

### Case Study 3: Butte County

The exporting of water has threatened the sustainability of Butte County water resources and raised awareness of groundwater among its citizens. The community has developed water resource management tools that include assessing the implication of local land use decisions on water resources through local ordinances and polices to preserve the community's culture and quality of life.

#### *Background*

Butte County is located in California's northern Central Valley (Figure 4). The western half of the county is on the valley floor, and the eastern half is in the foothills and mountains of the Sierra Nevada. The county benefits from prime agricultural land, abundant snow-fed surface water and significant groundwater resources. Groundwater directly meets nearly one-third of the county's water demand, and there is recognition among the public that the vitality of streams and other surface water-dependent ecosystems are tied to the condition of the groundwater basin.



Figure 4. Butte County in northern Central Valley. Source: Butte County

Citizens of Butte County have had a long interest in water, but two events were pivotal in the county's approach to water resources: the establishment of Lake Oroville by damming the Feather River in the 1960s as part of the State Water Project, and the 1982-1992 drought. Both events increased awareness of the need for local water resource protection and management. In 1992, partially in response to a drought, local groundwater users, water districts, water purveyors and local governments formed the Butte Basin Water Users Association (BBWUA). The

BBWUA managed the basin's surface water and groundwater resources to prevent adverse impacts from water transfers within and outside the basin. Specific efforts included funding the development of the Butte Basin Groundwater Model and assisting Butte County in producing the annual Groundwater Status Report. Over time, counties and other local agencies institutionalized the efforts started by the BBWUA.

In 1994, the Department of Water Resources, in response to continued drought conditions in the state, established an Emergency Drought Water Bank that included a groundwater-substitution program. Willing sellers, through the irrigation districts, were able to sell a portion of their surface water through the program and replace the transferred surface water with groundwater. The program provided water to buyers in other parts of the state that were experiencing emergency drought shortages. The program raised concerns, such as how the state responded to local reports that the program contributed to some wells going dry. The concerns over how the state managed the program (e.g., planning, communication and response) led to the recognition that the county needed to exercise local oversight of water, including groundwater.

In 1996, Butte County citizens voted to adopt the Groundwater Conservation Ordinance.<sup>1</sup> The ordinance requires a permit, including a public review process, to export groundwater outside the county and to pump groundwater as a substitution for surface water that is exported outside the county.<sup>2</sup> Additionally, the ordinance requires quarterly groundwater monitoring and an annual report on groundwater conditions. In 1999, the county created the Department of Water and Resource Conservation. Its duties were to implement the Groundwater Conservation Ordinance and oversee local water resource management (including groundwater monitoring and reporting). It was also charged with communicating about water resources and their conditions to citizens and leaders, and administering Butte County's State Water Project Table A allocation.

The department subsequently adopted a groundwater management plan, prepared a water inventory and analysis report and an integrated water-resource plan and conducted research to improve the Butte Basin Groundwater Model. The integrated water resource plan's recommendation to consider water resources in updating zoning ordinances led to greater attention on water resources in the 2010 update to the county's general plan.

To further highlight the importance of water and its relationship to land use, an optional water resource element was included in the Butte County General Plan in

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<sup>1</sup> Chapter 33 of the Butte County Code.

<sup>2</sup> CDM, 'Integrated Water Resources Plan,' Butte County Department of Water and Resource Conservation, 2005.

2010. While primarily organizational in nature, the element achieved two notable outcomes. One, it heightened communications and technical exchanges between the Planning and Water Resource Departments through the general planning process which has since continued. Two, it validated the water resources programs, policies and actions described above, thereby affirming the importance of water to the county. In addition, the accounting and compilation of the water and land use planning efforts for the water element created an opportunity for a gap analysis to examine current and explore additional actions.

The process allowed water managers and land use planners to educate county leaders and citizens about current water management. For Butte County, the value of having a water element lies primarily in the public process — in having a community discussion about water and what is important to the people.

Butte County's water resource policies and actions allow the county to more proactively manage their groundwater resources and potential land use impacts. Two key policy and program areas relating to groundwater and land use planning were emphasized through the general plan process. The county has been working to identify and characterize groundwater recharge zones. In recharge areas, development proponents must demonstrate that the proposal would not preclude recharge, including using best management practices to minimize potential impacts. Another significant policy example is the requirement that a comprehensive assessment of groundwater impacts would be conducted for significant development projects. While intended to go beyond the state SB610 and SB221 requirements, the county has yet to define the specifics of the policy. In any event, the required analyses will provide information to the Planning Commission and the Board of Supervisors on the implications of proposed groundwater-dependent projects. The increased evaluation of groundwater impacts will allow for more informed land use decisions.

*What is the outcome?*

Butte County has set in place groundwater goals and objectives to more effectively manage its resources, including a water element in the general plan, but implementation actions need to be worked out to facilitate benefits on the ground. The long-term benefit is that the interaction between water resources managers and land use planners will foster more informed decision-making.

*What is the main lesson?*

Proactive management of groundwater resources expressed through land use policies and programs provide greater local control for communities that wish to dictate the terms of their own future.