

Landscape Conservation Plans Southern California



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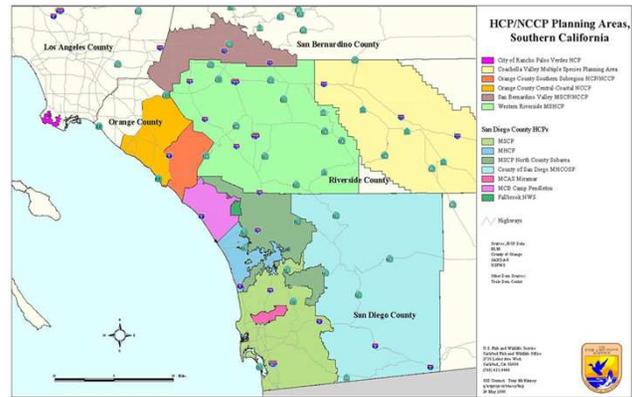
One of the most important solutions to protect our biological diversity and address the threats we've heard about is through landscape conservation planning. I'll briefly describe three plan reserve systems to illustrate how they were created, how they are implementing their commitments, and lessons we've learned from their implementation.

NCCP/HCP Fundamentals

- Broad-based ecosystem approach to planning for the long-term (>50 years) protection and perpetuation of biological diversity (initiated 1991; <https://www.wildlife.ca.gov/Conservation/Planning/NCCP>)
- Critical planning principles/tenets:
 - Conserve target species throughout the planning area
 - Larger reserves are better
 - Keep reserve areas close
 - Keep habitat contiguous
 - Link reserves with corridors
 - Reserves should be diverse
 - Protect reserves from encroachment
- Provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity
- Approved plans must be enforceable and funded
- Provides “take” authorizations to permitted jurisdictions, commensurate with the conservation commitments
- Did not initially anticipate or require specifically addressing climate change effects

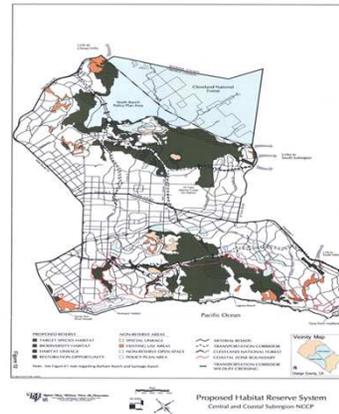
The fundamentals of the conservation plans integrate key state (Natural Community Conservation Plan) and federal (Habitat Conservation Plan) guidance and provide take authorizations over large geographic areas that comply with that guidance and permitting requirements.

Southern CA NCCP/HCPs



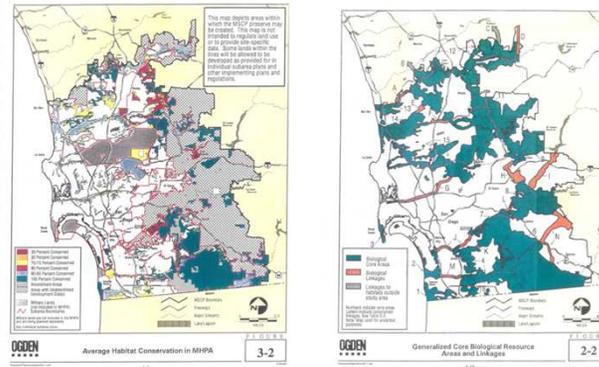
The three plans I'll be discussing are Orange County's C-C, San Diego's MSCP and Western Riverside's MSHCP.

