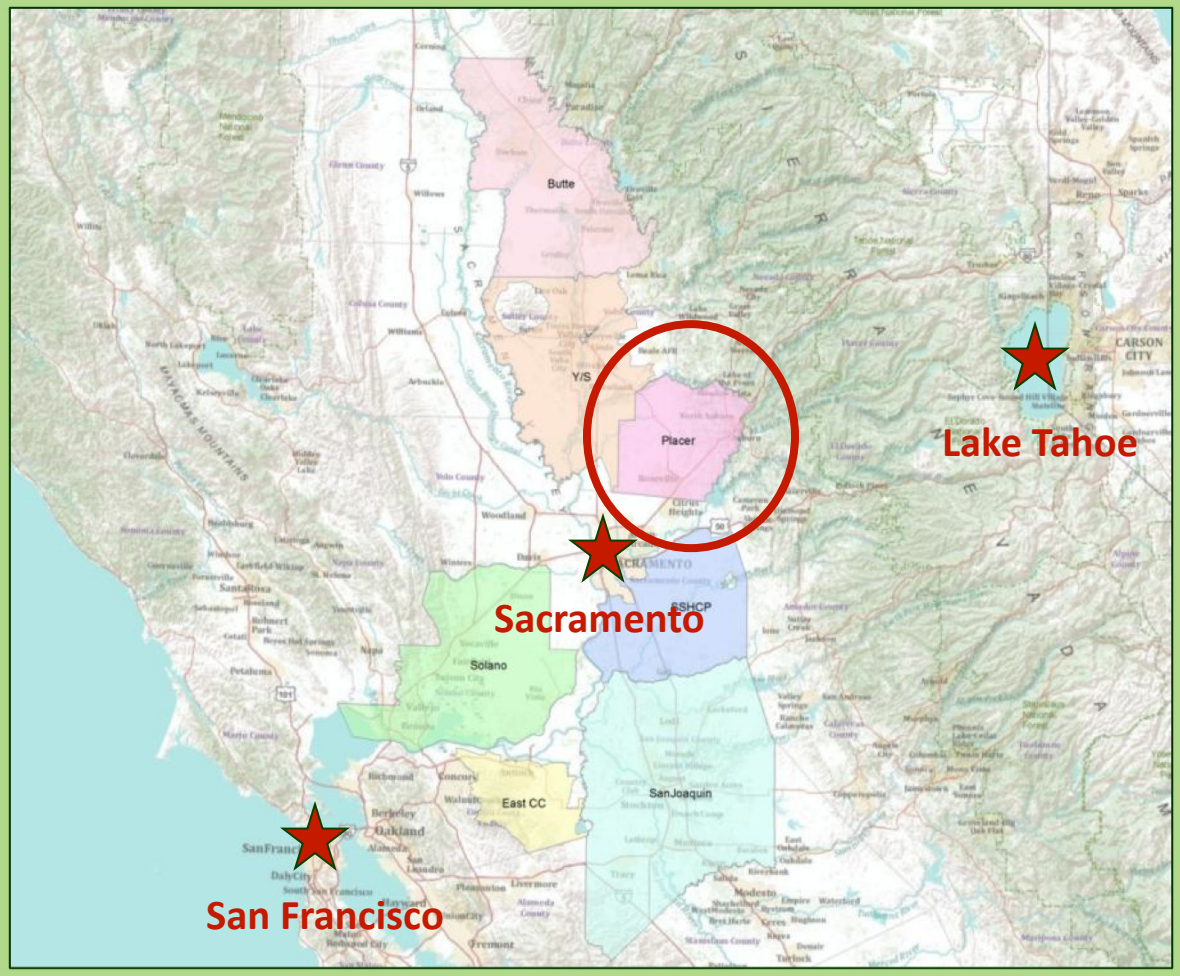
- FESA/CESA
- CWA 404/401
- Streambed Alteration Agreements

Regulatory Coverage for:

- Placer Parkway
- Public infrastructure
- Conservation Activities
- Cumulative and indirect impacts associated with the conveyance, distribution of water and sewer
- Land Development in Unincorporated Western Placer County and City of Lincoln

