

GROUNDWATER SUSTAINABILITY OBJECTIVES

GROUNDWATER SUSTAINABILITY OBJECTIVES AD-HOC COMMITTEE

Napa County Groundwater Resources Advisory Committee (GRAC)

February 27, 2014, GRAC Meeting

1. Goal of Developing Groundwater Sustainability Objectives

The use of groundwater is essential to protecting the quality of life in Napa County. Therefore the overarching goal of developing sustainability objectives is to protect the groundwater resources of Napa County for all the people who live and work here, regardless of the source of their water supply. This builds on the County's General Plan and associated actions.

2. Definition of Groundwater Sustainability

Based on the GRAC's charge from the Board of Supervisors and a review of definitions in published literature, we define "groundwater sustainability" as follows:

Groundwater sustainability depends on the development and use of groundwater in a manner that can be maintained indefinitely without causing unacceptable economic, environmental, or social consequences, while protecting economic, environmental, and social benefits.

As such, groundwater sustainability is both a goal and a process.

Examples of unacceptable consequences included: insufficient water supplies for agriculture, wine production, and business operations; loss of groundwater wells; loss of real estate value; environmental damages; and increased governmental intervention.

Examples of benefits included: protection of quality of life, small town rural setting, agricultural communities, the county's economy, and groundwater in the valley; healthy streams; and proactively avoiding state and County intervention.

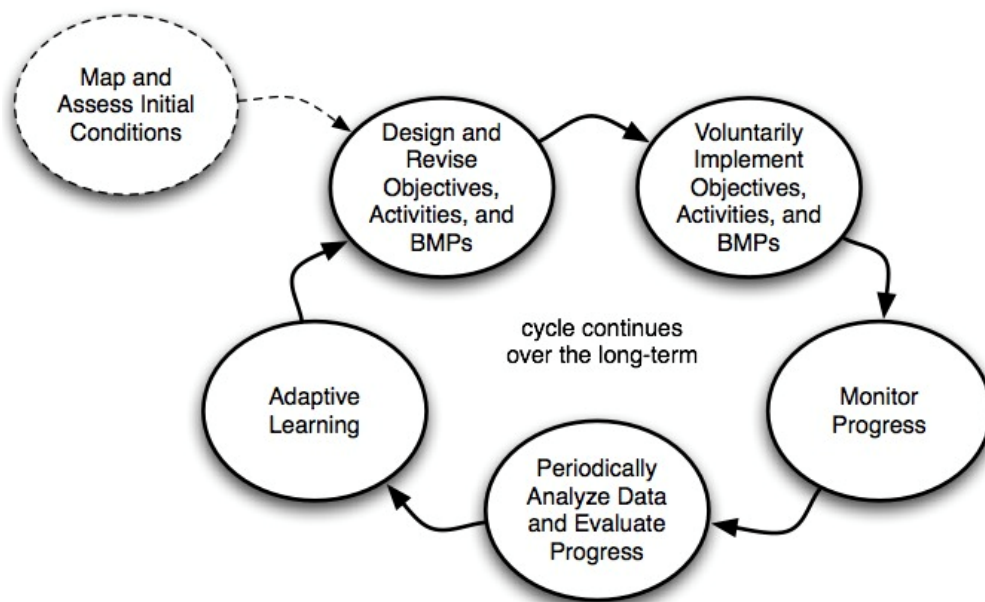
3. Shared Responsibility for Groundwater Sustainability

Groundwater sustainability involves cities, private well owners, residents, and workers, as well as the County and unincorporated areas. Everyone who lives and works in the County shares responsibility and has a stake in protecting groundwater resources, including groundwater supplies, quality, and associated watersheds. Without this resource the character of the County would be significantly different in terms of its economy, communities, rural character, ecology, housing, and lifestyles. In this context, healthy agriculture cannot be separated from healthy communities and healthy environments; none of these exist in isolation. The County would not be the same if any of these components were adversely affected.

4. Monitoring as a Means to Achieving Groundwater Sustainability

Groundwater

Monitoring is not a goal in itself, rather it is an activity that supports the larger goal of sustainability. Ensuring groundwater sustainability is an adaptive process that, among other things, maintains the ability of future generations to make choices about how they use groundwater resources. Monitoring is only one step in the larger adaptive cycle, albeit an important one, along with evaluating progress toward meeting objectives, learning from activities (adaptive learning), revising objectives and activities and best management practices (BMPs), and voluntarily implementing these. The following diagram summarizes the process.



5. Principles underlying the Objectives

- The objectives are to be “achieved through voluntary means and incentives”, per the charge from the Board of Supervisors.
- The objectives build directly off the County’s General Plan Conservation Element, the GRAC’s associated Monitoring Plan, and existing County climate change policies.
- The objectives acknowledge that groundwater management policies already exist in some areas. Stewardship of groundwater use currently occurs and can be strengthened through enhanced private responsibility, as well as existing regulations, programs, and mandates. Further regulation is not an objective.
- The objectives acknowledge that many private individuals are already taking care of their groundwater resources. Their participation in the monitoring program will help ensure that their ongoing stewardship activities are meeting the goal of groundwater sustainability.

6. Groundwater Sustainability Objectives

Goal: To protect and enhance groundwater quantity and quality for all the people who live and work in Napa County, regardless of the source of their water supply.

