Healthy Watersheds California: A New Approach to Water Security
California’s water system relies on both natural and built infrastructure

Five watersheds provide 80% of reservoir supply:

- 8M acres irrigated agriculture
- 40% of LA drinking water
- Drinking water for 25+ million people
Watersheds Analyzed: SWP; CVP main system feeders
20th Century Climate Change in CA

Temperature Change:

Precipitation Change:

Projected to remain cooler & wetter than rest of California

Rappuciolo, et al 2014
California’s Natural Water Infrastructure

Problem:
- Sub-optimal watershed health threatens water supply
- Water policy and financing focuses on built infrastructure
- Funding for watershed conservation and restoration is insufficient, inconsistent.

Solution:
- New, innovative, cost effective financing model for comprehensive watershed restoration and conservation

Result:
- Enhanced water security (and reasonable expectations of quantity) for California in an era of drought and climate change
Fundamental Problems

• Overly dense, even, closed canopy forests
• Loss of wet and dry meadow “sponges”
• Fragmentation
• Changed flow regimes
• (Cultural inertia)
Solution: Restore more water-rich forests
Solution: Restore wet meadows and degraded streams
Solution: Keep watersheds whole
Solution: Promote restoration across ownerships, public and private
Promote Resiliency

Spring 2013

Squaw Creek May 2014
Example of analysis – Pit Watershed
## Forest Management Results

<table>
<thead>
<tr>
<th>Pit Watershed</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Watershed</td>
<td>3,404,035</td>
</tr>
<tr>
<td>Federal Forestland</td>
<td>1,027,602</td>
</tr>
<tr>
<td>Candidate Sites for Mechanical Operations</td>
<td>632,901</td>
</tr>
<tr>
<td>Candidate Sites for Restoration via Prescribed Fire</td>
<td>704,079</td>
</tr>
<tr>
<td>Non-Federal Forestland</td>
<td>917,798</td>
</tr>
<tr>
<td>Candidate Sites for Restoration</td>
<td>528,034</td>
</tr>
<tr>
<td>All Candidate Sites for Restoration</td>
<td>1,232,113</td>
</tr>
</tbody>
</table>
### Dry & Wet Meadows

#### Results

<table>
<thead>
<tr>
<th>Pit Watershed</th>
<th>Total Acres</th>
<th>Restoration Need (70% of total)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Federal</td>
<td>Non-Federal</td>
</tr>
<tr>
<td>Dry Meadows</td>
<td>58,980</td>
<td>55,357</td>
</tr>
<tr>
<td>Aspen</td>
<td>4,123</td>
<td>493</td>
</tr>
<tr>
<td>Wet Meadows</td>
<td>51,176</td>
<td>94,997</td>
</tr>
</tbody>
</table>

#### Road/Trails in Wet Meadows

<table>
<thead>
<tr>
<th>Miles</th>
<th>Federal</th>
<th>Non-Federal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads (unpaved)</td>
<td>136</td>
<td>153</td>
</tr>
<tr>
<td>Trails</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
“Concession”-Financing Model: capture cost in price of water, hydro-power

- WIFIA; EPA Water Finance office (SDW)
- Treasury Revenue Bonds
- Impact Investors, Philanthropy
- Partner with public grants to leverage impact
- Comprehensive watershed by watershed plan of work, timeline, funding, transparency
Thank You!

These slides were created to accompany a presentation. They do not include full documentation of sources, data samples, methods and interpretations. To avoid misinterpretations, please contact: Laurie Wayburn: lwayburn@pacificforest.org

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