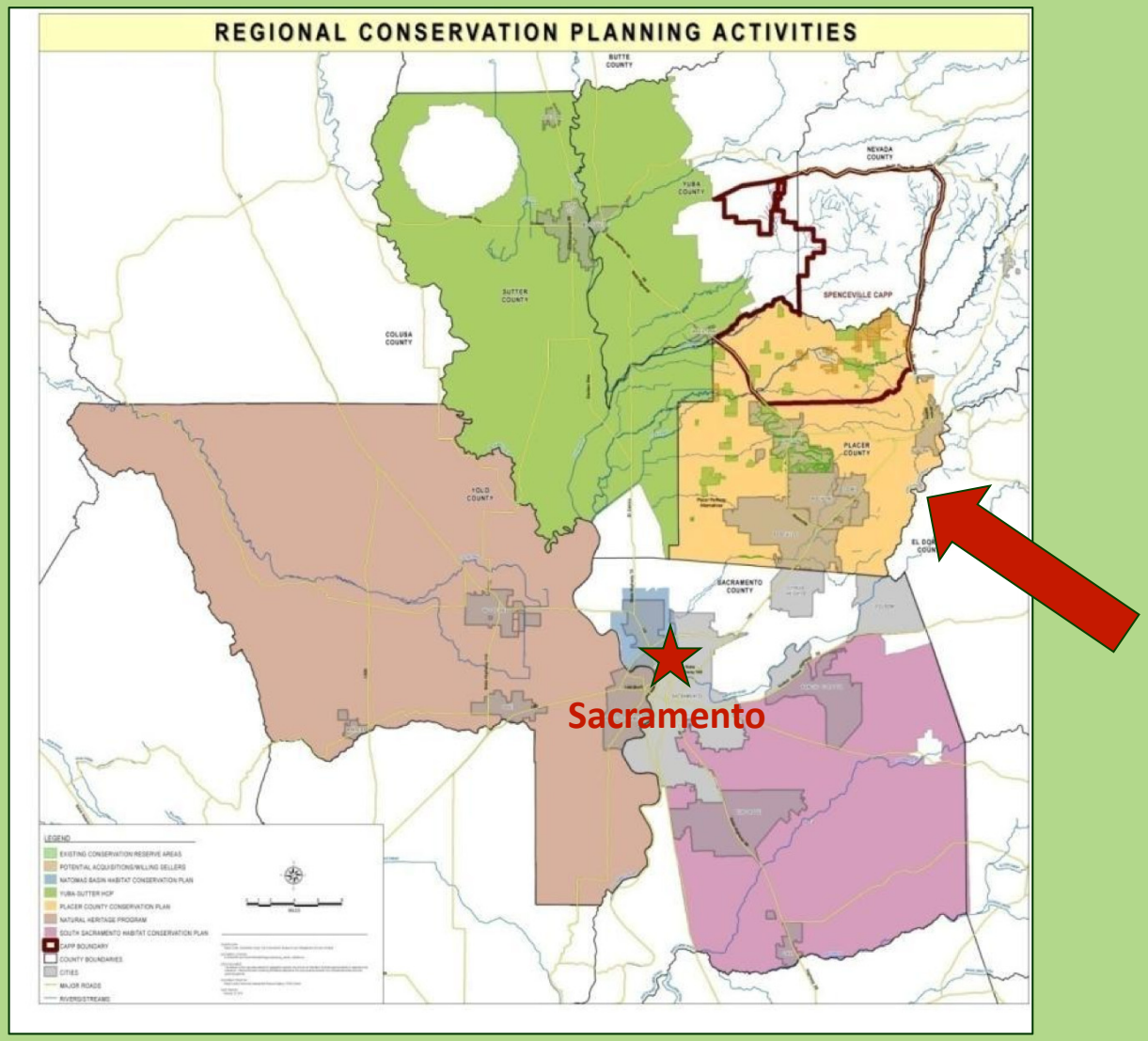
Placer County Conservation Plan

PCCP Coverage Area



Placer County Conservation Plan

PCCP Coverage Area



Placer County Conservation Plan

2060 Growth Scenario

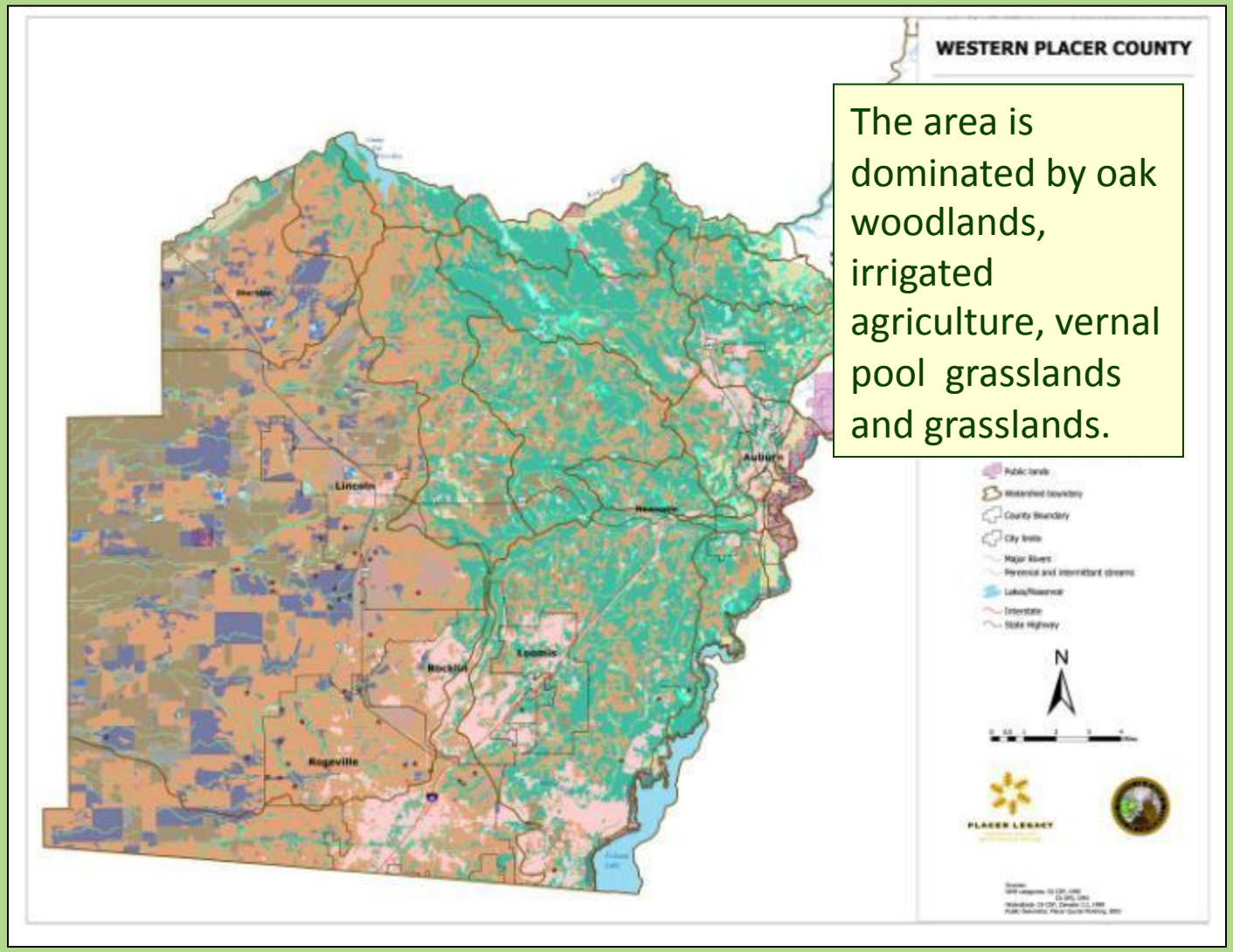
Projections for PCCP Economic Analysis	2007	2060	2007-2060
Phase 1 Area (Including Non-Participating Cities)			
Jobs by Place of Work	156,900	341,300	184,400
Housing Units	144,200	282,000	137,800
Total Population	326,100	784,000	457,900

Participating Agencies Pop./Emp	2007-2060
Total New Population	**237,750**
Total New Jobs	**91,000**
Total New Households	**95,100**

The PCCP will cover the endangered species and wetland impacts for the 95,000 new homes and the 91,000 jobs that will be created over the next 50 years. This amount of growth will convert 46,417 acres of the western County landscape of which 34,417 acres is in the PCCP coverage area.

Placer County Conservation Plan

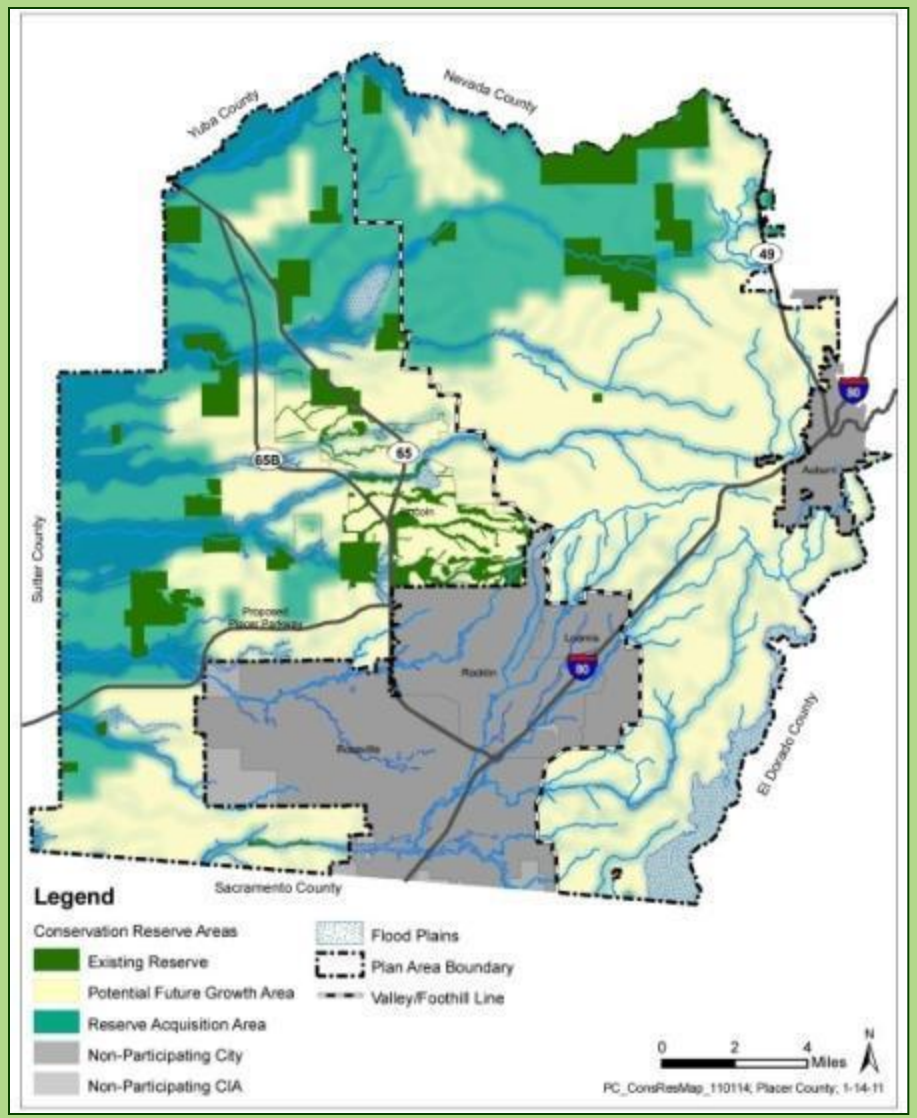
Vegetative Land Cover



The area is dominated by oak woodlands, irrigated agriculture, vernal pool grasslands and grasslands.

