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

### Summary of Plans

<table>
<thead>
<tr>
<th>Plan Name</th>
<th>OCC-C</th>
<th>SD MSCP</th>
<th>WR MSCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan Area (ac)</td>
<td>308,000</td>
<td>532,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Initial Permit Date</td>
<td>1996</td>
<td>1997</td>
<td>2004</td>
</tr>
<tr>
<td>Preserve Area (ac)</td>
<td>37,300</td>
<td>172,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Initial Conserved Area (ac, %)</td>
<td>15,500 (42)</td>
<td>81,750 (47)</td>
<td>347,000 (60)</td>
</tr>
<tr>
<td>Conservation Area Added (ac)*</td>
<td>21,310</td>
<td>64,900</td>
<td>61,245</td>
</tr>
<tr>
<td>Preserve Completion (%)</td>
<td>99+</td>
<td>85</td>
<td>82</td>
</tr>
<tr>
<td>Covered Species (#)</td>
<td>44</td>
<td>85</td>
<td>146</td>
</tr>
<tr>
<td>Term (yrs)</td>
<td>75</td>
<td>50</td>
<td>75</td>
</tr>
</tbody>
</table>

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