The Freshwater Trust®
Changing the course of conservation

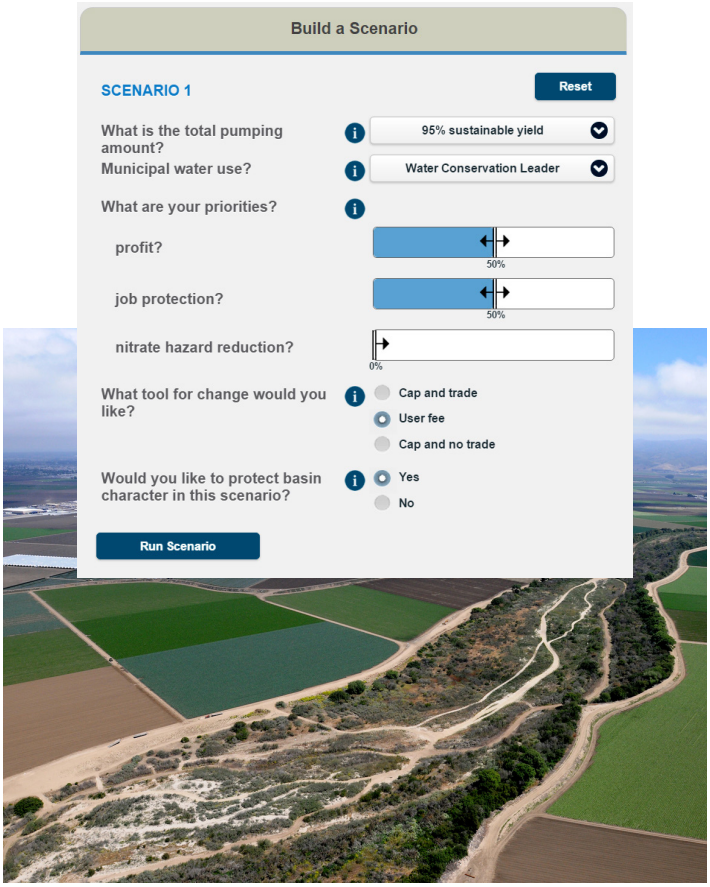
The Freshwater Trust is a 501(c)(3) not-for-profit organization that actively works to preserve and restore our freshwater ecosystems.

BasinScout: Water Quantity

The StreamBank® BasinScout™: Water Quantity tool combines multiple sources of information about a water resource—economic, environmental, and social—for rapid modeling of various water use scenarios. Users can run multiple water allocation scenarios in order to understand the trade-offs associated with various groundwater usages and extractions.

Use BasinScout: Water Quantity to:

- → Highlight different ways of allocating a limited quantity of water
- → Provide a suggested best result for sustainable use that addresses the priorities of stakeholders
- → Provide outcomes in a transparent and easy-to-understand way for water resource managers and interested stakeholders

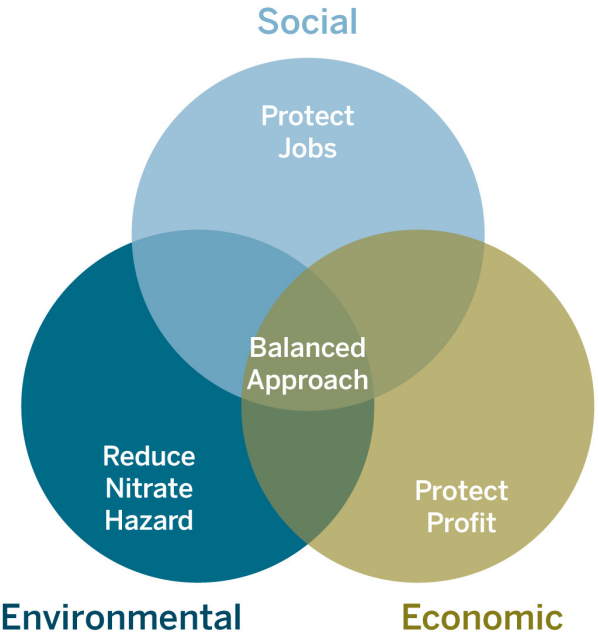


Assess Groundwater Resources

BasinScout allows users to assess the current and desired use conditions for the sustainable management of groundwater resources.

Inputs into BasinScout include data on current groundwater inputs, estimated or actual consumptive groundwater removals, crop information, and economic information—then weighted by these concerns:

- **Social:** Managing water use and maximizing number of jobs
- **Environmental:** Protect human health, measured by nitrogen hazard index
- **Economic:** Maximizing water use for profit



BasinScout: Water Quantity provides an interactive tool (left) that helps to model different groundwater allocation scenarios based on weighted stakeholder concerns (above).