Placer County Conservation Plan

PCCP Draft Reserve Area Map



= Existing Conservation

= Reserve Acquisition Area

= Development Opportunity Area

= Non-participating City

= Stream System

25,000-46,000 acres of land will be conserved and restored. The variability is due to the imprecise nature of growth projections over a 50-year period.

Placer County Conservation Plan

PCCP – Overall Conservation Priorities

Oak Woodlands:

Valley oak: conservation, regeneration, and restoration

Blue oak: conservation, regeneration, and fuel load management

Montane hardwoods: conservation, regeneration, and fuel load management

Vernal Pool Grasslands:

Vernal pool wetlands: conservation and compensatory replacement

Vernal pool grasslands: conservation, restoration/enhancement

Non-vernal Pool Grasslands: conservation and fuel load management

Riparian: conservation and restoration

Freshwater Wetlands: conservation and compensatory replacement

Streams: improved water quality (use of Low Impact Development Standards, sediment controls and water temperature)

Placer County Conservation Plan

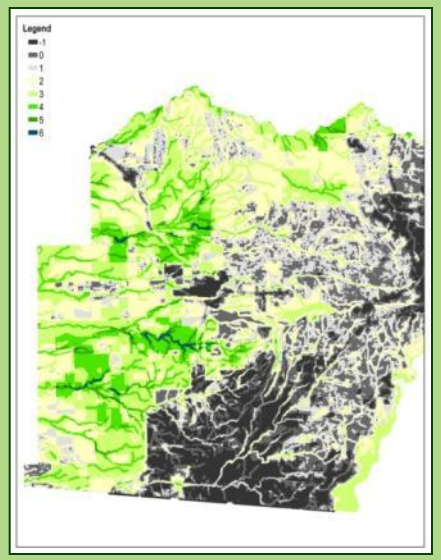
Covered Species

The PCCP will cover 50 years of "take" (impact) to 31 species, including:

- Bogg's Lake hedge hyssop
- Vernal pool fairy shrimp
- Vernal pool tadpole shrimp
- Valley elderberry longhorn beetle
- Central Valley steelhead
- Bald eagle (wintering)
- Swainson's hawk
- American peregrine falcon
- California black rail
- Western pond turtle
- Bank swallow
- Late fall-run chinook salmon
- California tiger salamander
- Burrowing owl
- California red-legged frog
- Giant garter snake
- Legenere
- Cooper's hawk
- Loggerhead shrike
- Tricolored blackbird
- Yellow-legged frog
- Western yellow-billed cuckoo

Placer County Conservation Plan

Conservation Land - Prioritization



= very low value

= high value

Each data layer was ranked with a –1, 0 or +1.

Ranking of conservation values was completed through the use of GIS. The data layers assembled include:

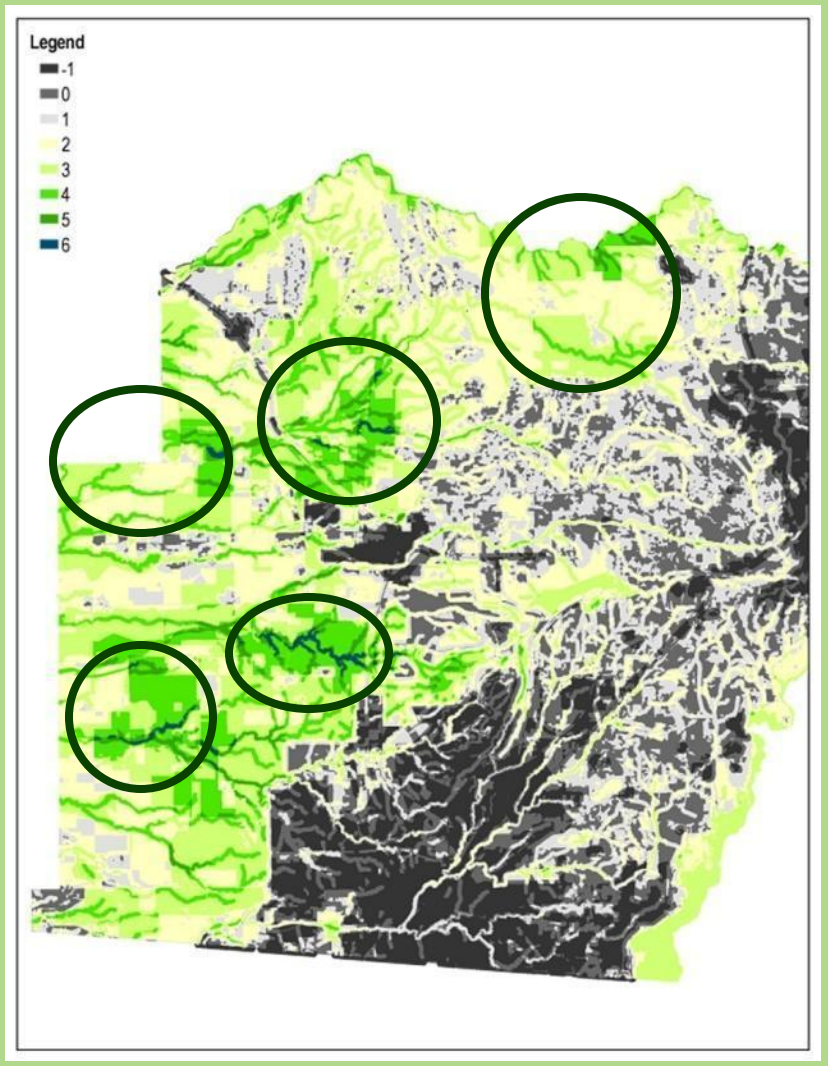
- Inventory of permanently protected open space
- Buffer area around protected open space
- FEMA Floodplain
- 300 ft. stream buffer
- Parcel size
- Vegetative landcover
- Distance from urban areas
- Adjacency to the Bear River
- Adjacency to streams with anadromous fish

Placer County Conservation Plan

PCCP – Conservation Priorities

Higher value areas emerge from the landscape and have become a priority for conservation.

The model can be easily modified to evaluate climate-based concerns and issues.



Placer County Conservation Plan

PCCP – Climate Action Planning Co-Benefits

Placer County Conservation Plan

PCCP – Climate Action Planning Co-Benefits

Implementation of the PCCP will have a number of co-benefits for climate action planning through:

- Carbon sequestration
- Reductions in the potential for rural residential sprawl/fragmentation
- Climate Adaption
- VMT reduction
- SB 375 - Compact urban form
- Biomass utilization
- Finance

Placer County Conservation Plan

PCCP and Carbon Sequestration

In preserving large natural landscapes, the PCCP will help prevent the loss of critical ecosystem services, including carbon storage (i.e. sequestration). The conservation plan will also restore and enhance tens of thousands of acres of disturbed or degraded areas, reviving their ecosystem services.