Orange County Central-Coastal Reserve

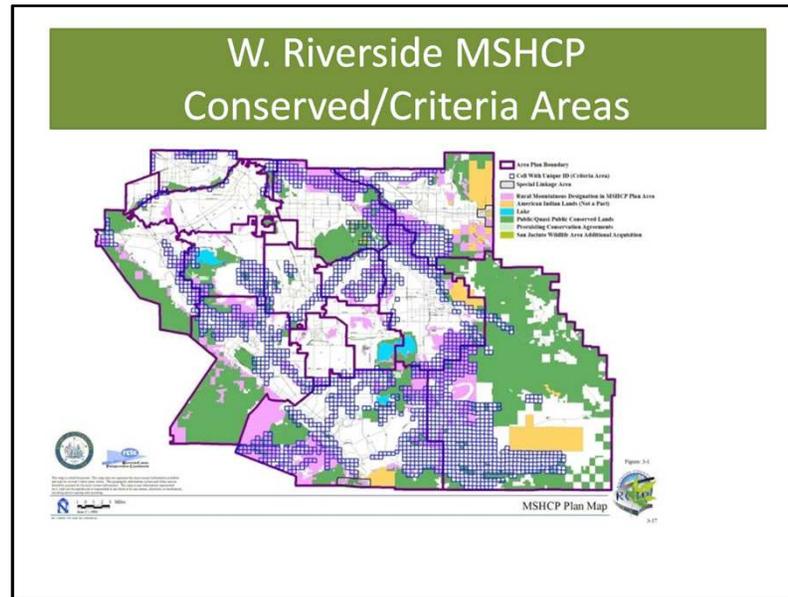


The C-C plan was the first major NCCP to be developed/permitted; its impetus derived in large part from a large landowner (TICs) that had approved development and phased dedication plans but no take permit - and the CA gnatcatcher was headed to listing. It focused on CSS and chaparral habitats.

San Diego MSCP-South



This was one of the earlier developed/permitted plans. Its impetus was in large part driven by a need to address cumulative effects and growth inducement from municipal projects. It is a highly biodiverse area with significant development plans and a need to streamline ESA/CESA permitting.



This plan was developed/permitted after several other SoCal plans. The multispecies approach followed-up on the HCP for the SKR, which provided limited benefits to landowners facing other listed species issues. Private landowners were leery of a hardline approach to planning, which resulted in a set of criteria for conserving within large swaths of undeveloped lands.

Summary of Plans

<u>Plan Name</u>	<u>OC C-C</u>	<u>SD MSCP</u>	<u>WR MSHCP</u>
Plan Area (ac)	208,000	512,000	1,200,000
Initial Permit Date	1996	1997	2004
Preserve Area (ac)	37,380	172,000	500,000
Initial Conserved Area (ac - %)	15,560 (42)	81,750 (47)	347,000 (69)
Conservation Area Added (ac)*	21,310	64,900	61,245
Preserve Completion (%)	99+	85	82
Covered Species (#)	44	85	146
Term (yrs)	75	50	75

*actual acreages may not reflect recently added contributions; adjacent, non-reserve habitat conservation; and some SD MSCP subareas have not been approved

Highlight OC (mostly one private landowner/associated utilities and public park lands hence quick reserve build-out); SDMSCP (some hardline areas, such as 25,000+ acre Otay Ranch but lots of small private lands as well; includes substantial public lands commitments); WR MSHCP (included SKR reserve but a lot of other public lands – which subsequently have to be formally included MSHCP commitments; significant biodiversity).

Preserve Implementation

Plan Area	OC C-C	SD MSCP	WR MSHCP
Preserve Delineation	Hardline	Hardline and Criteria	Criteria, some Hardline
Subdivision	None	8 Jurisdictional Subareas	5 Geographic Areas With 16 Subunits
Endowment	Specified in Plan/IA; Funded in 4 years; \$10.7M	Option in Plan/Not in IA; Funding Options Vote in 3 years; Currently Extended Interim Funding	Option in Plan/Not in IA; Funding Sources Specified; Primary Funding Established
Management	Nature Reserve of OC (NROC) Coordinates and Manages Budget; Develops Annual Mgmt Plan for Most of Reserve and Prepares Annual Work Plans; Permittees Submit Work Plans to NROC	Permittees Manage Independently and Prepare Annual Work Plans; SANDAG Provides Some Coordination Per Management, Monitoring, Grant Programs; Voluntary Land Managers Group	Regional Conservation Agency (RCA) Coordinates and Controls Budget; Reserve Mgmt. Oversight Committee; RCA Prepares Annual Mgmt Plans/Budget
Monitoring	NROC Coordinates/Manages Budget; Develops and Manages Most Monitoring	Permittees Monitor Own Lands. Some Coordination Per SANDAG Monitoring and Env. Mgmt Grant Programs	RCA Coordinates and Controls Budget Through Monitoring Program Administrator; RCA and DFG Prepare Annual Plan and Budget

Emphasize: OC (few major permittees; upfront M&M endowment; NROC coordinates finances and M&M); SD MSCP (jurisdictions form individually permitted subareas; permanent funding sources deferred; no specified M&M coordinator/SANDAG essentially assumed interim role); WR MSHCP (RCA coordinates all permits; is overall management coordinator- RMOC – and has central monitoring administrator).