Objectives:

1. Initiate and carry out outreach and education efforts.
 - a. Develop public outreach programs and materials to make everyone who lives and works in the County aware that the protection of our water supplies is a shared responsibility, and everyone needs to participate.
 - b. Through education, enable people to take action.
2. Optimize existing water supplies and systems.
 - a. Support landowners in implementing best sustainable practices
 - b. Enhance the water supply system and infrastructure – including but not limited to system efficiencies, reservoir dredging, recycled water, groundwater storage and recharge, conjunctive use – to improve water supply reliability.
3. Continue long-term monitoring and evaluation.
 - a. Collect groundwater and surface water data and maintain a usable database that can provide information about the status of the county's groundwater and surface water resources and help forecast future supplies.
 - b. Evaluate data using best analytical methods in order to better understand characteristics of the county's groundwater and water resources systems, including but not limited to a county-level groundwater inflow/outflow estimation.
 - c. Share data and results of related analytical efforts while following appropriate confidentiality standards.
4. Improve our scientific understanding of groundwater recharge and groundwater-surface water interactions.
5. Improve preparedness to address groundwater issues that might emerge.
 - a. Improve preparedness for responding to long-term trends and evolving issues, such as adverse groundwater trends (including level and quality), changes in precipitation and temperature patterns, and saltwater intrusion.
 - b. Improve preparedness for responding to acute crises, such as water supply disruptions and multiyear drought conditions.

Supplemental recommendations:

1. Support the WICC and RCD in implementing the objectives.
2. If a County or sub-regional groundwater stewardship and sustainability plan is developed in the future, these should be the foundational objectives.

SUSTAINABILITY OBJECTIVES

GROUNDWATER SUSTAINABILITY OBJECTIVES AD-HOC COMMITTEE

27-February-2014

General Objective	Specific Objective	Basis/Strategy	Metric	Timeframe	Who Will Implement?	Cost Range
I. Conduct Outreach and Education	a. Develop and widely distribute public outreach programs and materials	Make everyone who lives and works in the County aware that the protection of our water supplies is a shared responsibility, and everyone needs to participate	No. of individuals and organizations reached	Short-term – develop and distribute materials, On-going long-term – continue outreach effort, update information as needed	County and cities through professional/ educational and community organizations*	Low
	b. Educate people about opportunities for taking action	Provide a direct pathway to taking action	No. of individuals taking action to reduce water use	Short-term, On-going long-term	County and cities through professional/ educational and community organizations*	Low to moderate (if funding is made available to implement some measures)
II. Optimize Existing Water Supplies	a. Support landowners in implementing best sustainable practices	Solicit information on, and widely share best practices with regard to water use in vineyards, wineries, and other agricultural/commercial applications	No. of individuals and organizations reached	Short-term - solicit best practices information and rank for effectiveness, start outreach effort to share information; On-going long-term – Continue to solicit information and share with appropriate audiences	County through professional/ educational organizations*	Low to moderate (if funding is made available to implement some measures)

* Professional/educational and community organizations: RCD, NVG, NFB, NVV, UC Davis, UC Berkeley, Chamber of Commerce and others

General Objective	Specific Objective	Basis/Strategy	Metric	Timeframe	Who Will Implement?	Cost Range
	b. Enhance the water supply system and infrastructure to improve water supply reliability.	May include, but is not limited to system efficiencies, reservoir dredging, recycled water, groundwater storage and recharge, conjunctive use	Potential water savings generated by various actions	Short-term – evaluate and rank opportunities Long-term – seek funding and implement high-value projects	County and cities	Moderate to high
III. Continue Long-Term Monitoring and Evaluation	a. Collect groundwater and surface water data and maintain a usable database that can provide information about the status of the county's groundwater and surface water resources and help forecast future supplies.	On-going monitoring is crucial to understand trends.	No. of high quality wells monitored; no. of surface water monitoring locations; all data entered into database	On-going: refine monitoring program over time	County with support of private & public landowners, and professional organizations WICC**	Low to Moderate, depending on number of wells monitored
	b. Evaluate data using best analytical methods to better understand characteristics of the county's groundwater and water resources systems, including but not limited to a county-level groundwater inflow/outflow estimation.		Reassess groundwater trends at least every 3 years, including inflow/outflow estimation when sufficient data are available	On-going: Every 3 years minimum Annual update: WICC	County & outside consultants (LSCE, others) WICC	Low to moderate, depending on extent of evaluation
	c. Share data and results of related analytical efforts while following appropriate confidentiality standards.	Having good information allows organizations and individuals to make better decisions	Appropriate use of existing data becomes routine within the County	Short-term; On-going long-term On-going updates through WICC	County & outside consultants (LSCE, others) WICC	Low

** WICC : Watershed Information Center and Conservancy of Napa County

General Objective	Specific Objective	Basis/Strategy	Metric	Timeframe	Who Will Implement?	Cost Range
IV. Improve our scientific understanding of groundwater recharge and groundwater-surface water interactions.		Potential connectivity between groundwater and surface water in various locations in the County is not well understood.	Extent of groundwater-surface interaction in key areas of the County is understood.	Short-term – clarify data needs; intermediate to long-term – collect and evaluate data	County and outside consultants (LSCE, others)	Moderate
V. Improve preparedness to address groundwater issues that might emerge	a. Improve preparedness for responding to long-term trends and evolving issues	Increase ability to address adverse groundwater trends (including level and quality), changes in precipitation and temperature patterns, and saltwater intrusion		Long-term	County and cities with outside consultants (LSCE, others)	Low; primarily a planning effort
	b. Improve preparedness for responding to acute crises, such as water supply disruptions and multiyear drought conditions			Long-term	County and cities with outside consultants (LSCE, others)	Low; primarily a planning effort