Kirk Ranch Conservation Easement

Placer County Conservation Plan

PCCP and Carbon Sequestration

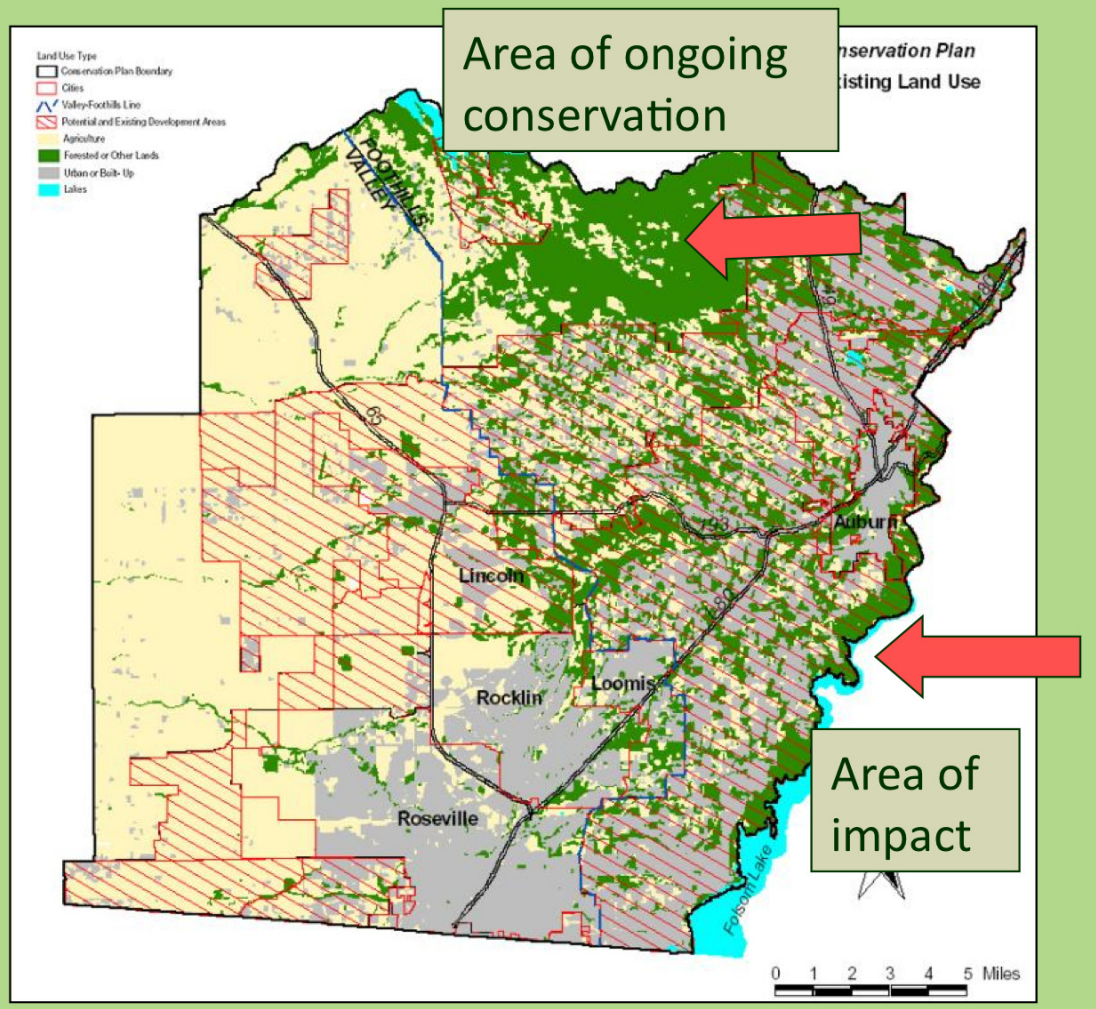
Restored and enhanced sites typically support greater plant biomass, support more perennial and long-lived plants, and repair damaged soil. These and other factors enable restored landscapes to absorb and store more carbon.