Benefits of Plans



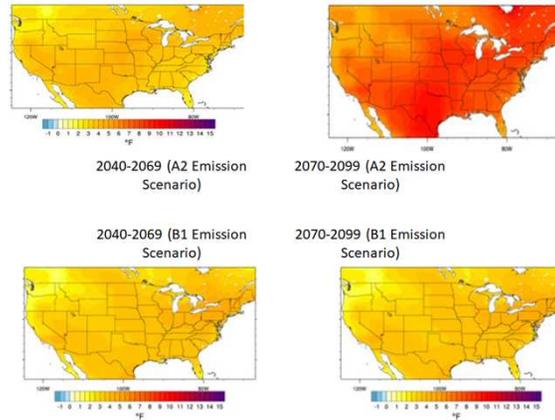
- **Address Diverse Circumstances**
 - Initial Establishment Conditions (diverse biology and politics)
 - Preserve Assembly (hardlines and/or conservation criteria)
 - Preserve Management (single or multiple management/oversight)
- **Unifying (Permit-Driven) Commitments**
 - Acquisitions and Dedications
 - Mitigation in Rough Step by Vegetation Types (and covered species take)
 - Management of Dedicated Lands
 - Monitoring of Dedicated Lands

Expand on bullets.



As Dave discusses previously, there are many threats to our biodiversity: unanticipated development proposals, overuse and unauthorized/illegal use; historic and new invasive species; fire and Climate Change.

Projected Climate Change Effects on Mean Annual Temperatures (changes from 1971-2000 avg.)

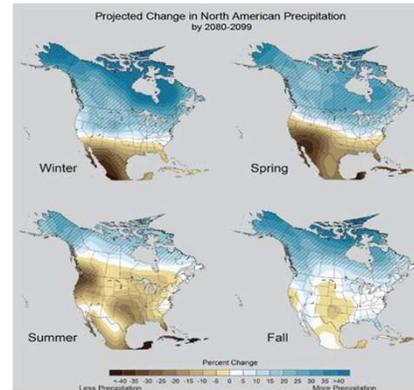


http://www.fhwa.dot.gov/environment/climate_change/adaptation

Depending on how the world's GHG emissions are addressed, with a low emission scenario (B1) we can expect to see temperatures at or above the 1.5 Celsius "tipping point" but with a high emission scenario, temperatures will be several degrees Celsius higher.

http://www.fhwa.dot.gov/environment/climate_change/adaptation/publications_and_tools/climate_effects/effects03.cfm#figure_7

Projected Climate Change Effects on
Precipitation (changes from 1971-2000
avg.)



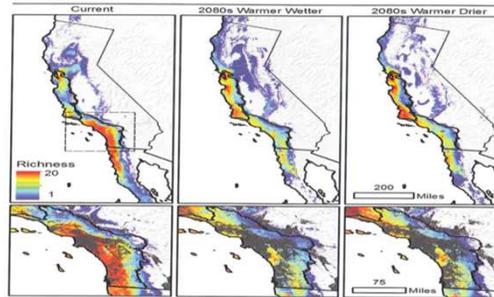
http://www.fhwa.dot.gov/environment/climate_change/adaptation

In addition to rising temperatures, the projections for precipitation suggest overall decreases throughout much of the southwest and southern California.

http://www.fhwa.dot.gov/environment/climate_change/adaptation/publications_and_tools/climate_effects/effects03.cfm#figure_4

Climate Changed Forced Migration

FIGURE 3. COMPOUNDING IMPACTS OF FUTURE CLIMATE CHANGE AND LAND USE ON CALIFORNIA SAGE SCRUB SHRUB DIVERSITY



Modeled species richness ranges from 1 (blue) to 33 (red). Areas of habitat conversion to human land uses in Southern California are shown in dark gray in the bottom three panels and overlap with areas of species loss driven by climate change. The coastal, central, western and southwestern California ecoregions are shown in a black outline.

Source: Riordan and Rundel 2013 in Fremontia 41 (3)

Projections of climate change effects on biodiversity for our area suggest significant shifts in biodiversity northward, with the southerly areas losing biodiversity. Of course we don't know how fast or how large actual changes will be. Establishing large conservation reserves may slow or moderate or even provide refugia for some species. But they must be supported by other actions.

How Can We Help?

- Join one or more organization working on this issue
- Communicate often with your elected officials about your support for habitat plans that effectively protect our wild nature.
- Advocate for full permanent reserve funding
- Ensure consistent data requirements/reporting across planning areas
- Advocate for management and enforcement of compatible uses
- Insist on the use of climate change science in all conservation, climate action, and adaptation plans
- Support groups opposing harmful changes to the federal ESA

Here are some actions each of us and our organizations can do to help conserve biodiversity. The next two speakers will describe two complementary actions that should be implemented to support and augment what conservation plans cannot address. Thank you.