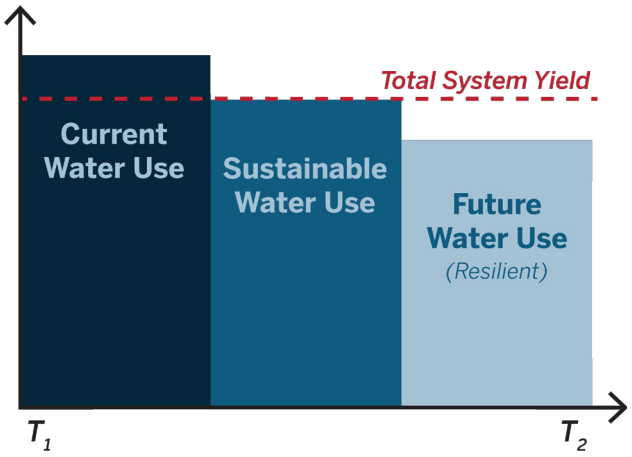
Build Allocation Plan

Creating different scenarios in BasinScout can allow management decisions to be targeted on actions that will yield optimal results for sustainable yield, or responsible groundwater management over time.

The BasinScout scenarios also allow the user to evaluate different allocation systems based on:

- Cap and Trade
- Cap (no trade)
- User Fee

California's Sustainable Groundwater Management Act (SGMA) establishes milestones that high- and medium-priority basins in a critical state of overdraft must meet to become sustainable. BasinScout can assist managers in building an objective allocation plan that reflects the needs of various stakeholders in shaping how sustainability is achieved.

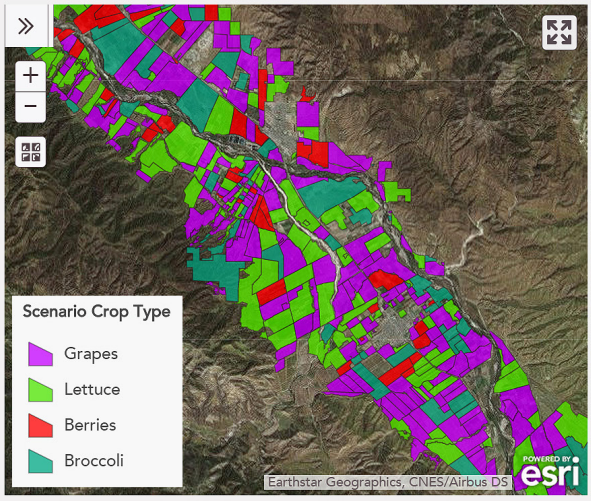


Above: Given a limited quantity of water (Total System Yield), what is the ideal re-allocation of that resource based on the preferences of stakeholders?

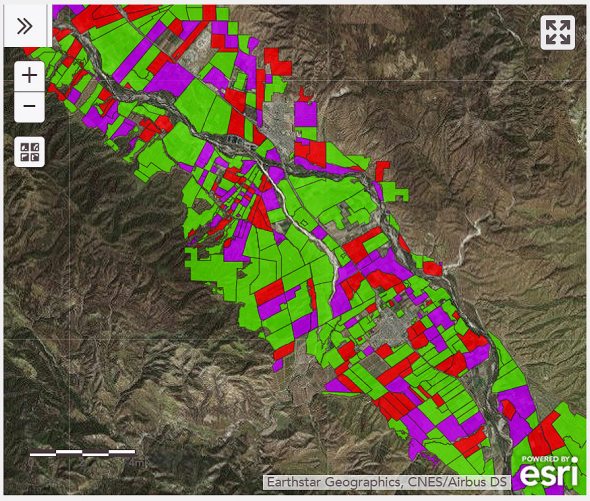
	Agricultural Water Use (Acre-Feet/Year)	Acreage Under Production (Acres)	Profit ($)	Nitrate Hazard Index	Jobs (FTE/Year)
Current	345,881	159,623	1,177,198,417	7.94	25,077
Scenario 1	329,178	146,745	2,225,555,936	7.71	44,492
Change	**-16,703**	**-12,878**	**+1,048,357,519**	**-0.23**	**+19,415**

Details	Berries (Acres | %)	Grapes (Acres | %)	Broccoli (Acres | %)	Lettuce (Acres | %)
Current	24,574 (15.40%)	61,073 (38.26%)	28,841 (18.07%)	45,135 (28.28%)
Scenario 1	56,499 (38.50%)	42,478 (28.95%)	0 (0.00%)	47,768 (32.55%)
Calculated	**+31,925**	**-18,595**	**-28,841**	**+2,633**

CURRENT



SCENARIO 1



Above: Results of a modeled water allocation scenario that weighted profit and jobs along with a user fee.

BasinScout is a scenario-building tool to model impacts of policy changes and to limit unintended consequences of management actions. While it is not meant to dictate land use, it can model possible crop changes to aid farmers in addressing SGMA regulations.

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