Miners Ravine
Restoration Project

Placer County Conservation Plan

Reduce Rural Residential Fragmentation

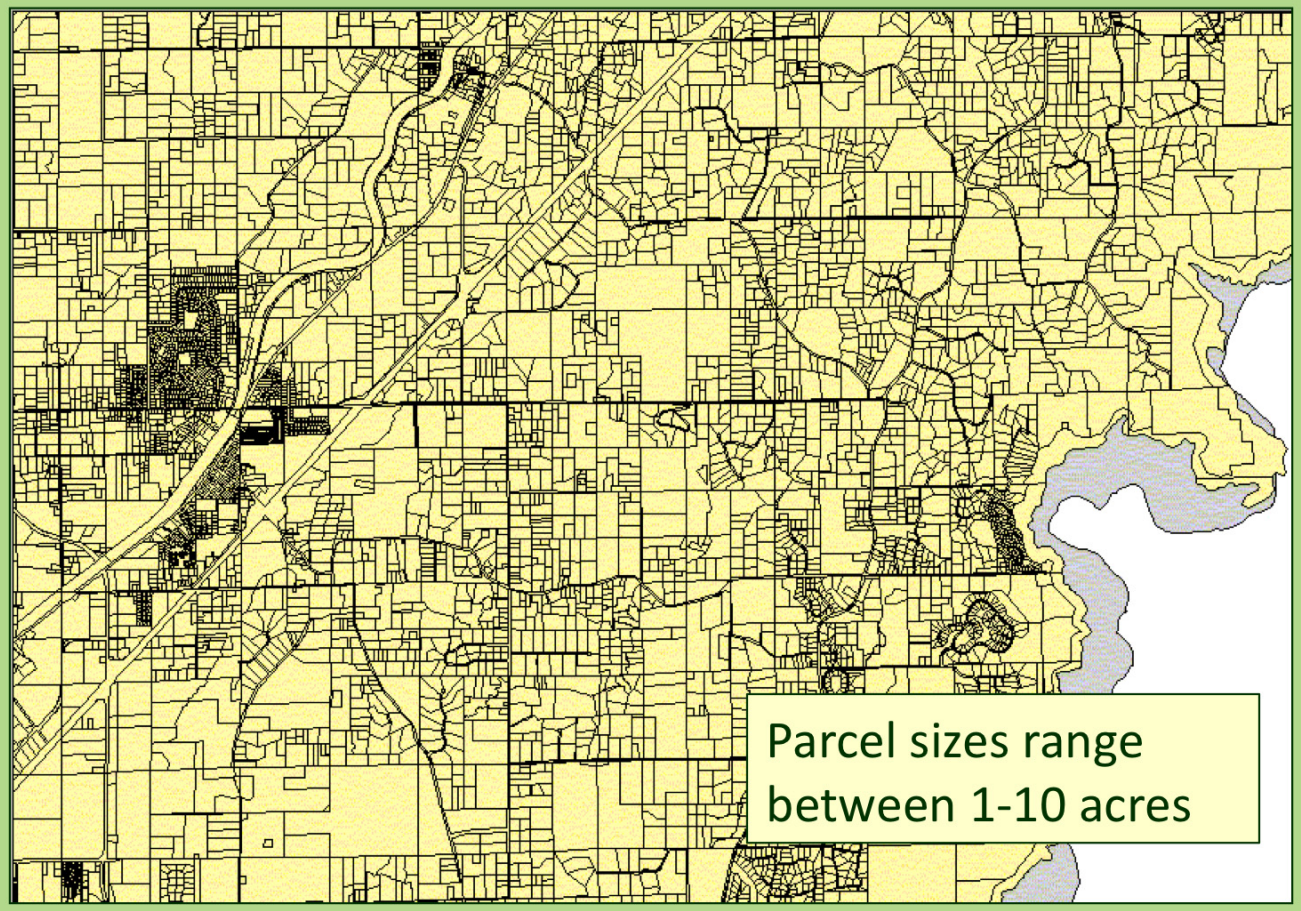
= oak woodlands



Oak woodlands and growth impacts in Placer County

Placer County Conservation Plan

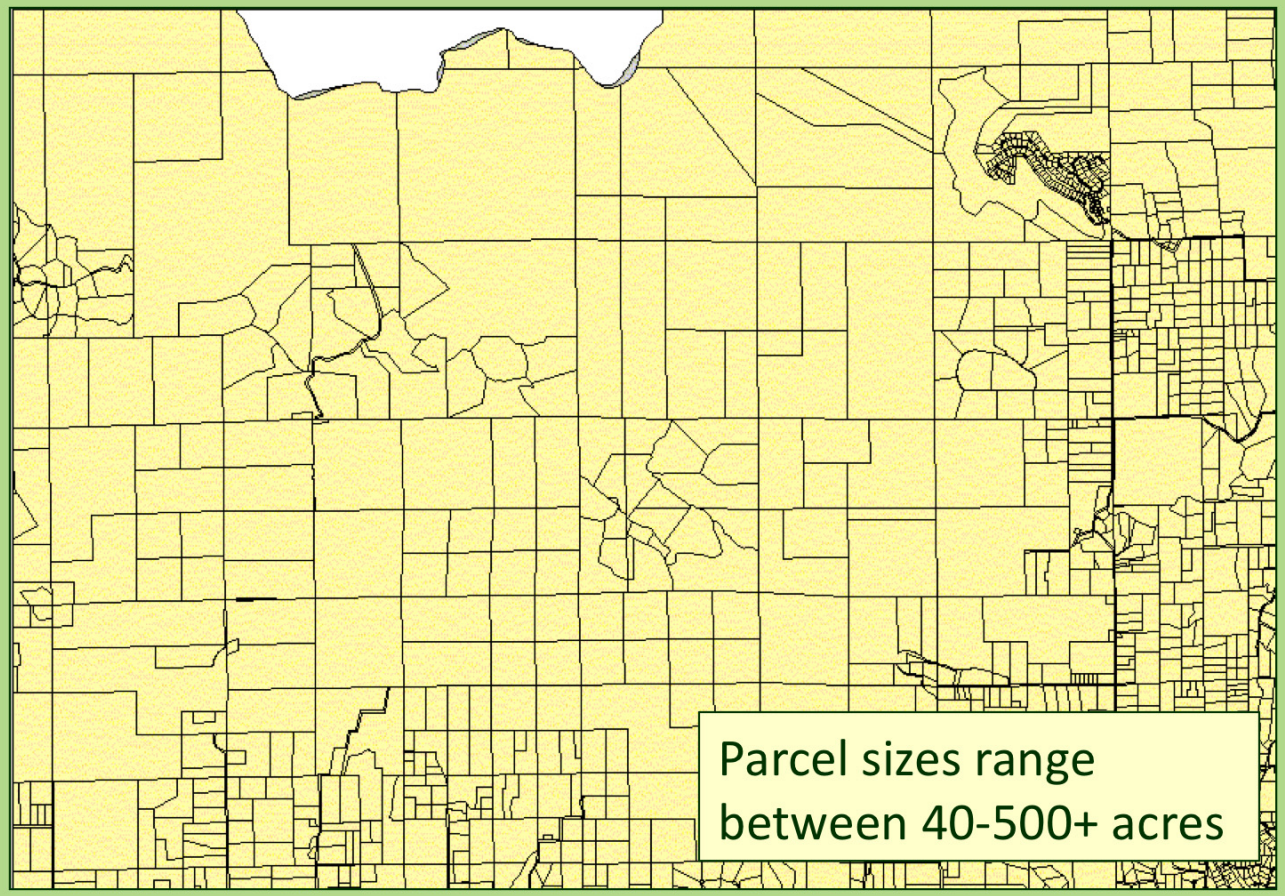
Reduce Rural Residential Fragmentation



Loomis Basin/Granite Bay – Dry Creek Watershed

Placer County Conservation Plan

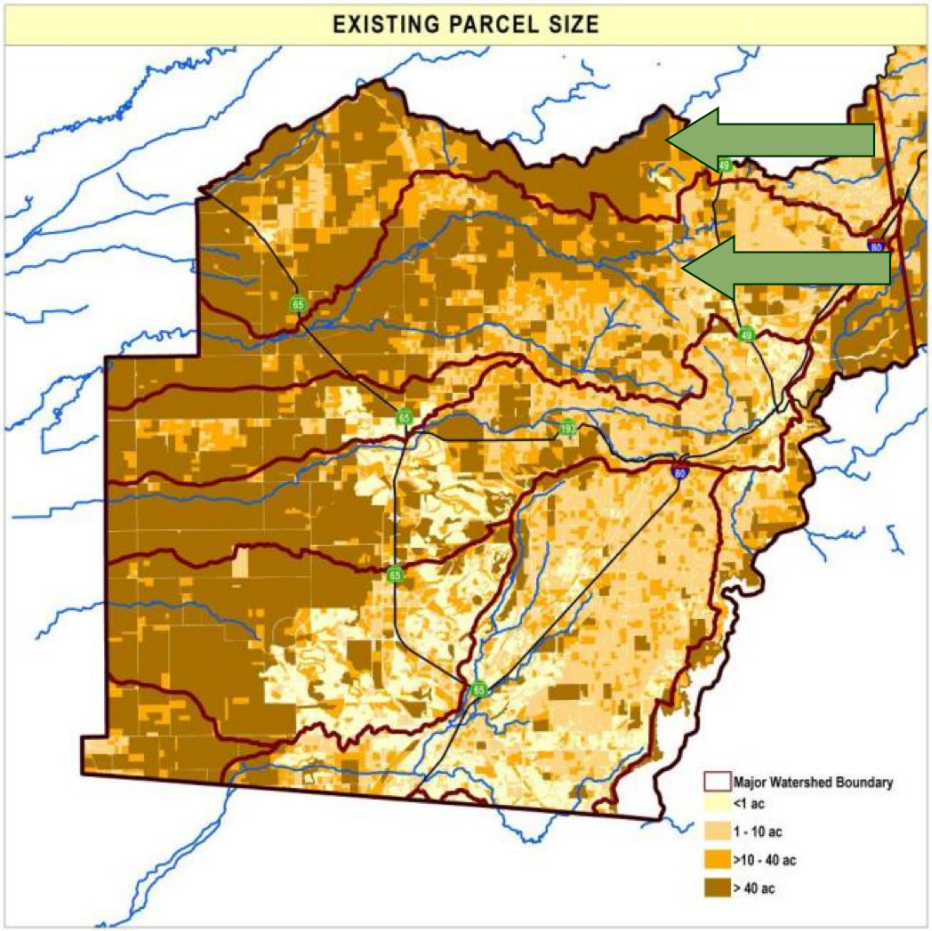
Reduce Rural Residential Fragmentation



Garden Bar/Big Hill Area - Coon Creek and Bear River Watersheds

Placer County Conservation Plan

Reduce Rural Residential Fragmentation



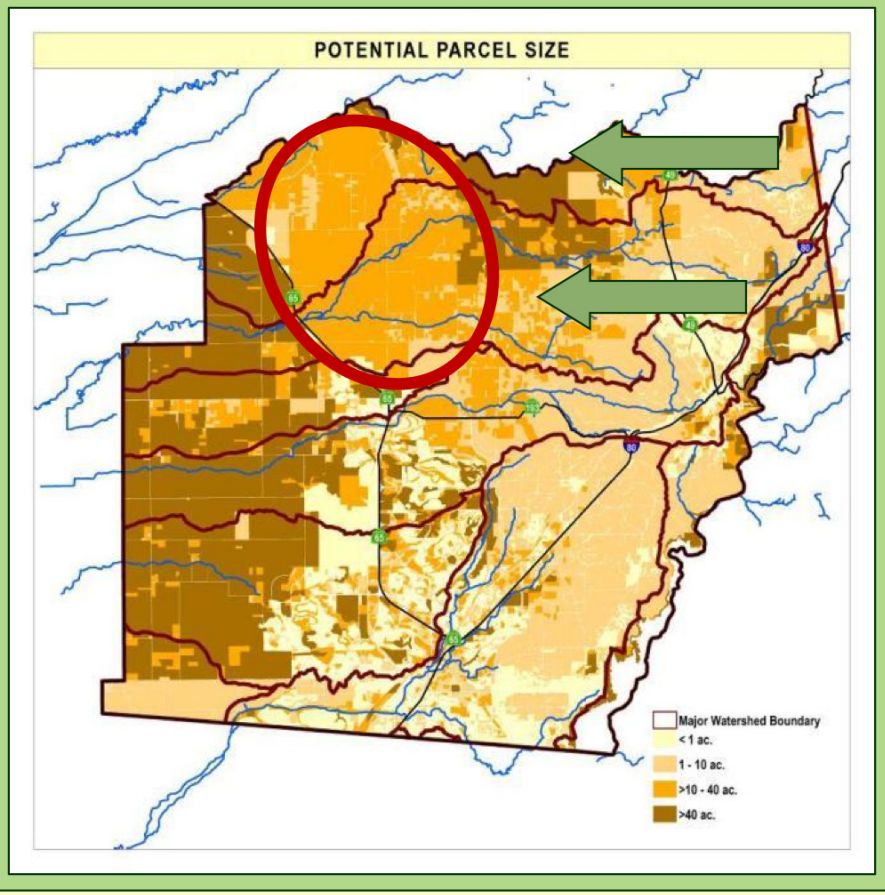
Bear R. Watershed

Coon Creek Watershed

Under current conditions significant opportunities exist to retain a conserved landscape of parcels greater than 40 acres in the Coon Creek and Bear River Watersheds

Placer County Conservation Plan

Reduce Rural Residential Fragmentation



