

# **Lochquifer on the Level**

**A Presentation to the  
Santa Cruz City Water Commission  
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**Jerry Paul, M.S.E.E.**

**organized by Water for Santa Cruz County**  
**[waterforsantacruz.com](http://waterforsantacruz.com)**

## **Agenda**

**In-Lieu is better than you may think**

**Lochquifer Harvests 3x**

**Water Insurance Policy Comparison**

**Lochquifer Cost Estimate**

**Santa Margarita Basin Option: a Steal for All**

**UWMP Planning Act calls for Lochquifer**

## In-Lieu storage

**Misconception:** We can't send Loch water to SqCWD because then it is effectively "lost".  
**New idea:** It is effectively stored in the Purisima Aquifer for SCWD use.

"Lost" is water **we already have** the rights to divert, but instead we **send out to sea**.

Attrition:

6%/year in Loch due to evaporation

3%/year now in Purisima (Cameron Tana of Hydrometrics)

**not a big factor.**

Even the Aromas Aquifer has low attrition if used for short terms, e.g, spring → summer.

Water return:

**SCWD's Beltz wells** can produce water from SqCWD's aquifer today.

**SqCWD's production capacity** is over twice their annual 1.1 Bgy demand.

Returning water to SCWD can **begin in advance of need and carry on for years after**.

Lesson: send to SqCWD as much water as we have the water rights for.

**Water under Soquel is just like water in the Loch.**

## Lochquifer Harvests: Huge

~2.1 Bgy in Wet years,	(2 out of 6 years)
~2.1 Bgy in Normal years,	(2 out of 6 years)
~1+ Bgy in Dry years	(1 out of 6 years)
0 Bgy in Critically Dry years	(1 out of 6 years)

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~1.6 Bgy Average

- over 3 times SCWD2 Desal's average (0.5 Bgy)
- over 3 times SqCWD IPR's capacity (0.5 Bgy)

## **“Water Insurance Policy”**

### **Which alternative is best?**

Lochquifer versus expensive RO systems:

- At 3 times better average production, Lochquifer will soon get ahead and stay ahead of RO.
- Lochquifer also could start much sooner.
- Lochquifer could make us “drought-proof” before other alternatives could produce a drop.

*Lochquifer is the best insurance policy.*

## Lochquifer Cost Estimate

- The entire Lochquifer Alternative has never been cost-estimated transparently, as is, by the Water Department.
- Bundled with superfluous “poison pills”:
  - \$200M Loch dam raising
  - \$180M injection well (“ASR”) scheme
  - Various other expensive “ASR” schemes
  - Expensive GHWTP and Tait Street replacements, radical upgrades

Estimate needs to be part of an honest EIR for any alternative under consideration.

The Water Commission and the City need to show objectivity and transparency, especially in light of Lochquifer’s compelling low price and high production capacity.

The UWMP needs to describe and cost-estimate Lochquifer *per se*.

## Itemized Cost Estimate for Lochquifer

Each of its 5 main elements pays handsomely as a stand-alone as well.

\$ --	Felton joint winter water rights boost by about 2 Bgy (6% of river)
10M	Felton Ranney collector, 20 mgd
4M	Felton-Loch Pipeline: upgrade the 13 mgd plan to 30 mgd
12M	Potable intertie with SqCWD, 6 mgd
6M	<b>Santa Margarita Basin Option: two short pipes, mostly by gravity*</b> 1. From Loch via Felton for dry-times surface-spreading in Santa Margarita Basin quarries; water seeps into aquifers. 2. Potable interties from Scotts Valley, Mt. Hermon and San Lorenzo Valley to high-elevation SCWD customers.
\$32M	Total

- SVWD, Mt.HWD & SLVWD **get raw water** spread into their basin *at very low cost*.
- SCWD **gets treated water**, especially in dry times, at *cost lower than present cost*.
- Cheapest way to **boost fish**, who have no money and no vote: charged aquifers seep some water, vitally cool and clean, into streams in summer.

## California Urban Water Management Planning Act July 5, 2005 **Excerpts re Lochquifer's inclusion**

### **Chapter 3, Article 3.1.10620**

(d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area...

### **Chapter 3, Article 2, Section 10631**

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan: ...

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. ... a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. ...

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available...

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis. ...

### **Chapter 3, Article 2, Section 10631**

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs... The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply. [This category appears to include new groundwater stored via in-lieu, e.g., by the Lochquifer Plan (a.k.a. WSAC Portfolio 40, updated).]...

(k) ... The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). ...

### **Chapter 3, Article 2, Section 10634**

The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability. ...

### **Chapter 3, Article 2, Section 10635**

(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier...

### **Chapter 3, Article 3, Section 10642**

Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code....

### **Chapter 4, Section 10651**

In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.