• Brief Background
• Approach
• Preliminary Findings
• Steps for Completion of Study
• Implementation Steps
Background

- Integrated Regional Water Management (IRWM)
- Prop 50 project – focus on Scotts Valley area
  - Report to Soquel Board in May 2011
- Prop 84 project – Includes Soquel
  - Report to Soquel Board in February, 2013
- Working Group: County, City, SLVWD, SVWD, SqCWD
- Work in Progress, some highlights
- IRWM Plan update – March 2014
- Grant application – August 2014
Methodology for Yield Assessment

- Confluence Model models City’s whole system and how water transfers would fit within the overall City operation
- Flow calculations establish flow records and estimated flows that would exist with and without City diversions and transfers; historical flow record
- Fish Habitat Effects Analysis: utilizes flows with and without diversions to estimate effects from water transfers on habitat downstream
- Assumptions: Divert water Nov-April from Tait; Meet “Tier 3” flow targets throughout the system
- Water goes to Scotts Valley area first, excess to Soquel
Operational Scenarios

- Current Infrastructure/Water Rights/Soquel Service Area 1
- New Interties to Scotts Valley and Soquel
- New Water Rights
- Upgraded diversion and treatment capacity
- Treatment of higher turbidities
Confluence Model Results

Annual Transfers to Soquel Creek (mg)

- Current
- GHWTP Imp
- Unl Tait

Percent > Y-Value
Treatment Challenges

- Turbidity, Sediment, Organic Load, Bacteria
- San Lorenzo water worse than North Coast
- For increased flow, need to replace/upgrade:
  - Pretreatment Filtration
  - Disinfection/Oxidation Process
  - Solids handling
- Improvements at Tait needed for increased sanding
Infrastructure Upgrades and Costs (Additive)

- Intertie to SLVWD/SVWD (1-2 mgd) $5.8 M
- Intertie to Soquel(1.5-3.5 mgd) $18.5 M
- Tait Diversion Works upgrades (7.8 mgd) $2.8 M
- Tait Expansion (to 14 mgd) $5.9 M
- Treatment Plant Upgrades (to 16 mgd) $57.7 M
- Diversion of Increased Turbidity Water $1.1 M

- Operating Costs: $147 – 715 K/yr

Pump Stations, additional wells to deliver water back to Santa Cruz - ??
<table>
<thead>
<tr>
<th>Scenario</th>
<th>SqCWD Yield (af/y)</th>
<th>Total Potential Yield</th>
<th>Capital Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0  Existing Connection to SA1</td>
<td>??</td>
<td>??</td>
<td>??</td>
</tr>
<tr>
<td>1  New interties (Existing Rights)</td>
<td>120</td>
<td>445</td>
<td>$ 27 M</td>
</tr>
<tr>
<td>2  Increase GHWTP Capacity from 10 mgd to 16 mgd</td>
<td>292</td>
<td>623</td>
<td>$ 78 M</td>
</tr>
<tr>
<td>3  Increase GHWTP Capacity and Tait Capacity from 7.8 to 14 mgd</td>
<td>1,022</td>
<td>1,495</td>
<td>$ 91 M</td>
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<tr>
<td>4  Increase GHWTP Capacity and Turbidity Treatment from 15 to 200 NTU (7.8 mgd)</td>
<td>417</td>
<td>798</td>
<td>$ 86 M</td>
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<tr>
<td>5  Increase GHWTP Capacity, Increase Tait Capacity, Increase Turbidity Treatment</td>
<td>1,178</td>
<td>1,712</td>
<td>$ 92 M</td>
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</tbody>
</table>
Water Rights Considerations

- Current limits
  - Volume limits
  - Place of use limits
  - Need for new rights
- Long Term Options
- Short Term Options
- CEQA/Fishery Constraints
- Protection of current rights
## DRAFT: Water Rights Options

<table>
<thead>
<tr>
<th>Temporary Urgency Change</th>
<th>1435</th>
<th>City</th>
<th>180 days, renewable</th>
<th>Within current right</th>
<th>&lt;90 days</th>
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<tbody>
<tr>
<td>Temporary Transfer</td>
<td>1725</td>
<td>City</td>
<td>1 year, may be extended</td>
<td>Within current right</td>
<td>&lt;60 days No CEQA</td>
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<tr>
<td>Temporary Urgency Permit</td>
<td>1425</td>
<td>Other Party</td>
<td>180 days, renewable</td>
<td>Excess Unappropriated water</td>
<td>Expedited</td>
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<tr>
<td>Petition to Change Place of Use</td>
<td>1701</td>
<td>City</td>
<td>Permanent</td>
<td>Within current right, amends right</td>
<td>More than 1 yr</td>
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<tr>
<td>Application for New Water Right</td>
<td>1202, 1205-1207, 1250 et seq.</td>
<td>Any party</td>
<td>Permanent</td>
<td>New available water</td>
<td>2-5 yr + 10-20 yr</td>
</tr>
</tbody>
</table>
How much water can come back to Santa Cruz?

- Rate to meet peak demand: Wells and Pumping Capacity
- Annual volume: Basin capacity?
- Safeguards to maintain groundwater levels, prevent seawater intrusion
- Policies and agreements
Completion of Project

- Complete estimates of current intertie capability, yield potential
- Estimate potential to send water back to Santa Cruz
- Consult further with Fishery Agencies
- Complete draft summary report
- Circulate report for review and comment
Potential Implementation Steps

- Develop Agreement among water agencies
- Determine best strategy for short term and long term water rights applications
- CEQA
- Initiate designs for infrastructure upgrades
- Financing Plan for next steps
- Possible further assessment of possible subsequent phases: direct recharge