Bear R. Watershed

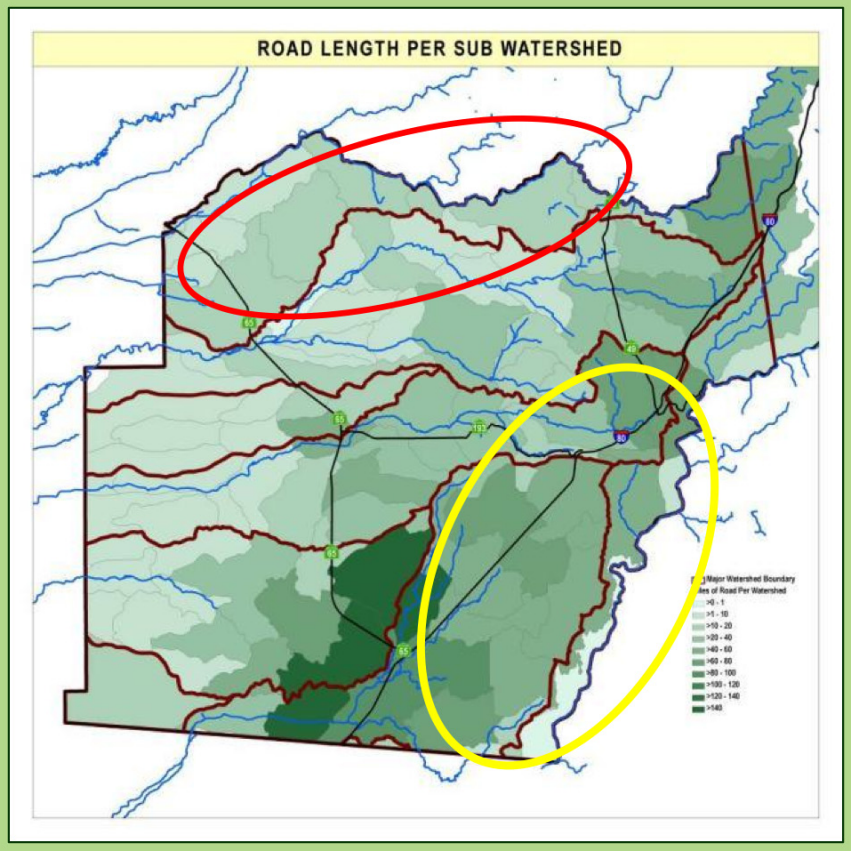
Coon Creek Watershed

VMT for rural residential land uses averages around 80-85 per household

At buildout fragmentation into 10-20 acre parcels increases significantly resulting in a highly disturbed and disconnected landscape dominated by rural residential and agricultural uses. The last real opportunity for connectivity in western Placer County connectivity would be lost.

Placer County Conservation Plan

Reduce Rural Residential Fragmentation



In addition to major highway corridors such as I-80, the construction of roadways in low density suburban and rural residential areas is dramatic.

Future parcelization road development continues to point to the Coon Creek and Bear River area as having the greatest potential for connectivity.

Placer County Conservation Plan

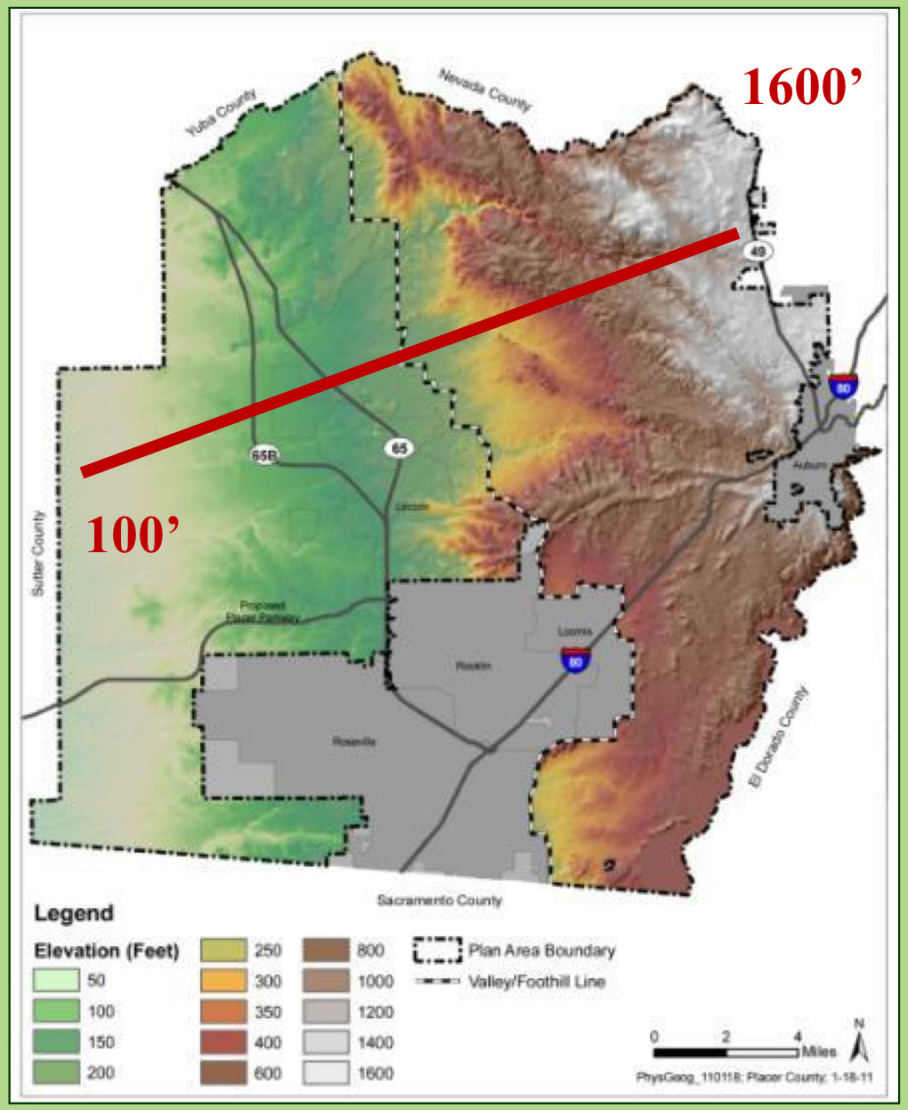
PCCP and Climate Change Adaption

The PCCP will also assist with climate change adaption:

- Creation of large, interconnected reserves over large environmental gradients such as topography and latitude.
- Preserve the largest number and size of species populations, increasing species resiliency;
- Allow for more effective and cost-efficient land management to combat increasing threats such as invasive species associated with climate change;
- Provide refuge for species escaping catastrophes such as wildfires that are expected to increase in size, frequency and intensity.

Placer County Conservation Plan

PCCP and Climate Change Adaption



The PCCP coverage area extends from the foothills west of Auburn to the Central Valley with elevations of 100’-1600’.

Placer County Conservation Plan

PCCP and VMT Reduction – Basic Facts

38 % of total GHG inventory in California comes from the transportation sector. 65% of this amount comes from light duty trucks/cars and on-road freight. One study from the Energy Information Administration predicts that VMT will continue to increase at a rate of ~1.4% per year for the next 20 years (2009-2030).

AB 32 has a three-pronged approach to personal vehicle GHG reduction: 1) vehicle technology, 2) fuel GHG intensity and 3) travel behavior.

Of these three, the PCCP can help implement travel behavior modifications.

Placer County Conservation Plan

PCCP and VMT Reduction – Basic Facts

SACOG data shows that downtown/urban environments generate an average daily VMT of 11-23 VMT per household while commuter suburban settings generate 58-74 VMT per household in the same metropolitan region. Rural residential settings generate as much as 80-85 VMT per household.

Agricultural and habitat lands generate very little VMT. Data is sparse but the displacement of suburban and rural residential land uses on reserve lands all but eliminates the potential for VMT on these lands when compared to a build out scenario without the for western Placer County.

Placer County Conservation Plan

PCCP and VMT Reduction

Current research on using travel behavior strategies to reduce GHG emissions indicate that a diversity of measures is better than a single focused approach.

South Placer suburban development

Placer County Conservation Plan

PCCP and VMT Reduction

Implementation of the PCCP has the indirect benefit of providing a diversity of VMT reduction measures including:

- Compact urban growth (linked to the establishment of a permanent reserve area that limits urban/suburban and rural residential expansion)
- Reductions in high VMT generating land uses, e.g., low density suburban and rural residential (linked to conservation actions in the reserve area)
- Increased viability of transit resulting from urban growth (linked to conservation actions in the reserve area)
- Increase in multi-modal opportunities through Class I trail construction (linked to stream avoidance strategy)
- Encourages a “fix it first” approach to vehicle lane mile maintenance and resurfacing versus new construction (linked to limits on road fragmentation in the reserve area)

Placer County Conservation Plan

PCCP and SB 375 Compliance

The PCCP is consistent with, and helps implement, key elements of the SACOG Sustainable Communities Strategy. The SCS is a plan to meet the region's greenhouse gas emissions reduction target while taking into account regional housing needs, transportation demands, and protection of resource and farm lands based on a forecast of likely land use patterns across all 28 local jurisdictions. The SCS provides opportunities for:

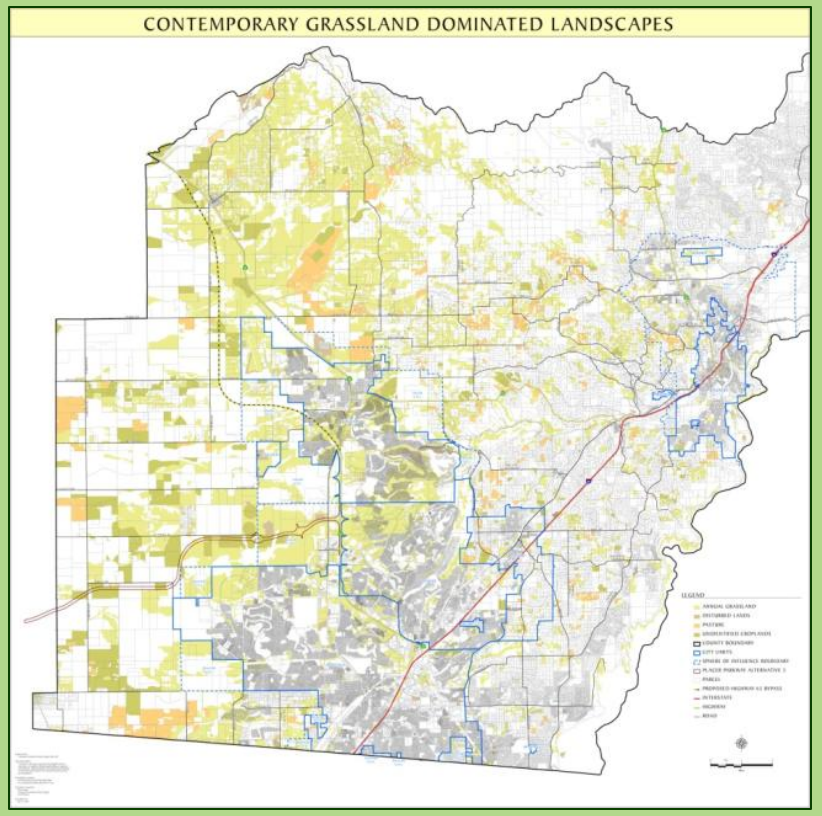
- Compact and mixed-use development - PCCP friendly
- Shortened commute times – PCCP friendly
- A reduction in traffic congestion – PCCP friendly
- A lessening dependence on automobiles – PCCP friendly
- An improvement in air quality – PCCP friendly
- Housing choices more aligned with the changing demographic of the region – PCCP neutral

Placer County Conservation Plan

PCCP and SB 375 Compliance

PCCP Co-Benefit Example:

SACOG has learned that there are substantial benefits associated with the avoidance of farmland and rangeland conversion to urbanized uses, e.g., There is a ~70x increase in GHG emissions from urbanized land compared to irrigated farmland and ~240x increase when compared to rangeland (source: Dr. Louise Jackson, U.C. Davis).



Rangeland conservation (e.g., grassland and vernal pool grasslands) is the highest conservation priority for the PCCP.

Placer County Conservation Plan

PCCP and Biomass Utilization

Developing methods of biomass utilization is a challenge in the oak woodlands and agricultural lands of the PCCP. Over time, biomass utilization will likely evolve with markets, technology, and pricing. Examples include:

- Merchantable timber - California hardwoods are being evaluated for niche markets
- Rice straw utilization – fuel, food supplement for ruminants, ethanol production, particle board manufacturing, and straw pulp production (Presently there are 3,000 acres of rice burned in Placer annually and 125,000 acres in the Central Valley.
- Biochar – carbonization of biomass that holds carbon and serves as a soil amendment.
- Woody biomass utilization – resulting from fuel load modification projects and agricultural waste

Placer County Conservation Plan

PCCP and Finance

Implementation of the PCCP will have significant costs.

One time Costs = ~$1B for acquisition and restoration
Ongoing Costs = $5-7M/year in perpetuity for administration, monitoring and land management

- Reduce land management costs through biomass utilization
- Raise revenues for one-time costs through carbon sales
- Others? The greatest need is for ongoing costs.

Placer County Conservation Plan

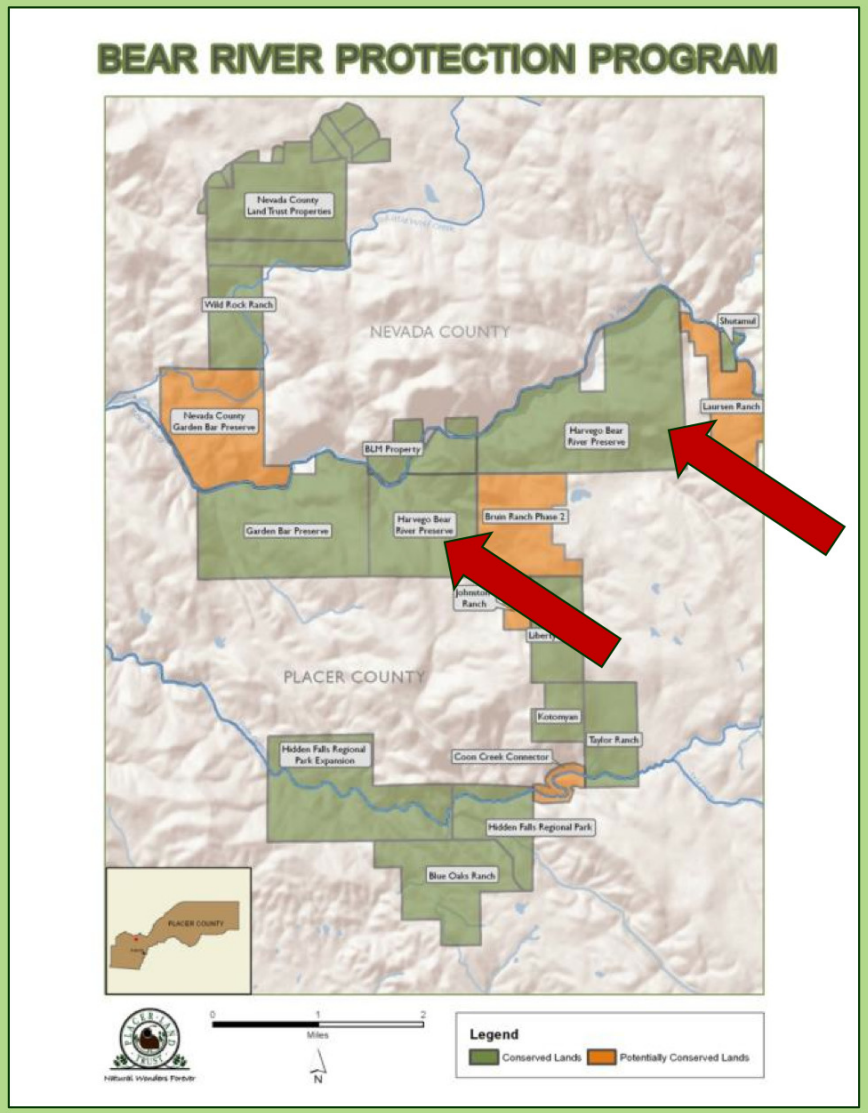
Bruin Ranch – Case Study

The Bruin Ranch is a 1,773 acre parcel owned by Placer Land Trust with a conservation easement held by Placer County.

Conservation of this property was essential to the oak woodland conservation objectives of the Placer County General Plan and the Placer County Conservation Plan.

Placer County Conservation Plan

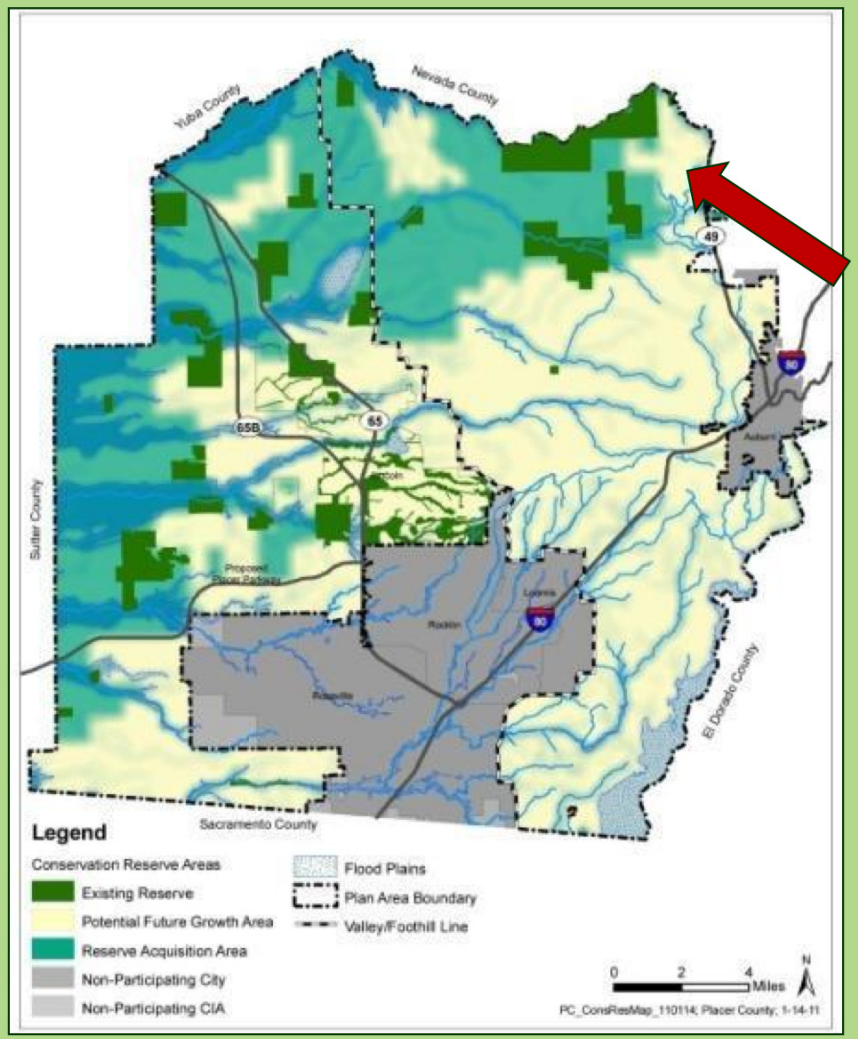
Bruin Ranch – Case Study



The Bruin Ranch is part of a larger scale effort in Placer, Nevada and Yuba Counties to conserve blue oak woodlands along an east/west valley to foothill gradient as well as north/south elevational gradient.

Placer County Conservation Plan

Bruin Ranch – Case Study



The Bruin Ranch provides for a reduction in oak woodland fragmentation (and resulting VMT reduction), carbon sequestration, climate adaption, potential biomass utilization, reduction in road fragmentation.

It also serves as a conservation anchor around which other lands will be protected.

Placer County Conservation Plan

Conclusions

Placer County will continue to look closely at the co-benefits associated with land conservation planning and the objectives of climate action planning in California. This is a process that is just beginning.

If a Strategic Growth Council grant is awarded this April, specific modeling tools will be developed to better understand these relationships for jurisdictions engaged in natural resource conservation and climate action planning throughout California.

Placer County Conservation Plan

Our Regional Conservation Planning Efforts

For information on the Placer County Conservation Plan contact:

Loren E. Clark
3091 County Center Drive
Auburn, CA 95603
lclark@placer.ca.gov
530 745-3016